



**February 2011**  
**Vendor Component Libraries - Analog Parts Library**

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Intel@ Math Kernel Library, <http://www.intel.com/software/products/mkl>

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# Analog Parts Library

The Analog Parts Library consists of nonlinear models representing 4,186 devices supplied for use in linear and nonlinear simulations up to 10 MHz. Developed using standard SPICE models, the Analog Parts Library is well suited for use in lower-frequency RF and IC design applications. The devices include diodes, low and medium power BJTs and JFETs, as well as power MOSFETs from many popular vendors. At higher frequencies where model accurate is more critical, the use of EEsof's measurement-based BJT, MOSFET, or MESFET models and libraries or measured device data is recommended.

**Note**

The library itself is a set of binary files, *AnalogPartsLibrary.library*, under *\$HPEESOF\_DIR/ComponentLibs/models*.

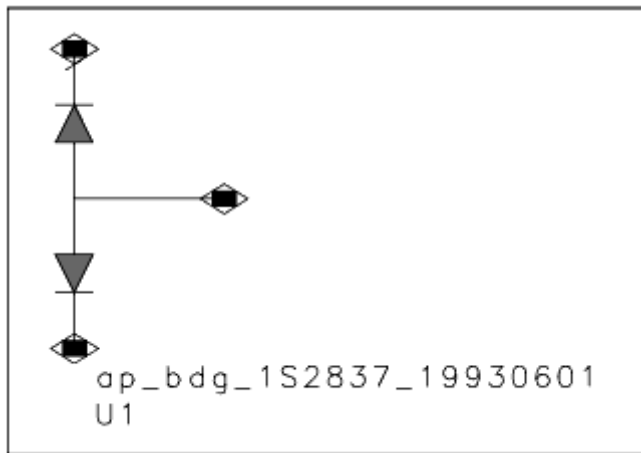
The analog parts available for selection from the Schematic window are:

- AP 2-Diode and 4-Diode Bridges - see *Diode Bridge Models* (vcap)
- AP Diodes - see *Diode Models* (vcap)
- AP NPN BJTs - see *NPN BJT Models* (vcap)
- AP PNP BJTs - see *PNP BJT Models* (vcap)
- AP Power NPN BJTs - *Power NPN BJT Models* (vcap)
- AP Power PNP BJTs - see *Power PNP BJT Models* (vcap)
- AP NMOS Devices - see *N-Channel MOSFET Models* (vcap)
- AP PMOS Devices - see *P-Channel MOSFET Models* (vcap)
- AP NJFET Devices - see *N-Channel JFET Models* (vcap)
- AP PJFET Devices - see *P-Channel JFET Models* (vcap)

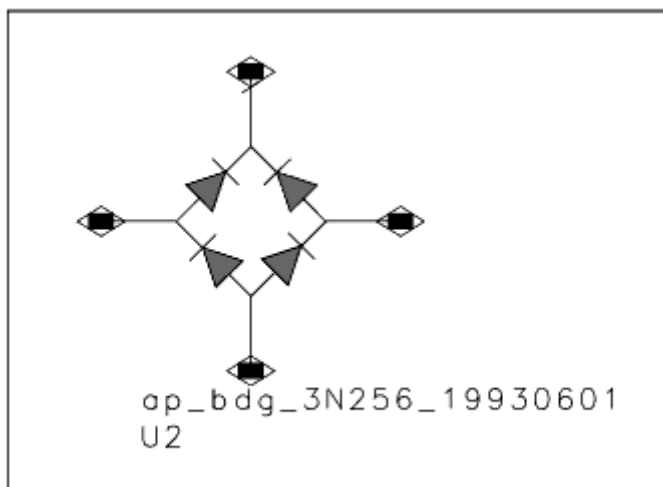
# Diode Bridge Models

## Schematic Design

The [2-Diode Bridge Schematic Component Example](#) and the [4-Diode Bridge Schematic Component Example](#) illustrations seen below, show how components representing 2-diode bridges and 4-diode bridges, respectively, appear when placed into the Schematic design window. The schematic symbols are derived from the standard symbols in the `$HPEESOF_DIR/ComponentLib/symbols` directory: LIBSYM\_BRIDGE3\_PP and LIBSYM\_BRIDGE3\_NN for 2-diode bridges, and LIBSYM\_BRIDGE4 for the 4-diode bridges. The annotation consists of the component name and the default component ID prefix (in this case, U). No component parameters are displayed.



**2-Diode Bridge Schematic Component Example**



**4-Diode Bridge Schematic Component Example**

You can scale any of the model parameter values used by the model by displaying the *Component Parameters* dialog box. The dialog box displays the component label, a table



of scale factors, and other controls. You can display the dialog box by double-clicking a component symbol after it has been placed in the drawing area or by clicking the **Edit Component Parameters** button.

**Note**  
For details on using the Component Parameters dialog box, click the Help button in the dialog box.

The analog parts model library diode bridge models are suitable for placement in any Analog/RF circuit schematic.

## Data

Diode Bridges include bridges with 2-internal diodes and 4-internal diodes, respectively. The bridges with 2-internal diodes contain 46 components and the bridges with 4-internal diodes include contain 23 components, each representing an individual part. The naming convention for these components is *ap\_bdg\_<part number>\_<extraction date>*.

Diode bridges are simulated using Diode model components.

### Analog Parts Library 2- Diode Bridges

Component Name	Description
ap_bdg_1S2837_19930601	Basic Description: 2 Diode Bridge, Part number: 1S2837
ap_bdg_1S2838_19930601	Basic Description: 2 Diode Bridge, Part number: 1S2838
ap_bdg_DAN201_19930601	Manufacturer: Rohm, Basic Description: 2 Diode Bridge, Part number: DAN201
ap_bdg_DAN202_19930601	Basic Description: 2 Diode Bridge, Part number: DAN202
ap_bdg_DAN202K_19930601	Basic Description: 2 Diode Bridge, Part number: DAN202K
ap_bdg_DAP201_19930601	Manufacturer: Rohm, Basic Description: 2 Diode Bridge, Part number: DAP201
ap_bdg_DAP202_19930601	Basic Description: 2 Diode Bridge, Part number: DAP202
ap_bdg_DAP202K_19930601	Basic Description: 2 Diode Bridge, Part number: DAP202K
ap_bdg_HSM2837_19930601	Manufacturer: Hitachi, Basic Description: 2 Diode Bridge, Part number: HSM2837
ap_bdg_HSM2838_19930601	Manufacturer: Hitachi, Basic Description: 2 Diode Bridge, Part number: HSM2838
ap_bdg_MBR30045CT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MBR30045CT
ap_bdg_MBR3020CT_19930601	Basic Description: 2 Diode Bridge, Part number: MBR3020CT
ap_bdg_MBR3035CT_19930601	Basic Description: 2 Diode Bridge, Part number: MBR3035CT
ap_bdg_MBR3035PT_19930601	Basic Description: 2 Diode Bridge, Part number: MBR3035PT
ap_bdg_MBR3045CT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MBR3045CT
ap_bdg_MBR3045PT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MBR3045PT
ap_bdg_MUR10005CT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MUR10005CT
ap_bdg_MUR10010CT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number:

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	MUR10010CT
ap_bdg_MUR10015CT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MUR10015CT
ap_bdg_MUR10020CT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MUR10020CT
ap_bdg_MUR1605CT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MUR1605CT
ap_bdg_MUR1610CT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MUR1610CT
ap_bdg_MUR1615CT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MUR1615CT
ap_bdg_MUR1620CT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MUR1620CT
ap_bdg_MUR1630CT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MUR1630CT
ap_bdg_MUR1640CT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MUR1640CT
ap_bdg_MUR1650CT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MUR1650CT
ap_bdg_MUR1660CT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MUR1660CT
ap_bdg_MUR20005CT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MUR20005CT
ap_bdg_MUR20010CT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MUR20010CT
ap_bdg_MUR20015CT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MUR20015CT
ap_bdg_MUR20020CT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MUR20020CT
ap_bdg_MUR3005PT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MUR3005PT
ap_bdg_MUR3010PT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MUR3010PT
ap_bdg_MUR3015PT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MUR3015PT
ap_bdg_MUR3020PT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MUR3020PT
ap_bdg_MUR3030PT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MUR3030PT
ap_bdg_MUR3040PT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MUR3040PT
ap_bdg_MUR605CT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MUR605CT
ap_bdg_MUR610CT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MUR610CT
ap_bdg_MUR615CT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MUR615CT
ap_bdg_MUR620CT_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: MUR620CT
ap_bdg_R712X_19930601	Manufacturer: VARO_semiconductor, Basic Description: 2 Diode Bridge,

	Part number: R712X
ap_bdg_R714X_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: R714X
ap_bdg_SD241_19930601	Basic Description: 2 Diode Bridge, Part number: SD241
ap_bdg_SES5403C_19930601	Manufacturer: Motorola, Basic Description: 2 Diode Bridge, Part number: SES5403C

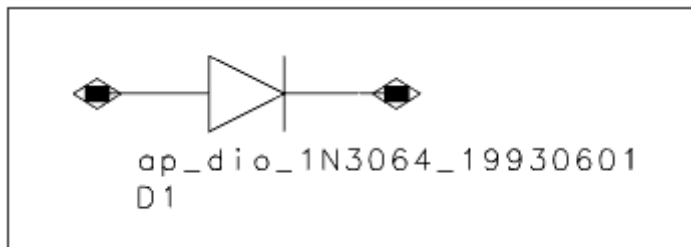
### Analog Parts Library 4-Diode Bridges

Component Name	Description
ap_bdg_3N256_19930601	Basic Description: 4 Diode Bridge, Part number: 3N256
ap_bdg_KBPC_35_06_19930601	Manufacturer: Gen_Inst_Corp, Basic Description: 4 Diode Bridge, Part number: KBPC
ap_bdg_MDA2500_19930601	Manufacturer: Motorola, Basic Description: 4 Diode Bridge, Part number: MDA2500
ap_bdg_MDA2501_19930601	Manufacturer: Motorola, Basic Description: 4 Diode Bridge, Part number: MDA2501
ap_bdg_MDA2502_19930601	Manufacturer: Motorola, Basic Description: 4 Diode Bridge, Part number: MDA2502
ap_bdg_MDA2504_19930601	Manufacturer: Motorola, Basic Description: 4 Diode Bridge, Part number: MDA2504
ap_bdg_MDA2506_19930601	Manufacturer: Motorola, Basic Description: 4 Diode Bridge, Part number: MDA2506
ap_bdg_MDA2508_19930601	Basic Description: 4 Diode Bridge, Part number: MDA2508
ap_bdg_MDA2510_19930601	Basic Description: 4 Diode Bridge, Part number: MDA2510
ap_bdg_MDA3500_19930601	Manufacturer: Motorola, Basic Description: 4 Diode Bridge, Part number: MDA3500
ap_bdg_MDA3501_19930601	Manufacturer: Motorola, Basic Description: 4 Diode Bridge, Part number: MDA3501
ap_bdg_MDA3502_19930601	Manufacturer: Motorola, Basic Description: 4 Diode Bridge, Part number: MDA3502
ap_bdg_MDA3504_19930601	Manufacturer: Motorola, Basic Description: 4 Diode Bridge, Part number: MDA3504
ap_bdg_MDA3506_19930601	Manufacturer: Motorola, Basic Description: 4 Diode Bridge, Part number: MDA3506
ap_bdg_MDA3508_19930601	Manufacturer: Motorola, Basic Description: 4 Diode Bridge, Part number: MDA3508
ap_bdg_MDA3510_19930601	Manufacturer: Motorola, Basic Description: 4 Diode Bridge, Part number: MDA3510
ap_bdg_VK648_19930601	Manufacturer: VARO_semiconductor, Basic Description: 4 Diode Bridge, Part number: VK648
ap_bdg_W02M_001_19930601	Basic Description: 4 Diode Bridge, Part number: W02M
ap_bdg_W02M_002_19930601	Basic Description: 4 Diode Bridge, Part number: W02M
ap_bdg_W02M_003_19930601	Basic Description: 4 Diode Bridge, Part number: W02M
ap_bdg_W02M_004_19930601	Basic Description: 4 Diode Bridge, Part number: W02M
ap_bdg_W02M_005_19930601	Basic Description: 4 Diode Bridge, Part number: W02M
ap_bdg_W02M_006_19930601	Basic Description: 4 Diode Bridge, Part number: W02M

# Diode Models

## Schematic Design

The [Diode Schematic Component Example](#) shown below illustrates how components representing diodes appear when placed into the Schematic design window. The schematic symbol is derived from the standard SYM\_DIODE symbol in the `$HPEESOF_DIR/circuit/symbols` directory. The annotation consists of the component name and the default component ID prefix (in this case, D). No component parameters are displayed.



**Diode Schematic Component Example**

The user may scale any of the model parameter values used by the model by displaying the *Component Parameters* dialog box. The dialog box displays the component label, a table of scale factors, and other controls. You can display the dialog box by double-clicking a component symbol after it has been placed in the drawing area or by clicking the **Edit Component Parameters** button.

**Note**  
For details on using the Component Parameters dialog box, click the Help button in the dialog box.

The analog parts model library diode models are suitable for placement in any Analog/RF circuit schematic.

## Data

Diodes include 1211 components, each representing an individual part. The naming convention for these components is `ap_dio_<part number>_<extraction date>`.

Diodes are simulated using the Diode model component.

### Analog Parts Library - Diodes

Component Name	Description
ap_dio_1N1183_19930601	Manufacturer: International_Rectifier, Basic Description: Diode, Part number: 1N1183, Key parameters: Is=1.2847E-13 Tt=1E-07

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ap_dio_1N1184_19930601	Manufacturer: International_Rectifier, Basic Description: Diode, Part number: 1N1184, Key parameters: Is=1.2847E-13 Tt=1E-07
ap_dio_1N1185_19930601	Manufacturer: International_Rectifier, Basic Description: Diode, Part number: 1N1185, Key parameters: Is=1.2847E-13 Tt=1E-07
ap_dio_1N1186_19930601	Manufacturer: International_Rectifier, Basic Description: Diode, Part number: 1N1186, Key parameters: Is=1.2847E-13 Tt=1E-07
ap_dio_1N1187_19930601	Manufacturer: International_Rectifier, Basic Description: Diode, Part number: 1N1187, Key parameters: Is=1.2847E-13 Tt=1E-07
ap_dio_1N1188_19930601	Manufacturer: International_Rectifier, Basic Description: Diode, Part number: 1N1188, Key parameters: Is=1.2847E-13 Tt=1E-07
ap_dio_1N1189_19930601	Manufacturer: International_Rectifier, Basic Description: Diode, Part number: 1N1189, Key parameters: Is=1.2847E-13 Tt=1E-07
ap_dio_1N1190A_19930601	Manufacturer: International_Rectifier, Basic Description: Diode, Part number: 1N1190A, Key parameters: Is=1.2847E-13 Tt=1E-07
ap_dio_1N1190_19930601	Manufacturer: International_Rectifier, Basic Description: Diode, Part number: 1N1190, Key parameters: Is=1.2847E-13 Tt=1E-07
ap_dio_1N1199_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N1199, Key parameters: Is=1E-14 Tt=1E-07
ap_dio_1N1200_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N1200, Key parameters: Is=1E-14 Tt=1E-07
ap_dio_1N1201_19930601	Basic Description: Diode, Part number: 1N1201, Key parameters: Is=1.171E-13 Tt=1E-07
ap_dio_1N1202_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N1202, Key parameters: Is=1E-14 Tt=1E-07
ap_dio_1N1203_19930601	Basic Description: Diode, Part number: 1N1203, Key parameters: Is=1.171E-13 Tt=1E-07
ap_dio_1N1204_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N1204, Key parameters: Is=1E-14 Tt=1E-07
ap_dio_1N1205_19930601	Basic Description: Diode, Part number: 1N1205, Key parameters: Is=1.171E-13 Tt=1E-07
ap_dio_1N1206_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N1206, Key parameters: Is=1E-14 Tt=1E-07
ap_dio_1N2804A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N2804A, Key parameters: Is=1E-09 Tt=1E-09
ap_dio_1N2810A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N2810A, Key parameters: Is=1E-09 Tt=1E-09
ap_dio_1N2813A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N2813A, Key parameters: Is=1E-09 Tt=1E-09
ap_dio_1N2970A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N2970A, Key parameters: Is=1E-09 Tt=1E-09
ap_dio_1N2976A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N2976A, Key parameters: Is=1E-09 Tt=1E-09
ap_dio_1N2979A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N2979A, Key parameters: Is=1E-09 Tt=1E-09
ap_dio_1N3016A_19930601	Basic Description: Diode, Part number: 1N3016A, Key parameters: Is=1.47E-14
ap_dio_1N3016_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3016, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3017_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3017, Key parameters: Is=1E-09 Tt=1E-08

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ap_dio_1N3018_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3018, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3019_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3019, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3020_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3020, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3021_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3021, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3022B_19930601	Basic Description: Diode, Part number: 1N3022B, Key parameters: Is=6.9E-14
ap_dio_1N3022_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3022, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3023_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3023, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3024_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3024, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3025B_19930601	Basic Description: Diode, Part number: 1N3025B, Key parameters: Is=3.0923435E-14
ap_dio_1N3025_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3025, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3026_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3026, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3027_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3027, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3028_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3028, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3029_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3029, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3030_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3030, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3031_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3031, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3032_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3032, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3033_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3033, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3034_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3034, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3035_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3035, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3036_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3036, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3037_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3037, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3038_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3038, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3039_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3039, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3040_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3040, Key parameters: Is=1E-09 Tt=1E-08



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ap_dio_1N3041_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3041, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3042_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3042, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3043_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3043, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3044_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3044, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3045_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3045, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3046_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3046, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3047_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3047, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3048_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3048, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3049_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3049, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3050_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3050, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3051_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3051, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3064_19930601	Basic Description: Diode, Part number: 1N3064, Key parameters: Is=3.5E-10 Tt=1.5E-08
ap_dio_1N3070_19930601	Manufacturer: Sprague, Basic Description: Diode, Part number: 1N3070, Key parameters: Is=3.67E-15 Tt=7.22E-08
ap_dio_1N3600_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N3600, Key parameters: Is=4.945E-08
ap_dio_1N3821_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3821, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3822_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3822, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3823_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3823, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3824_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3824, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3825_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3825, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3826_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3826, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3827_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3827, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3828_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3828, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3829_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3829, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3830_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3830, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N3879_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3879, Key parameters: Is=8.01E-15 Tt=1E-07

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ap_dio_1N3880_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3880, Key parameters: Is=8.01E-15 Tt=1E-07
ap_dio_1N3881_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3881, Key parameters: Is=8.01E-15 Tt=1E-07
ap_dio_1N3882_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3882, Key parameters: Is=8.01E-15 Tt=1E-07
ap_dio_1N3883_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3883, Key parameters: Is=8.01E-15 Tt=1E-07
ap_dio_1N3899_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3899, Key parameters: Is=1.302E-07
ap_dio_1N3900_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3900, Key parameters: Is=1.85E-06 Tt=3.92E-07
ap_dio_1N3901_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3901, Key parameters: Is=1.85E-06 Tt=3.92E-07
ap_dio_1N3902_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3902, Key parameters: Is=1.85E-06 Tt=3.92E-07
ap_dio_1N3903_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3903, Key parameters: Is=1.85E-06 Tt=3.92E-07
ap_dio_1N3909_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3909, Key parameters: Is=5.089E-09 Tt=2.936E-07
ap_dio_1N3910_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3910, Key parameters: Is=5.089E-09 Tt=2.936E-07
ap_dio_1N3911_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3911, Key parameters: Is=5.089E-09 Tt=2.936E-07
ap_dio_1N3912_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3912, Key parameters: Is=5.089E-09 Tt=2.936E-07
ap_dio_1N3913_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3913, Key parameters: Is=5.089E-09 Tt=2.936E-07
ap_dio_1N3993_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3993, Key parameters: Is=1E-14 Tt=1E-08
ap_dio_1N3994_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3994, Key parameters: Is=1E-14 Tt=1E-08
ap_dio_1N3995_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3995, Key parameters: Is=1E-14 Tt=1E-08
ap_dio_1N3996_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3996, Key parameters: Is=1E-14 Tt=1E-08
ap_dio_1N3997_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3997, Key parameters: Is=1E-14 Tt=1E-08
ap_dio_1N3998_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3998, Key parameters: Is=1E-14 Tt=1E-08
ap_dio_1N3999_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N3999, Key parameters: Is=1E-14 Tt=1E-08
ap_dio_1N4000_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4000, Key parameters: Is=1E-14 Tt=1E-08
ap_dio_1N4001_19930601	Manufacturer: Sprague, Basic Description: Diode, Part number: 1N4001, Key parameters: Is=4.013E-09 Tt=1E-07
ap_dio_1N4002_19930601	Manufacturer: Sprague, Basic Description: Diode, Part number: 1N4002, Key parameters: Is=2.487E-09
ap_dio_1N4003_19930601	Basic Description: Diode, Part number: 1N4003, Key parameters: Is=1.19E-



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	09
ap_dio_1N4004_19930601	Basic Description: Diode, Part number: 1N4004, Key parameters: Is=5.57515E-10
ap_dio_1N4005_19930601	Manufacturer: Sprague, Basic Description: Diode, Part number: 1N4005, Key parameters: Is=8.64E-10
ap_dio_1N4006_19930601	Basic Description: Diode, Part number: 1N4006, Key parameters: Is=1.49E-07 Tt=1.44E-06
ap_dio_1N4007_19930601	Basic Description: Diode, Part number: 1N4007, Key parameters: Is=3.96E-09
ap_dio_1N4148_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4148, Key parameters: Is=4.351E-09 Tt=3.19E-09
ap_dio_1N4148_1_19930601	Basic Description: Diode, Part number: 1N4148, Key parameters: Is=1E-09 Tt=5E-09
ap_dio_1N4149_19930601	Basic Description: Diode, Part number: 1N4149, Key parameters: Is=1.0475E-08 Tt=4.1E-09
ap_dio_1N4150_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4150, Key parameters: Is=4.6578E-08 Tt=8.14E-09
ap_dio_1N4150_1_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4150, Key parameters: Is=9.444E-13 Tt=8.64E-09
ap_dio_1N4151_19930601	Basic Description: Diode, Part number: 1N4151, Key parameters: Is=1.9732E-08 Tt=2.89E-09
ap_dio_1N4153_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4153, Key parameters: Is=2.289E-11 Tt=5.76E-09
ap_dio_1N4154_19930601	Manufacturer: National_Semiconductor, Basic Description: Diode, Part number: 1N4154, Key parameters: Is=2.274E-09
ap_dio_1N4371A_19930601	Basic Description: Diode, Part number: 1N4371A, Key parameters: Is=2.95519E-14
ap_dio_1N4376_19930601	Manufacturer: National_Semiconductor, Basic Description: Diode, Part number: 1N4376, Key parameters: Is=1E-08 Tt=1.1E-09
ap_dio_1N4400_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4400, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4401_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4401, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4402_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4402, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4403_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4403, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4404_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4404, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4405_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4405, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4406_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4406, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4407_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4407, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4408_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4408, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4409_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4409, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4410_19930601	Basic Description: Diode, Part number: 1N4410, Key parameters: Is=1.41E-

	13 Tt=1E-07
ap_dio_1N4411_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4411, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4412_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4412, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4413_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4413, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4414_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4414, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4415_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4415, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4416_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4416, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4417_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4417, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4418_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4418, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4419_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4419, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4420_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4420, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4421_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4421, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4422_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4422, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4423_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4423, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4424_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4424, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4425_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4425, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4426_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4426, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4427_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4427, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4428_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4428, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4446_19930601	Basic Description: Diode, Part number: 1N4446, Key parameters: Is=1E-09 Tt=1.5E-08
ap_dio_1N4447_19930601	Basic Description: Diode, Part number: 1N4447, Key parameters: Is=1E-09 Tt=1.5E-08
ap_dio_1N4448_19930601	Basic Description: Diode, Part number: 1N4448, Key parameters: Is=1E-09 Tt=1.5E-08
ap_dio_1N4449_19930601	Basic Description: Diode, Part number: 1N4449, Key parameters: Is=1E-09 Tt=1.5E-08
ap_dio_1N4454_19930601	Manufacturer: National_Semiconductor, Basic Description: Diode, Part number: 1N4454, Key parameters: Is=9.041E-09 Tt=3.6E-09
ap_dio_1N4460_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4460, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4461_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4461, Key

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	parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4462_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4462, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4463_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4463, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4464_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4464, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4465_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4465, Key parameters: Is=9.88E-12
ap_dio_1N4466_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4466, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4467_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4467, Key parameters: Is=2.18E-11
ap_dio_1N4468_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4468, Key parameters: Is=2.09E-11
ap_dio_1N4469_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4469, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4470_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4470, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4471_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4471, Key parameters: Is=7.04E-12
ap_dio_1N4472_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4472, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4473_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4473, Key parameters: Is=4.26E-14
ap_dio_1N4474_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4474, Key parameters: Is=6.65E-14
ap_dio_1N4475_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4475, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4476_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4476, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4477_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4477, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4478_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4478, Key parameters: Is=1.91E-15
ap_dio_1N4479_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4479, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4480_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4480, Key parameters: Is=4.5E-13
ap_dio_1N4481_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4481, Key parameters: Is=2.16E-13
ap_dio_1N4482_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4482, Key parameters: Is=4.97E-13
ap_dio_1N4484_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4484, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4485_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4485, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4486_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4486, Key parameters: Is=1.41E-13 Tt=1E-07

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ap_dio_1N4487_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4487, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4488_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4488, Key parameters: Is=1.05E-12
ap_dio_1N4489_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N4489, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4531_19930601	Basic Description: Diode, Part number: 1N4531, Key parameters: Is=1E-09 Tt=5E-09
ap_dio_1N4532_19930601	Basic Description: Diode, Part number: 1N4532, Key parameters: Is=3.5E-10 Tt=1.5E-08
ap_dio_1N4534_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4534, Key parameters: Is=2.289E-11 Tt=5.76E-09
ap_dio_1N4569A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4569A, Key parameters: Is=8.3E-11 Tt=1E-07
ap_dio_1N4574A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4574A, Key parameters: Is=8.3E-11 Tt=1E-07
ap_dio_1N4621_19930601	Basic Description: Diode, Part number: 1N4621, Key parameters: Is=2.02E-14
ap_dio_1N4628_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4628, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4629_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4629, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4630_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4630, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4631_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4631, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4632_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4632, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4633_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4633, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4634_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4634, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4635_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4635, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4636_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4636, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4637_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4637, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4638_19930601	Basic Description: Diode, Part number: 1N4638, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4639_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4639, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4640_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4640, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4641_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4641, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4642_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4642, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4643_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4643, Key parameters: Is=1.41E-13 Tt=1E-07

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ap_dio_1N4644_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4644, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4645_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4645, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4646_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4646, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4647_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4647, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4648_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4648, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4678_19930601	Basic Description: Diode, Part number: 1N4678, Key parameters: Is=1E-21 Tt=1E-09
ap_dio_1N4691_19930601	Basic Description: Diode, Part number: 1N4691, Key parameters: Is=3.71E-15 Tt=5E-09
ap_dio_1N4719_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4719, Key parameters: Is=3.61E-07 Tt=1E-09
ap_dio_1N4720_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4720, Key parameters: Is=3.61E-07 Tt=1E-09
ap_dio_1N4721_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4721, Key parameters: Is=3.61E-07 Tt=1E-09
ap_dio_1N4722_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4722, Key parameters: Is=3.61E-07 Tt=1E-09
ap_dio_1N4723_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4723, Key parameters: Is=3.61E-07 Tt=1E-09
ap_dio_1N4724_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4724, Key parameters: Is=3.61E-07 Tt=1E-09
ap_dio_1N4725_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4725, Key parameters: Is=3.61E-07 Tt=1E-09
ap_dio_1N4728_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4728, Key parameters: Is=5.15E-16
ap_dio_1N4729_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4729, Key parameters: Is=8.07E-15
ap_dio_1N4730_19930601	Basic Description: Diode, Part number: 1N4730, Key parameters: Is=1.11E-14
ap_dio_1N4731_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4731, Key parameters: Is=7.95E-16
ap_dio_1N4732A_19930601	Basic Description: Diode, Part number: 1N4732A, Key parameters: Is=1.19E-15
ap_dio_1N4732_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4732, Key parameters: Is=8.42E-16
ap_dio_1N4733_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4733, Key parameters: Is=1.35E-15
ap_dio_1N4734A_19930601	Basic Description: Diode, Part number: 1N4734A, Key parameters: Is=1E-15
ap_dio_1N4734_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4734, Key parameters: Is=1.51E-15
ap_dio_1N4735A_19930601	Basic Description: Diode, Part number: 1N4735A, Key parameters: Is=1.2734E-13
ap_dio_1N4735_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4735, Key parameters: Is=1.06E-15
ap_dio_1N4736A_19930601	Basic Description: Diode, Part number: 1N4736A, Key parameters:



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	Is=3.82E-13
ap_dio_1N4736_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4736, Key parameters: Is=7.64E-16
ap_dio_1N4737_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4737, Key parameters: Is=5E-16
ap_dio_1N4738A_19930601	Basic Description: Diode, Part number: 1N4738A, Key parameters: Is=1.01E-14
ap_dio_1N4738_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4738, Key parameters: Is=8.98E-16
ap_dio_1N4739_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4739, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4740_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4740, Key parameters: Is=4.71E-16
ap_dio_1N4741A_19930601	Basic Description: Diode, Part number: 1N4741A, Key parameters: Is=3.06E-15
ap_dio_1N4741_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4741, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4742A_19930601	Basic Description: Diode, Part number: 1N4742A, Key parameters: Is=1.86E-15
ap_dio_1N4742_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4742, Key parameters: Is=1.16E-15
ap_dio_1N4743_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4743, Key parameters: Is=1E-15
ap_dio_1N4744A_19930601	Basic Description: Diode, Part number: 1N4744A, Key parameters: Is=2.01472E-15
ap_dio_1N4744_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4744, Key parameters: Is=2.14E-16
ap_dio_1N4745_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4745, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4746_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4746, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4747_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4747, Key parameters: Is=4.53E-16
ap_dio_1N4748_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4748, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4749_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4749, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4750_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4750, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4751_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4751, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4752_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4752, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4753_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4753, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4754_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4754, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4755_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4755, Key parameters: Is=1.41E-13 Tt=1E-07

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ap_dio_1N4756_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4756, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4757_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4757, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4758_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4758, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4759_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4759, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4760_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4760, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4761_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4761, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4762_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4762, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4763_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4763, Key parameters: Is=4.86E-14
ap_dio_1N4764_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4764, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N4816_19930601	Manufacturer: International_Rectifier, Basic Description: Diode, Part number: 1N4816, Key parameters: Is=4.81E-13
ap_dio_1N4817_19930601	Manufacturer: International_Rectifier, Basic Description: Diode, Part number: 1N4817, Key parameters: Is=5.124E-09
ap_dio_1N4818_19930601	Manufacturer: International_Rectifier, Basic Description: Diode, Part number: 1N4818, Key parameters: Is=1.233E-06 Tt=1.5E-06
ap_dio_1N4819_19930601	Manufacturer: International_Rectifier, Basic Description: Diode, Part number: 1N4819, Key parameters: Is=1.233E-06 Tt=1.5E-06
ap_dio_1N4820_19930601	Manufacturer: International_Rectifier, Basic Description: Diode, Part number: 1N4820, Key parameters: Is=3.15E-10
ap_dio_1N4821_19930601	Manufacturer: International_Rectifier, Basic Description: Diode, Part number: 1N4821, Key parameters: Is=9.11E-11
ap_dio_1N4822_19930601	Manufacturer: International_Rectifier, Basic Description: Diode, Part number: 1N4822, Key parameters: Is=1.35E-13
ap_dio_1N483B_19930601	Basic Description: Diode, Part number: 1N483B, Key parameters: Is=9.041E-09 Tt=3.6E-09
ap_dio_1N4933_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4933, Key parameters: Is=5E-07 Tt=2.5E-07
ap_dio_1N4934_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4934, Key parameters: Is=5E-07 Tt=2.5E-07
ap_dio_1N4935A_19930601	Basic Description: Diode, Part number: 1N4935A, Key parameters: Is=5.384256E-09
ap_dio_1N4935_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4935, Key parameters: Is=5E-07 Tt=2.5E-07
ap_dio_1N4936_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4936, Key parameters: Is=1.79993E-14 Tt=2.07E-07
ap_dio_1N4937_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N4937, Key parameters: Is=5.08777E-15 Tt=2.05E-07
ap_dio_1N4938_19930601	Manufacturer: Sprague, Basic Description: Diode, Part number: 1N4938, Key parameters: Is=3.67E-15 Tt=7.22E-08
ap_dio_1N4954_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4954, Key parameters: Is=1.12E-12

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ap_dio_1N4955_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4955, Key parameters: Is=4.14E-13
ap_dio_1N4956_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4956, Key parameters: Is=1.22E-12
ap_dio_1N4957_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4957, Key parameters: Is=5.8E-13
ap_dio_1N4958_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4958, Key parameters: Is=1.96E-10
ap_dio_1N4959_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4959, Key parameters: Is=8.3E-14 Tt=4E-08
ap_dio_1N4960_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4960, Key parameters: Is=8.3E-14 Tt=4E-08
ap_dio_1N4961_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4961, Key parameters: Is=8.3E-14 Tt=4E-08
ap_dio_1N4962_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4962, Key parameters: Is=8.3E-14 Tt=4E-08
ap_dio_1N4963_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4963, Key parameters: Is=8.3E-14 Tt=4E-08
ap_dio_1N4964_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4964, Key parameters: Is=8.3E-14 Tt=4E-08
ap_dio_1N4965_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4965, Key parameters: Is=8.3E-14 Tt=4E-08
ap_dio_1N4966_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4966, Key parameters: Is=8.3E-14 Tt=4E-08
ap_dio_1N4967_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4967, Key parameters: Is=8.3E-14 Tt=4E-08
ap_dio_1N4968_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4968, Key parameters: Is=8.3E-14 Tt=4E-08
ap_dio_1N4969_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4969, Key parameters: Is=5.91E-14
ap_dio_1N4970_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4970, Key parameters: Is=8.3E-14 Tt=4E-08
ap_dio_1N4971_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4971, Key parameters: Is=8.3E-14 Tt=4E-08
ap_dio_1N4972_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4972, Key parameters: Is=9.45E-12
ap_dio_1N4973_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4973, Key parameters: Is=4.77E-14
ap_dio_1N4974_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N4974, Key parameters: Is=8.3E-14 Tt=4E-08
ap_dio_1N5052_19930601	Manufacturer: International_Rectifier, Basic Description: Diode, Part number: 1N5052, Key parameters: Is=5.86E-11
ap_dio_1N5053_19930601	Manufacturer: International_Rectifier, Basic Description: Diode, Part number: 1N5053, Key parameters: Is=2.49E-10
ap_dio_1N5054_19930601	Manufacturer: International_Rectifier, Basic Description: Diode, Part number: 1N5054, Key parameters: Is=5.77E-10
ap_dio_1N5139A_19930601	Basic Description: Diode, Part number: 1N5139A, Key parameters: Is=1E-14 Tt=1E-09
ap_dio_1N5139_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5139, Key parameters: Is=1E-14 Tt=1E-09



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ap_dio_1N5140A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5140A, Key parameters: Is=1E-14 Tt=1E-09
ap_dio_1N5140_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5140, Key parameters: Is=1E-14 Tt=1E-09
ap_dio_1N5141A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5141A, Key parameters: Is=1E-14 Tt=1E-09
ap_dio_1N5141_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5141, Key parameters: Is=1E-14 Tt=1E-09
ap_dio_1N5142A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5142A, Key parameters: Is=1E-14 Tt=1E-09
ap_dio_1N5142_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5142, Key parameters: Is=1E-14 Tt=1E-09
ap_dio_1N5143A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5143A, Key parameters: Is=1E-14 Tt=1E-09
ap_dio_1N5143_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5143, Key parameters: Is=1E-14 Tt=1E-09
ap_dio_1N5144A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5144A, Key parameters: Is=1E-14 Tt=1E-09
ap_dio_1N5144_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5144, Key parameters: Is=1E-14 Tt=1E-09
ap_dio_1N5145A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5145A, Key parameters: Is=1E-14 Tt=1E-09
ap_dio_1N5145_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5145, Key parameters: Is=1E-14 Tt=1E-09
ap_dio_1N5146A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5146A, Key parameters: Is=1E-14 Tt=1E-09
ap_dio_1N5146_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5146, Key parameters: Is=1E-14 Tt=1E-09
ap_dio_1N5147A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5147A, Key parameters: Is=1E-14 Tt=1E-09
ap_dio_1N5147_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5147, Key parameters: Is=1E-14 Tt=1E-09
ap_dio_1N5148A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5148A, Key parameters: Is=1E-14 Tt=1E-09
ap_dio_1N5148_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5148, Key parameters: Is=1E-14 Tt=1E-09
ap_dio_1N5223B_19930601	Basic Description: Diode, Part number: 1N5223B, Key parameters: Is=1.022E-07
ap_dio_1N5228B_19930601	Basic Description: Diode, Part number: 1N5228B, Key parameters: Is=1.1894E-14
ap_dio_1N5231_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5231, Key parameters: Is=1E-09 Tt=1E-08
ap_dio_1N5237B_19930601	Basic Description: Diode, Part number: 1N5237B, Key parameters: Is=5.97E-15
ap_dio_1N5237_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5237, Key parameters: Is=1E-09 Tt=1E-09
ap_dio_1N5295_19930601	Basic Description: Diode, Part number: 1N5295, Key parameters: Is=1E-12
ap_dio_1N5298_19930601	Basic Description: Diode, Part number: 1N5298, Key parameters: Is=1E-06 Tt=8.64E-09

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ap_dio_1N5333_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5333, Key parameters: Is=1E-14 Tt=1E-08
ap_dio_1N5334_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5334, Key parameters: Is=1E-14 Tt=1E-08
ap_dio_1N5335_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5335, Key parameters: Is=1E-14 Tt=1E-08
ap_dio_1N5336_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5336, Key parameters: Is=1E-14 Tt=1E-08
ap_dio_1N5337_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5337, Key parameters: Is=1E-14 Tt=1E-08
ap_dio_1N5338_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5338, Key parameters: Is=1E-14 Tt=1E-08
ap_dio_1N5339_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5339, Key parameters: Is=1E-13 Tt=1E-08
ap_dio_1N5340_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5340, Key parameters: Is=1E-13 Tt=1E-08
ap_dio_1N5341_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5341, Key parameters: Is=1E-13 Tt=1E-08
ap_dio_1N5342_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5342, Key parameters: Is=1E-13 Tt=1E-08
ap_dio_1N5343_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5343, Key parameters: Is=5E-13 Tt=1E-08
ap_dio_1N5344_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5344, Key parameters: Is=5E-13 Tt=1E-08
ap_dio_1N5345_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5345, Key parameters: Is=6E-13 Tt=1E-08
ap_dio_1N5346_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5346, Key parameters: Is=6.5E-13 Tt=1E-08
ap_dio_1N5347_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5347, Key parameters: Is=7E-13 Tt=1E-08
ap_dio_1N5348_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5348, Key parameters: Is=7.5E-13 Tt=1E-08
ap_dio_1N5349B_19930601	Basic Description: Diode, Part number: 1N5349B, Key parameters: Is=2.17E-13 Tt=1E-09
ap_dio_1N5349_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5349, Key parameters: Is=8E-13 Tt=1E-08
ap_dio_1N5350_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5350, Key parameters: Is=8.5E-13 Tt=1E-08
ap_dio_1N5351_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5351, Key parameters: Is=8.5E-13 Tt=1E-08
ap_dio_1N5352_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5352, Key parameters: Is=9E-13 Tt=1E-08
ap_dio_1N5353_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5353, Key parameters: Is=9E-13 Tt=1E-08
ap_dio_1N5354_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5354, Key parameters: Is=9.5E-13 Tt=1E-08
ap_dio_1N5355_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5355, Key parameters: Is=9.5E-13 Tt=1E-08
ap_dio_1N5356_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5356, Key parameters: Is=9.5E-13 Tt=1E-08

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ap_dio_1N5357_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5357, Key parameters: Is=1E-12 Tt=1E-08
ap_dio_1N5358_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5358, Key parameters: Is=1E-12 Tt=1E-08
ap_dio_1N5359_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5359, Key parameters: Is=1E-12 Tt=1E-08
ap_dio_1N5360_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5360, Key parameters: Is=5E-12 Tt=1E-08
ap_dio_1N5361_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5361, Key parameters: Is=6E-12 Tt=1E-08
ap_dio_1N5362_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5362, Key parameters: Is=7E-12 Tt=1E-08
ap_dio_1N5363_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5363, Key parameters: Is=1E-11 Tt=1E-08
ap_dio_1N5364_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5364, Key parameters: Is=1.3E-11 Tt=1E-08
ap_dio_1N5365_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5365, Key parameters: Is=1.5E-11 Tt=1E-08
ap_dio_1N5366_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5366, Key parameters: Is=1.7E-11 Tt=1E-08
ap_dio_1N5367_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5367, Key parameters: Is=2E-11 Tt=1E-08
ap_dio_1N5368_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5368, Key parameters: Is=2.3E-11 Tt=1E-08
ap_dio_1N5369_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5369, Key parameters: Is=2.7E-11 Tt=1E-08
ap_dio_1N5370_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5370, Key parameters: Is=3E-11 Tt=1E-08
ap_dio_1N5371_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5371, Key parameters: Is=3.5E-11 Tt=1E-08
ap_dio_1N5372_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5372, Key parameters: Is=4E-11 Tt=1E-08
ap_dio_1N5373_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5373, Key parameters: Is=4.5E-11 Tt=1E-08
ap_dio_1N5374_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5374, Key parameters: Is=5E-11 Tt=1E-08
ap_dio_1N5375_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5375, Key parameters: Is=5.7E-11 Tt=1E-08
ap_dio_1N5376_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5376, Key parameters: Is=6.2E-11 Tt=1E-08
ap_dio_1N5377_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5377, Key parameters: Is=6.9E-11 Tt=1E-08
ap_dio_1N5378_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5378, Key parameters: Is=7.7E-11 Tt=1E-08
ap_dio_1N5379_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5379, Key parameters: Is=9E-11 Tt=1E-08
ap_dio_1N5380_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5380, Key parameters: Is=1E-10 Tt=1E-08
ap_dio_1N5381_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5381, Key parameters: Is=1.15E-10 Tt=1E-08

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ap_dio_1N5382_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5382, Key parameters: Is=1.3E-10 Tt=1E-08
ap_dio_1N5383_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5383, Key parameters: Is=1.45E-10 Tt=1E-08
ap_dio_1N5384_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5384, Key parameters: Is=1.6E-10 Tt=1E-08
ap_dio_1N5385_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5385, Key parameters: Is=1.75E-10 Tt=1E-08
ap_dio_1N5386_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5386, Key parameters: Is=1.9E-10 Tt=1E-08
ap_dio_1N5387_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5387, Key parameters: Is=2.1E-10 Tt=1E-08
ap_dio_1N5388_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N5388, Key parameters: Is=2.3E-10 Tt=1E-08
ap_dio_1N5393B_19930601	Basic Description: Diode, Part number: 1N5393B, Key parameters: Is=1.355E-07
ap_dio_1N5393_19930601	Basic Description: Diode, Part number: 1N5393, Key parameters: Is=6.778E-08 Tt=1.116E-06
ap_dio_1N5417_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N5417, Key parameters: Is=1E-07 Tt=1E-08
ap_dio_1N5418_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N5418, Key parameters: Is=7.57E-11
ap_dio_1N5419_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N5419, Key parameters: Is=1.12E-10
ap_dio_1N5420_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N5420, Key parameters: Is=1E-07 Tt=1.3E-07
ap_dio_1N5550_19930601	Basic Description: Diode, Part number: 1N5550, Key parameters: Is=1E-07 Tt=1.25E-06
ap_dio_1N5551_19930601	Basic Description: Diode, Part number: 1N5551, Key parameters: Is=1E-07 Tt=1.25E-06
ap_dio_1N5614_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N5614, Key parameters: Is=1.49E-07 Tt=1.44E-06
ap_dio_1N5615_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N5615, Key parameters: Is=5E-07 Tt=8.22E-08
ap_dio_1N5616_19930601	Basic Description: Diode, Part number: 1N5616, Key parameters: Is=1.75988E-08 Tt=1E-08
ap_dio_1N5617GP_19930601	Manufacturer: Gen_Inst_Corp, Basic Description: Diode, Part number: 1N5617GP, Key parameters: Is=5.788E-15 Tt=1.5E-07
ap_dio_1N5618_19930601	Basic Description: Diode, Part number: 1N5618, Key parameters: Is=1.49E-07 Tt=1.44E-06
ap_dio_1N5619GP_19930601	Manufacturer: Gen_Inst_Corp, Basic Description: Diode, Part number: 1N5619GP, Key parameters: Is=5.788E-15 Tt=1.5E-07
ap_dio_1N5620_19930601	Basic Description: Diode, Part number: 1N5620, Key parameters: Is=1.49E-07 Tt=1.44E-06
ap_dio_1N5621GP_19930601	Manufacturer: Gen_Inst_Corp, Basic Description: Diode, Part number: 1N5621GP, Key parameters: Is=3.93E-15 Tt=3.5E-07
ap_dio_1N5623GP_19930601	Manufacturer: Gen_Inst_Corp, Basic Description: Diode, Part number: 1N5623GP, Key parameters: Is=3.93E-15 Tt=3.5E-07
ap_dio_1N5711_19930601	Basic Description: Diode, Part number: 1N5711, Key parameters: Is=1.502E-09 Tt=0

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ap_dio_1N5712_19930601	Basic Description: Diode, Part number: 1N5712, Key parameters: Is=1.925E-09 Tt=0
ap_dio_1N5802_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N5802, Key parameters: Is=2.4427E-07 Tt=6.25E-08
ap_dio_1N5803_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N5803, Key parameters: Is=2.4427E-07 Tt=6.25E-08
ap_dio_1N5804_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N5804, Key parameters: Is=2.4427E-07 Tt=6.25E-08
ap_dio_1N5805_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N5805, Key parameters: Is=2.4427E-07 Tt=6.25E-08
ap_dio_1N5806_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N5806, Key parameters: Is=2.4427E-07 Tt=6.25E-08
ap_dio_1N5807_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N5807, Key parameters: Is=2.4427E-07 Tt=7.5E-08
ap_dio_1N5808_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N5808, Key parameters: Is=2.4427E-07 Tt=7.5E-08
ap_dio_1N5809_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N5809, Key parameters: Is=2.4427E-07 Tt=7.5E-08
ap_dio_1N5810_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N5810, Key parameters: Is=2.4427E-07 Tt=7.5E-08
ap_dio_1N5811_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N5811, Key parameters: Is=2.4427E-07 Tt=7.5E-08
ap_dio_1N5814_19930601	Basic Description: Diode, Part number: 1N5814, Key parameters: Is=9.222E-07 Tt=1E-08
ap_dio_1N5816_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N5816, Key parameters: Is=1E-06 Tt=5E-08
ap_dio_1N5819_19930601	Basic Description: Diode, Part number: 1N5819, Key parameters: Is=0.000108
ap_dio_1N581_19930601	Basic Description: Diode, Part number: 1N581, Key parameters: Is=2.223E-05
ap_dio_1N5820_19930601	Basic Description: Diode, Part number: 1N5820, Key parameters: Is=1.582E-05 Tt=0
ap_dio_1N5821_19930601	Basic Description: Diode, Part number: 1N5821, Key parameters: Is=1.582E-05 Tt=0
ap_dio_1N5822_19930601	Basic Description: Diode, Part number: 1N5822, Key parameters: Is=1.582E-05 Tt=0
ap_dio_1N5823_19930601	Basic Description: Diode, Part number: 1N5823, Key parameters: Is=6.74E-07 Tt=0
ap_dio_1N5824_19930601	Basic Description: Diode, Part number: 1N5824, Key parameters: Is=6.74E-07 Tt=0
ap_dio_1N5825_19930601	Basic Description: Diode, Part number: 1N5825, Key parameters: Is=6.74E-07 Tt=0
ap_dio_1N5829_19930601	Basic Description: Diode, Part number: 1N5829, Key parameters: Is=0.000636 Tt=0
ap_dio_1N5830_19930601	Basic Description: Diode, Part number: 1N5830, Key parameters: Is=0.000636 Tt=0
ap_dio_1N5831_19930601	Basic Description: Diode, Part number: 1N5831, Key parameters: Is=0.000636 Tt=0
ap_dio_1N6095_19930601	Basic Description: Diode, Part number: 1N6095, Key parameters: Is=1.009E-05 Tt=0



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ap_dio_1N6096_19930601	Basic Description: Diode, Part number: 1N6096, Key parameters: Is=1.009E-05 Tt=0
ap_dio_1N6097_19930601	Basic Description: Diode, Part number: 1N6097, Key parameters: Is=1.724E-08 Tt=0
ap_dio_1N6098_19930601	Basic Description: Diode, Part number: 1N6098, Key parameters: Is=1.724E-08 Tt=0
ap_dio_1N6391_19930601	Basic Description: Diode, Part number: 1N6391, Key parameters: Is=1.444E-08 Tt=5E-08
ap_dio_1N645_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N645, Key parameters: Is=1.24E-12 Tt=5E-08
ap_dio_1N645_1_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N645, Key parameters: Is=1.24E-12 Tt=5E-08
ap_dio_1N647_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N647, Key parameters: Is=1.24E-12 Tt=5E-08
ap_dio_1N647_1_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N647, Key parameters: Is=1.24E-12 Tt=5E-08
ap_dio_1N649_19930601	Manufacturer: TI, Basic Description: Diode, Part number: 1N649, Key parameters: Is=1.233E-06 Tt=1.5E-06
ap_dio_1N746A_19930601	Basic Description: Diode, Part number: 1N746A, Key parameters: Is=2.98E-15
ap_dio_1N746_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N746, Key parameters: Is=1.16E-14
ap_dio_1N747A_19930601	Basic Description: Diode, Part number: 1N747A, Key parameters: Is=3.743E-09
ap_dio_1N747_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N747, Key parameters: Is=1E-09 Tt=2E-08
ap_dio_1N748A_19930601	Basic Description: Diode, Part number: 1N748A, Key parameters: Is=1.51182E-12
ap_dio_1N748_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N748, Key parameters: Is=1E-09 Tt=2E-08
ap_dio_1N749A_19930601	Basic Description: Diode, Part number: 1N749A, Key parameters: Is=3.00694E-14
ap_dio_1N749_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N749, Key parameters: Is=1E-09 Tt=2E-08
ap_dio_1N750A_19930601	Basic Description: Diode, Part number: 1N750A, Key parameters: Is=1E-15
ap_dio_1N750_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N750, Key parameters: Is=1E-09 Tt=2E-08
ap_dio_1N751A_19930601	Basic Description: Diode, Part number: 1N751A, Key parameters: Is=7.45558E-12
ap_dio_1N751_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N751, Key parameters: Is=1E-09 Tt=2E-08
ap_dio_1N752A_19930601	Basic Description: Diode, Part number: 1N752A, Key parameters: Is=6.36737E-14
ap_dio_1N752_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N752, Key parameters: Is=1E-09 Tt=2E-08
ap_dio_1N753A_19930601	Basic Description: Diode, Part number: 1N753A, Key parameters: Is=2.39592E-13
ap_dio_1N753_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N753, Key parameters: Is=1E-09 Tt=2E-08

ap_dio_1N754A_19930601	Basic Description: Diode, Part number: 1N754A, Key parameters: Is=1E-15
ap_dio_1N754_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N754, Key parameters: Is=4.56E-16
ap_dio_1N755A_19930601	Basic Description: Diode, Part number: 1N755A, Key parameters: Is=1E-15
ap_dio_1N755_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N755, Key parameters: Is=1E-09 Tt=2E-08
ap_dio_1N756_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N756, Key parameters: Is=1E-09 Tt=2E-08
ap_dio_1N757A_19930601	Basic Description: Diode, Part number: 1N757A, Key parameters: Is=1.35313E-14
ap_dio_1N757_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N757, Key parameters: Is=1E-09 Tt=2E-08
ap_dio_1N758A_19930601	Basic Description: Diode, Part number: 1N758A, Key parameters: Is=1.54425E-15
ap_dio_1N758_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N758, Key parameters: Is=1E-09 Tt=2E-08
ap_dio_1N759A_19930601	Basic Description: Diode, Part number: 1N759A, Key parameters: Is=1.54425E-15
ap_dio_1N759_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N759, Key parameters: Is=1E-09 Tt=2E-08
ap_dio_1N827_19930601	Basic Description: Diode, Part number: 1N827, Key parameters: Is=1E-14 Tt=1E-09
ap_dio_1N829A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N829A, Key parameters: Is=1.41E-13 Tt=1E-07
ap_dio_1N914_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: 1N914, Key parameters: Is=2.619E-09
ap_dio_1N963B_19930601	Basic Description: Diode, Part number: 1N963B, Key parameters: Is=3.46808E-15
ap_dio_1N964A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N964A, Key parameters: Is=8.3E-11 Tt=1E-07
ap_dio_1N965A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N965A, Key parameters: Is=8.3E-11 Tt=1E-07
ap_dio_1N966A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N966A, Key parameters: Is=8.3E-11 Tt=1E-07
ap_dio_1N966B_19930601	Basic Description: Diode, Part number: 1N966B, Key parameters: Is=1.7E-15
ap_dio_1N967A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N967A, Key parameters: Is=8.3E-11 Tt=1E-07
ap_dio_1N968A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N968A, Key parameters: Is=8.3E-11 Tt=1E-07
ap_dio_1N968B_19930601	Basic Description: Diode, Part number: 1N968B, Key parameters: Is=4.91E-15
ap_dio_1N969A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N969A, Key parameters: Is=8.3E-11 Tt=1E-07
ap_dio_1N970A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N970A, Key parameters: Is=8.3E-11 Tt=1E-07
ap_dio_1N970B_19930601	Basic Description: Diode, Part number: 1N970B, Key parameters: Is=6.58E-16
ap_dio_1N971A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N971A, Key parameters: Is=8.3E-11 Tt=1E-07

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ap_dio_1N972A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N972A, Key parameters: Is=8.3E-11 Tt=1E-07
ap_dio_1N973A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N973A, Key parameters: Is=8.3E-11 Tt=1E-07
ap_dio_1N982B_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: 1N982B, Key parameters: Is=1E-15 Tt=1E-08
ap_dio_1N982_19930601	Basic Description: Diode, Part number: 1N982, Key parameters: Is=1E-15 Tt=1E-08
ap_dio_1S1585_19930601	Basic Description: Diode, Part number: 1S1585, Key parameters: Is=3.1623E-10 Tt=1E-09
ap_dio_1S1587_19930601	Basic Description: Diode, Part number: 1S1587, Key parameters: Is=1.80233E-09 Tt=2E-10
ap_dio_1S953_19930601	Basic Description: Diode, Part number: 1S953, Key parameters: Is=3.2E-09 Tt=1.4E-10
ap_dio_1S954_19930601	Basic Description: Diode, Part number: 1S954, Key parameters: Is=3.3E-09 Tt=1.4E-10
ap_dio_1S955_19930601	Basic Description: Diode, Part number: 1S955, Key parameters: Is=3.2E-09 Tt=1.4E-10
ap_dio_1SS119_19930601	Basic Description: Diode, Part number: 1SS119, Key parameters: Is=1.75E-09 Tt=2.44E-10
ap_dio_1SS122_19930601	Basic Description: Diode, Part number: 1SS122, Key parameters: Is=2.1632E-10 Tt=1E-09
ap_dio_1SS16_19930601	Basic Description: Diode, Part number: 1SS16, Key parameters: Is=7.9893E-07 Tt=1E-09
ap_dio_1SS81_19930601	Basic Description: Diode, Part number: 1SS81, Key parameters: Is=4.5721E-10 Tt=1E-09
ap_dio_1SS82_19930601	Basic Description: Diode, Part number: 1SS82, Key parameters: Is=4.5721E-10 Tt=1E-09
ap_dio_1SS83_19930601	Basic Description: Diode, Part number: 1SS83, Key parameters: Is=4.5721E-10 Tt=1E-09
ap_dio_1SS85_19930601	Basic Description: Diode, Part number: 1SS85, Key parameters: Is=1.863E-11 Tt=1E-09
ap_dio_1SS99_19930601	Basic Description: Diode, Part number: 1SS99, Key parameters: Is=4.729E-07
ap_dio_2SK156_19930601	Basic Description: Diode, Part number: 2SK156, Key parameters: Is=1E-18 Tt=1E-09
ap_dio_50822810_19930601	Basic Description: Diode, Part number: 50822810, Key parameters: Is=1.925E-09 Tt=0
ap_dio_5082_2800_19930601	Basic Description: Diode, Part number: 5082, Key parameters: Is=1.502E-09 Tt=0
ap_dio_5Z27_19930601	Basic Description: Diode, Part number: 5Z27, Key parameters: Is=8.346E-11 Tt=1E-06
ap_dio_AW01_19930601	Basic Description: Diode, Part number: AW01, Key parameters: Is=1.64E-11 Tt=1E-07
ap_dio_BAT42_19930601	Basic Description: Diode, Part number: BAT42, Key parameters: Is=1.11218E-10
ap_dio_BB405B_19930601	Basic Description: Diode, Part number: BB405B, Key parameters: Is=7.45803E-16
ap_dio_BYW2950_19930601	Basic Description: Diode, Part number: BYW2950, Key parameters: Is=8.5985E-06



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ap_dio_BZX84C12_19930601	Basic Description: Diode, Part number: BZX84C12, Key parameters: Is=2.45056E-15
ap_dio_BZX84C16_19930601	Basic Description: Diode, Part number: BZX84C16, Key parameters: Is=1.82395E-15
ap_dio_BZX84C24_19930601	Basic Description: Diode, Part number: BZX84C24, Key parameters: Is=2.76569E-16
ap_dio_BZX84C33_19930601	Basic Description: Diode, Part number: BZX84C33, Key parameters: Is=4.67804E-14
ap_dio_BZX84C3V3_19930601	Basic Description: Diode, Part number: BZX84C3V3, Key parameters: Is=1.33073E-13
ap_dio_BZX84C4V3_19930601	Basic Description: Diode, Part number: BZX84C4V3, Key parameters: Is=9.29303E-14
ap_dio_BZX84C5V1_19930601	Basic Description: Diode, Part number: BZX84C5V1, Key parameters: Is=6.9508E-14
ap_dio_BZX84C6V8_19930601	Basic Description: Diode, Part number: BZX84C6V8, Key parameters: Is=3.37498E-14
ap_dio_BZX84C9V1_19930601	Basic Description: Diode, Part number: BZX84C9V1, Key parameters: Is=3.25126E-15
ap_dio_BZY97C10_19930601	Basic Description: Diode, Part number: BZY97C10, Key parameters: Is=3.89095E-13
ap_dio_BZY97C12_19930601	Basic Description: Diode, Part number: BZY97C12, Key parameters: Is=2.46912E-14
ap_dio_BZY97C15_19930601	Basic Description: Diode, Part number: BZY97C15, Key parameters: Is=1.84398E-14
ap_dio_BZY97C18_19930601	Basic Description: Diode, Part number: BZY97C18, Key parameters: Is=1.93527E-15
ap_dio_BZY97C22_19930601	Basic Description: Diode, Part number: BZY97C22, Key parameters: Is=1.32889E-13
ap_dio_BZY97C27_19930601	Basic Description: Diode, Part number: BZY97C27, Key parameters: Is=1.1728E-15
ap_dio_BZY97C33_19930601	Basic Description: Diode, Part number: BZY97C33, Key parameters: Is=4.65358E-12
ap_dio_BZY97C39_19930601	Basic Description: Diode, Part number: BZY97C39, Key parameters: Is=1.17483E-11
ap_dio_BZY97C47_19930601	Basic Description: Diode, Part number: BZY97C47, Key parameters: Is=4.89714E-13
ap_dio_BZY97C4V7_19930601	Basic Description: Diode, Part number: BZY97C4V7, Key parameters: Is=1.08794E-13
ap_dio_BZY97C5V1_19930601	Basic Description: Diode, Part number: BZY97C5V1, Key parameters: Is=1.54714E-13
ap_dio_BZY97C5V6_19930601	Basic Description: Diode, Part number: BZY97C5V6, Key parameters: Is=5.4859E-11
ap_dio_BZY97C6V8_19930601	Basic Description: Diode, Part number: BZY97C6V8, Key parameters: Is=7.9351E-15
ap_dio_D1N3063_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N3063, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=8e-9
ap_dio_D1N3064_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N3064, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=8e-9
ap_dio_D1N3491_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N3491,

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	Package: DO-21, Key parameters: Is=68.65e-15 Tt=6.059e-6
ap_dio_D1N3492_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N3492, Package: DO-21, Key parameters: Is=68.65e-15 Tt=6.059e-6
ap_dio_D1N3493_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N3493, Package: DO-21, Key parameters: Is=68.65e-15 Tt=6.059e-6
ap_dio_D1N3494_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N3494, Package: DO-21, Key parameters: Is=68.65e-15 Tt=6.059e-6
ap_dio_D1N3495_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N3495, Package: DO-21, Key parameters: Is=68.65e-15 Tt=6.059e-6
ap_dio_D1N3604_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N3604, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=3e-9
ap_dio_D1N3605_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N3605, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=3e-9
ap_dio_D1N3606_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N3606, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=3e-9
ap_dio_D1N3879_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N3879, Package: DO-4, Key parameters: Is=1.058E-18 Tt=369.9e-9
ap_dio_D1N3880_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N3880, Package: DO-4, Key parameters: Is=1.058E-18 Tt=369.9e-9
ap_dio_D1N3881_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N3881, Package: DO-4, Key parameters: Is=1.058E-18 Tt=369.9e-9
ap_dio_D1N3882_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N3882, Package: DO-4, Key parameters: Is=1.058E-18 Tt=369.9e-9
ap_dio_D1N3883_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N3883, Package: DO-4, Key parameters: Is=1.058E-18 Tt=369.9e-9
ap_dio_D1N3889_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N3889, Package: DO-4, Key parameters: Is=15.03e-15 Tt=369.9e-9
ap_dio_D1N3890_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N3890, Package: DO-4, Key parameters: Is=15.03e-15 Tt=369.9e-9
ap_dio_D1N3891_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N3891, Package: DO-4, Key parameters: Is=15.03e-15 Tt=369.9e-9
ap_dio_D1N3892_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N3892, Package: DO-4, Key parameters: Is=15.03e-15 Tt=369.9e-9
ap_dio_D1N3893_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N3893, Package: DO-4, Key parameters: Is=15.03e-15 Tt=369.9e-9
ap_dio_D1N3899_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N3899, Package: DO-5, Key parameters: Is=5.62e-15 Tt=521.4e-9
ap_dio_D1N3900_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N3900, Package: DO-5, Key parameters: Is=5.62e-15 Tt=521.4e-9
ap_dio_D1N3901_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N3901, Package: DO-5, Key parameters: Is=5.62e-15 Tt=521.4e-9
ap_dio_D1N3902_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N3902, Package: DO-5, Key parameters: Is=5.62e-15 Tt=521.4e-9
ap_dio_D1N3903_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N3903, Package: DO-5, Key parameters: Is=5.62e-15 Tt=521.4e-9
ap_dio_D1N3909_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N3909, Package: DO-5, Key parameters: Is=20.07e-15 Tt=369.9e-9
ap_dio_D1N3910_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N3910, Package: DO-5, Key parameters: Is=20.07e-15 Tt=369.9e-9
ap_dio_D1N3911_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N3911,

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	Package: DO-5, Key parameters: Is=20.07e-15 Tt=369.9e-9
ap_dio_D1N3912_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N3912, Package: DO-5, Key parameters: Is=20.07e-15 Tt=369.9e-9
ap_dio_D1N3913_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N3913, Package: DO-5, Key parameters: Is=20.07e-15 Tt=369.9e-9
ap_dio_D1N4009_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N4009, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=3e-9
ap_dio_D1N4148_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N4148, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=12e-9
ap_dio_D1N4149_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N4149, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=12e-9
ap_dio_D1N4150_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N4150, Package: GENERAL, Key parameters: Is=10E-15 Tt=12e-9
ap_dio_D1N4151_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N4151, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=3e-9
ap_dio_D1N4152_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N4152, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=3e-9
ap_dio_D1N4153_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N4153, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=3e-9
ap_dio_D1N4154_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N4154, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=3e-9
ap_dio_D1N4305_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N4305, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=8e-9
ap_dio_D1N4444_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N4444, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=12e-9
ap_dio_D1N4446_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N4446, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=12e-9
ap_dio_D1N4447_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N4447, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=12e-9
ap_dio_D1N4448_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N4448, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=12e-9
ap_dio_D1N4449_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N4449, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=12e-9
ap_dio_D1N4454_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N4454, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=8e-9
ap_dio_D1N4531_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N4531, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=12e-9
ap_dio_D1N4532_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N4532, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=8e-9
ap_dio_D1N4533_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N4533, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=3e-9
ap_dio_D1N4534_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N4534, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=3e-9
ap_dio_D1N4536_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N4536, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=3e-9
ap_dio_D1N4728_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4728, Package: DO-41, Key parameters: Is=11.11e-15 Tt=0
ap_dio_D1N4729_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4729, Package: DO-41, Key parameters: Is=2.306e-15 Tt=0
ap_dio_D1N4730_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4730,

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	Package: DO-41, Key parameters: Is=1.379e-15 Tt=0
ap_dio_D1N4731_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4731, Package: DO-41, Key parameters: Is=837.3E-18 Tt=0
ap_dio_D1N4732_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4732, Package: DO-41, Key parameters: Is=1.064e-15 Tt=0
ap_dio_D1N4733_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4733, Package: DO-41, Key parameters: Is=1.214e-15 Tt=0
ap_dio_D1N4734_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4734, Package: DO-41, Key parameters: Is=1.085e-15 Tt=0
ap_dio_D1N4735_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4735, Package: DO-41, Key parameters: Is=1.168e-15 Tt=0
ap_dio_D1N4736_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4736, Package: DO-41, Key parameters: Is=1.327e-15 Tt=0
ap_dio_D1N4737_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4737, Package: DO-41, Key parameters: Is=1.699e-15 Tt=0
ap_dio_D1N4738_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4738, Package: DO-41, Key parameters: Is=2.102e-15 Tt=0
ap_dio_D1N4739_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4739, Package: DO-41, Key parameters: Is=2.11e-15 Tt=0
ap_dio_D1N4740_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4740, Package: DO-41, Key parameters: Is=1.945e-15 Tt=0
ap_dio_D1N4741_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4741, Package: DO-41, Key parameters: Is=1.566e-15 Tt=0
ap_dio_D1N4742_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4742, Package: DO-41, Key parameters: Is=1.773e-15 Tt=0
ap_dio_D1N4743_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4743, Package: DO-41, Key parameters: Is=2.253e-15 Tt=0
ap_dio_D1N4744_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4744, Package: DO-41, Key parameters: Is=3.142e-15 Tt=0
ap_dio_D1N4745_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4745, Package: DO-41, Key parameters: Is=5.461e-15 Tt=0
ap_dio_D1N4746_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4746, Package: DO-41, Key parameters: Is=6.994e-15 Tt=0
ap_dio_D1N4747_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4747, Package: DO-41, Key parameters: Is=10.22e-15 Tt=0
ap_dio_D1N4748_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4748, Package: DO-41, Key parameters: Is=17.49e-15 Tt=0
ap_dio_D1N4749_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4749, Package: DO-41, Key parameters: Is=25.94e-15 Tt=0
ap_dio_D1N4750_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4750, Package: DO-41, Key parameters: Is=62.63e-15 Tt=0
ap_dio_D1N4933_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4933, Package: 59-04, Key parameters: Is=7.303e-15 Tt=53.73e-9
ap_dio_D1N4934_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4934, Package: 59-04, Key parameters: Is=7.303e-15 Tt=53.73e-9
ap_dio_D1N4935_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4935, Package: 59-04, Key parameters: Is=7.303e-15 Tt=53.73e-9
ap_dio_D1N4936_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4936, Package: 59-04, Key parameters: Is=7.303e-15 Tt=53.73e-9

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ap_dio_D1N4937_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N4937, Package: 59-04, Key parameters: Is=7.303e-15 Tt=53.73e-9
ap_dio_D1N4938_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N4938, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=35e-9
ap_dio_D1N5139A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5139A, Package: DO-204AA, Key parameters: Is=55e-12 Tt=0
ap_dio_D1N5139_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5139, Package: DO-204AA, Key parameters: Is=55e-12 Tt=0
ap_dio_D1N5140A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5140A, Package: DO-204AA, Key parameters: Is=54.2e-12 Tt=0
ap_dio_D1N5140_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5140, Package: DO-204AA, Key parameters: Is=54.2e-12 Tt=0
ap_dio_D1N5141A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5141A, Package: DO-204AA, Key parameters: Is=54.3e-12 Tt=0
ap_dio_D1N5141_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5141, Package: DO-204AA, Key parameters: Is=54.3e-12 Tt=0
ap_dio_D1N5142A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5142A, Package: DO-204AA, Key parameters: Is=54.3e-12 Tt=0
ap_dio_D1N5142_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5142, Package: DO-204AA, Key parameters: Is=54.3e-12 Tt=0
ap_dio_D1N5143A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5143A, Package: DO-204AA, Key parameters: Is=54.3e-12 Tt=0
ap_dio_D1N5143_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5143, Package: DO-204AA, Key parameters: Is=54.3e-12 Tt=0
ap_dio_D1N5144A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5144A, Package: DO-204AA, Key parameters: Is=49.9e-12 Tt=0
ap_dio_D1N5144_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5144, Package: DO-204AA, Key parameters: Is=49.9e-12 Tt=0
ap_dio_D1N5145A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5145A, Package: DO-204AA, Key parameters: Is=49.9e-12 Tt=0
ap_dio_D1N5145_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5145, Package: DO-204AA, Key parameters: Is=49.9e-12 Tt=0
ap_dio_D1N5146A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5146A, Package: DO-204AA, Key parameters: Is=49.9e-12 Tt=0
ap_dio_D1N5146_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5146, Package: DO-204AA, Key parameters: Is=49.9e-12 Tt=0
ap_dio_D1N5147A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5147A, Package: DO-204AA, Key parameters: Is=49.9e-12 Tt=0
ap_dio_D1N5147_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5147, Package: DO-204AA, Key parameters: Is=49.9e-12 Tt=0
ap_dio_D1N5148A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5148A, Package: DO-204AA, Key parameters: Is=43.3e-12 Tt=0
ap_dio_D1N5148_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5148, Package: DO-204AA, Key parameters: Is=43.3e-12 Tt=0
ap_dio_D1N5226_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5226, Package: DO-35, Key parameters: Is=31.47e-15 Tt=0
ap_dio_D1N5227_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5227, Package: DO-35, Key parameters: Is=1.242e-15 Tt=0
ap_dio_D1N5228_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5228, Package: DO-35, Key parameters: Is=1.252e-15 Tt=0



## Advanced Design System 2011.01 - Vendor Component Libraries - Analog Parts Library

ap_dio_D1N5229_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5229, Package: DO-35, Key parameters: Is=880.5E-18 Tt=0
ap_dio_D1N5230_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5230, Package: DO-35, Key parameters: Is=880.5E-18 Tt=0
ap_dio_D1N5231_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5231, Package: DO-35, Key parameters: Is=1.004e-15 Tt=0
ap_dio_D1N5232_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5232, Package: DO-35, Key parameters: Is=1.154e-15 Tt=0
ap_dio_D1N5233_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5233, Package: DO-35, Key parameters: Is=629E-18 Tt=0
ap_dio_D1N5234_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5234, Package: DO-35, Key parameters: Is=1.536e-15 Tt=0
ap_dio_D1N5235_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5235, Package: DO-35, Key parameters: Is=1.616e-15 Tt=0
ap_dio_D1N5236_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5236, Package: DO-35, Key parameters: Is=2.077e-15 Tt=0
ap_dio_D1N5237_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5237, Package: DO-35, Key parameters: Is=2.453e-15 Tt=0
ap_dio_D1N5238_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5238, Package: DO-35, Key parameters: Is=2.463e-15 Tt=0
ap_dio_D1N5239_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5239, Package: DO-35, Key parameters: Is=2.453e-15 Tt=0
ap_dio_D1N5240_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5240, Package: DO-35, Key parameters: Is=1.953e-15 Tt=0
ap_dio_D1N5241_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5241, Package: DO-35, Key parameters: Is=1.609e-15 Tt=0
ap_dio_D1N5242_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5242, Package: DO-35, Key parameters: Is=1.773e-15 Tt=0
ap_dio_D1N5243_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5243, Package: DO-35, Key parameters: Is=2.253e-15 Tt=0
ap_dio_D1N5244_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5244, Package: DO-35, Key parameters: Is=2.579e-15 Tt=0
ap_dio_D1N5245_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5245, Package: DO-35, Key parameters: Is=3.142e-15 Tt=0
ap_dio_D1N5246_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5246, Package: DO-35, Key parameters: Is=5.461e-15 Tt=0
ap_dio_D1N5247_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5247, Package: DO-35, Key parameters: Is=5.398e-15 Tt=0
ap_dio_D1N5248_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5248, Package: DO-35, Key parameters: Is=7.021e-15 Tt=0
ap_dio_D1N5249_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5249, Package: DO-35, Key parameters: Is=7.946e-15 Tt=0
ap_dio_D1N5250_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5250, Package: DO-35, Key parameters: Is=10.18e-15 Tt=0
ap_dio_D1N5251_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5251, Package: DO-35, Key parameters: Is=17.49e-15 Tt=0
ap_dio_D1N5252_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5252, Package: DO-35, Key parameters: Is=25.64e-15 Tt=0
ap_dio_D1N5253_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5253, Package: DO-35, Key parameters: Is=34.8e-15 Tt=0



## Advanced Design System 2011.01 - Vendor Component Libraries - Analog Parts Library

ap_dio_D1N5254_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5254, Package: DO-35, Key parameters: Is=81.47e-15 Tt=0
ap_dio_D1N5391_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5391, Package: 59-04, Key parameters: Is=127.2e-15 Tt=5.049e-6
ap_dio_D1N5392_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5392, Package: 59-04, Key parameters: Is=127.2e-15 Tt=5.049e-6
ap_dio_D1N5393_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5393, Package: 59-04, Key parameters: Is=127.2e-15 Tt=5.049e-6
ap_dio_D1N5395_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5395, Package: 59-04, Key parameters: Is=127.2e-15 Tt=5.049e-6
ap_dio_D1N5397_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5397, Package: 59-04, Key parameters: Is=127.2e-15 Tt=5.049e-6
ap_dio_D1N5398_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5398, Package: 59-04, Key parameters: Is=127.2e-15 Tt=7.213e-6
ap_dio_D1N5399_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5399, Package: 59-04, Key parameters: Is=127.2e-15 Tt=7.213e-6
ap_dio_D1N5400_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5400, Package: 267-01, Key parameters: Is=11.5e-15 Tt=0
ap_dio_D1N5401_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5401, Package: 267-01, Key parameters: Is=11.5e-15 Tt=0
ap_dio_D1N5402_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5402, Package: 267-01, Key parameters: Is=11.5e-15 Tt=0
ap_dio_D1N5404_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5404, Package: 267-01, Key parameters: Is=11.5e-15 Tt=0
ap_dio_D1N5406_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5406, Package: 267-01, Key parameters: Is=11.5e-15 Tt=0
ap_dio_D1N5441A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5441A, Package: DO-204AA, Key parameters: Is=4.85E-18 Tt=0
ap_dio_D1N5442A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5442A, Package: DO-204AA, Key parameters: Is=7.14E-18 Tt=0
ap_dio_D1N5443A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5443A, Package: DO-204AA, Key parameters: Is=10.51E-18 Tt=0
ap_dio_D1N5444A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5444A, Package: DO-204AA, Key parameters: Is=15.47E-18 Tt=0
ap_dio_D1N5445A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5445A, Package: DO-204AA, Key parameters: Is=22.77E-18 Tt=0
ap_dio_D1N5446A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5446A, Package: DO-204AA, Key parameters: Is=22.77E-18 Tt=0
ap_dio_D1N5447A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5447A, Package: DO-204AA, Key parameters: Is=33.52E-18 Tt=0
ap_dio_D1N5448A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5448A, Package: DO-204AA, Key parameters: Is=49.35E-18 Tt=0
ap_dio_D1N5449A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5449A, Package: DO-204AA, Key parameters: Is=88.13E-18 Tt=0
ap_dio_D1N5450A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5450A, Package: DO-204AA, Key parameters: Is=292.2E-18 Tt=0
ap_dio_D1N5451A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5451A, Package: DO-204AA, Key parameters: Is=405.9E-18 Tt=0
ap_dio_D1N5452A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5452A, Package: DO-204AA, Key parameters: Is=563.8E-18 Tt=0

## Advanced Design System 2011.01 - Vendor Component Libraries - Analog Parts Library

ap_dio_D1N5453A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5453A, Package: DO-204AA, Key parameters: Is=783.1E-18 Tt=0
ap_dio_D1N5454A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5454A, Package: DO-204AA, Key parameters: Is=1.088e-15 Tt=0
ap_dio_D1N5455A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5455A, Package: DO-204AA, Key parameters: Is=1.511e-15 Tt=0
ap_dio_D1N5456A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5456A, Package: DO-204AA, Key parameters: Is=2.099e-15 Tt=0
ap_dio_D1N5461A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5461A, Package: DO-204AA, Key parameters: Is=4.85E-18 Tt=0
ap_dio_D1N5462A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5462A, Package: DO-204AA, Key parameters: Is=7.14E-18 Tt=0
ap_dio_D1N5463A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5463A, Package: DO-204AA, Key parameters: Is=10.51E-18 Tt=0
ap_dio_D1N5464A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5464A, Package: DO-204AA, Key parameters: Is=15.47E-18 Tt=0
ap_dio_D1N5465A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5465A, Package: DO-204AA, Key parameters: Is=22.77E-18 Tt=0
ap_dio_D1N5466A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5466A, Package: DO-204AA, Key parameters: Is=22.77E-18 Tt=0
ap_dio_D1N5467A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5467A, Package: DO-204AA, Key parameters: Is=33.52E-18 Tt=0
ap_dio_D1N5468A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5468A, Package: DO-204AA, Key parameters: Is=49.35E-18 Tt=0
ap_dio_D1N5469A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5469A, Package: DO-204AA, Key parameters: Is=88.13E-18 Tt=0
ap_dio_D1N5470A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5470A, Package: DO-204AA, Key parameters: Is=292.2E-18 Tt=0
ap_dio_D1N5471A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5471A, Package: DO-204AA, Key parameters: Is=405.9E-18 Tt=0
ap_dio_D1N5472A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5472A, Package: DO-204AA, Key parameters: Is=563.8E-18 Tt=0
ap_dio_D1N5473A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5473A, Package: DO-204AA, Key parameters: Is=783.1E-18 Tt=0
ap_dio_D1N5474A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5474A, Package: DO-204AA, Key parameters: Is=1.088e-15 Tt=0
ap_dio_D1N5475A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5475A, Package: DO-204AA, Key parameters: Is=1.511e-15 Tt=0
ap_dio_D1N5476A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5476A, Package: DO-204AA, Key parameters: Is=2.099e-15 Tt=0
ap_dio_D1N5711_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N5711, Package: GENERAL, Key parameters: Is=10.58e-9 Tt=144.3e-12
ap_dio_D1N5712_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N5712, Package: GENERAL, Key parameters: Is=432.8e-12 Tt=144.3e-12
ap_dio_D1N5817_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5817, Package: 59-04, Key parameters: Is=2.835e-6 Tt=0
ap_dio_D1N5818_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5818, Package: 59-04, Key parameters: Is=2.835e-6 Tt=0
ap_dio_D1N5819_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5819, Package: 59-04, Key parameters: Is=2.835e-6 Tt=0

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ap_dio_D1N5820_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5820, Package: 267-01, Key parameters: Is=8.425e-6 Tt=0
ap_dio_D1N5821_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5821, Package: 267-01, Key parameters: Is=8.425e-6 Tt=0
ap_dio_D1N5822_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5822, Package: 267-01, Key parameters: Is=8.425e-6 Tt=0
ap_dio_D1N5823_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5823, Package: 60-01, Key parameters: Is=40.53e-6 Tt=0
ap_dio_D1N5824_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5824, Package: 60-01, Key parameters: Is=40.53e-6 Tt=0
ap_dio_D1N5825_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5825, Package: 60-01, Key parameters: Is=40.53e-6 Tt=0
ap_dio_D1N5826_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5826, Package: DO-4, Key parameters: Is=40.53e-6 Tt=0
ap_dio_D1N5827_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5827, Package: DO-4, Key parameters: Is=40.53e-6 Tt=0
ap_dio_D1N5828_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5828, Package: DO-4, Key parameters: Is=40.53e-6 Tt=0
ap_dio_D1N5829_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5829, Package: DO-4, Key parameters: Is=89.43e-6 Tt=0
ap_dio_D1N5830_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5830, Package: DO-4, Key parameters: Is=89.43e-6 Tt=0
ap_dio_D1N5831_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5831, Package: DO-4, Key parameters: Is=89.43e-6 Tt=0
ap_dio_D1N5832_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5832, Package: 257-01, Key parameters: Is=89.43e-6 Tt=0
ap_dio_D1N5833_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5833, Package: 257-01, Key parameters: Is=89.43e-6 Tt=0
ap_dio_D1N5834_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N5834, Package: 257-01, Key parameters: Is=89.43e-6 Tt=0
ap_dio_D1N6095_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N6095, Package: DO-4, Key parameters: Is=1.133e-6 Tt=0
ap_dio_D1N6096_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N6096, Package: DO-4, Key parameters: Is=1.133e-6 Tt=0
ap_dio_D1N6097_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N6097, Package: DO-5, Key parameters: Is=793.4e-9 Tt=0
ap_dio_D1N6098_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N6098, Package: DO-5, Key parameters: Is=793.4e-9 Tt=0
ap_dio_D1N746_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N746, Package: DO-35, Key parameters: Is=31.47e-15 Tt=0
ap_dio_D1N747_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N747, Package: DO-35, Key parameters: Is=1.242e-15 Tt=0
ap_dio_D1N748_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N748, Package: DO-35, Key parameters: Is=1.252e-15 Tt=0
ap_dio_D1N749_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N749, Package: DO-35, Key parameters: Is=880.5E-18 Tt=0
ap_dio_D1N750_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N750, Package: DO-35, Key parameters: Is=880.5E-18 Tt=0
ap_dio_D1N751_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N751, Package: DO-35, Key parameters: Is=1.004e-15 Tt=0

## Advanced Design System 2011.01 - Vendor Component Libraries - Analog Parts Library

ap_dio_D1N752_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N752, Package: DO-35, Key parameters: Is=1.154e-15 Tt=0
ap_dio_D1N753_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N753, Package: DO-35, Key parameters: Is=1.536e-15 Tt=0
ap_dio_D1N754_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N754, Package: DO-35, Key parameters: Is=1.616e-15 Tt=0
ap_dio_D1N755_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N755, Package: DO-35, Key parameters: Is=2.077e-15 Tt=0
ap_dio_D1N756_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N756, Package: DO-35, Key parameters: Is=2.453e-15 Tt=0
ap_dio_D1N757_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N757, Package: DO-35, Key parameters: Is=2.453e-15 Tt=0
ap_dio_D1N758_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N758, Package: DO-35, Key parameters: Is=1.953e-15 Tt=0
ap_dio_D1N759_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N759, Package: DO-35, Key parameters: Is=1.773e-15 Tt=0
ap_dio_D1N914A_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N914A, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=12e-9
ap_dio_D1N914B_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N914B, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=12e-9
ap_dio_D1N914_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N914, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=12e-9
ap_dio_D1N916A_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N916A, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=12e-9
ap_dio_D1N916B_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N916B, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=12e-9
ap_dio_D1N916_19930601	Manufacturer: General, Basic Description: Diode, Part number: D1N916, Package: GENERAL, Key parameters: Is=0.1e-12 Tt=12e-9
ap_dio_D1N957A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N957A, Package: DO-35, Key parameters: Is=1.616e-15 Tt=0
ap_dio_D1N958A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N958A, Package: DO-35, Key parameters: Is=2.077e-15 Tt=0
ap_dio_D1N959A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N959A, Package: DO-35, Key parameters: Is=2.491e-15 Tt=0
ap_dio_D1N960A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N960A, Package: DO-35, Key parameters: Is=2.168e-15 Tt=0
ap_dio_D1N961A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N961A, Package: DO-35, Key parameters: Is=1.953e-15 Tt=0
ap_dio_D1N962A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N962A, Package: DO-35, Key parameters: Is=1.609e-15 Tt=0
ap_dio_D1N963A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N963A, Package: DO-35, Key parameters: Is=1.773e-15 Tt=0
ap_dio_D1N964A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N964A, Package: DO-35, Key parameters: Is=2.253e-15 Tt=0
ap_dio_D1N965A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N965A, Package: DO-35, Key parameters: Is=3.142e-15 Tt=0
ap_dio_D1N966A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N966A, Package: DO-35, Key parameters: Is=5.461e-15 Tt=0
ap_dio_D1N967A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N967A,



	Package: DO-35, Key parameters: Is=7.021e-15 Tt=0
ap_dio_D1N968A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N968A, Package: DO-35, Key parameters: Is=10.18e-15 Tt=0
ap_dio_D1N969A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N969A, Package: DO-35, Key parameters: Is=17.49e-15 Tt=0
ap_dio_D1N970A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N970A, Package: DO-35, Key parameters: Is=25.64e-15 Tt=0
ap_dio_D1N971A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: D1N971A, Package: DO-35, Key parameters: Is=81.47e-15 Tt=0
ap_dio_D1NK20_19930601	Basic Description: Diode, Part number: D1NK20, Key parameters: Is=1.111111E-07 Tt=1.0428178E-06
ap_dio_DSR3500X_19930601	Basic Description: Diode, Part number: DSR3500X, Key parameters: Is=1.53E-08 Tt=4.933E-08
ap_dio_EGL41A_19930601	Basic Description: Diode, Part number: EGL41A, Key parameters: Is=1.6056938E-06 Tt=2.34E-07
ap_dio_EGP10C_19930601	Basic Description: Diode, Part number: EGP10C, Key parameters: Is=3.35892E-11
ap_dio_EGP30B_19930601	Basic Description: Diode, Part number: EGP30B, Key parameters: Is=1.41045E-09
ap_dio_FD777_19930601	Manufacturer: National_Semiconductor, Basic Description: Diode, Part number: FD777, Key parameters: Is=1E-08 Tt=5E-11
ap_dio_GZ05024A_19930601	Basic Description: Diode, Part number: GZ05024A, Key parameters: Is=3.0838E-14
ap_dio_HP50822811_19930601	Basic Description: Diode, Part number: HP50822811, Key parameters: Is=6.7E-10 Tt=1E-08
ap_dio_HVP100_19930601	Basic Description: Diode, Part number: HVP100, Key parameters: Is=6.97E-12 Tt=1E-09
ap_dio_HZ5_19930601	Basic Description: Diode, Part number: HZ5, Key parameters: Is=1.349E-11 Tt=1E-07
ap_dio_IDEALDIODE_19930601	Basic Description: Diode, Part number: IDEALDIODE, Key parameters: Is=1E-09
ap_dio_JTX4974_19930601	Basic Description: Diode, Part number: JTX4974, Key parameters: Is=9.18E-11
ap_dio_LDR1201_19930601	Manufacturer: Siemens, Basic Description: Diode, Part number: LDR1201, Key parameters: Is=1E-15 Tt=5E-08
ap_dio_LM103H_18_19930601	Manufacturer: National_Semiconductor, Basic Description: Diode, Part number: LM103H, Key parameters: Is=2.78E-11 Tt=1E-08
ap_dio_LM103H_20_19930601	Manufacturer: National_Semiconductor, Basic Description: Diode, Part number: LM103H, Key parameters: Is=1E-15 Tt=2E-08
ap_dio_LM103H_22_19930601	Manufacturer: National_Semiconductor, Basic Description: Diode, Part number: LM103H, Key parameters: Is=2.78E-11 Tt=1E-08
ap_dio_LM103H_24_19930601	Manufacturer: National_Semiconductor, Basic Description: Diode, Part number: LM103H, Key parameters: Is=2.78E-11 Tt=1E-08
ap_dio_LM103H_27_19930601	Manufacturer: National_Semiconductor, Basic Description: Diode, Part number: LM103H, Key parameters: Is=2.78E-11 Tt=1E-08
ap_dio_LM103H_30_19930601	Manufacturer: National_Semiconductor, Basic Description: Diode, Part number: LM103H, Key parameters: Is=2.78E-11 Tt=1E-08
ap_dio_LM103H_33_19930601	Manufacturer: National_Semiconductor, Basic Description: Diode, Part number: LM103H, Key parameters: Is=2.78E-11 Tt=1E-08
ap_dio_LM103H_36_19930601	Manufacturer: National_Semiconductor, Basic Description: Diode, Part

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	number: LM103H, Key parameters: Is=2.78E-11 Tt=1E-08
ap_dio_LM103H_39_19930601	Manufacturer: National_Semiconductor, Basic Description: Diode, Part number: LM103H, Key parameters: Is=2.78E-11 Tt=1E-08
ap_dio_LM103H_43_19930601	Manufacturer: National_Semiconductor, Basic Description: Diode, Part number: LM103H, Key parameters: Is=2.78E-11 Tt=1E-08
ap_dio_LM103H_47_19930601	Manufacturer: National_Semiconductor, Basic Description: Diode, Part number: LM103H, Key parameters: Is=2.78E-11 Tt=1E-08
ap_dio_LM103H_51_19930601	Manufacturer: National_Semiconductor, Basic Description: Diode, Part number: LM103H, Key parameters: Is=2.78E-11 Tt=1E-08
ap_dio_LM103H_56_19930601	Manufacturer: National_Semiconductor, Basic Description: Diode, Part number: LM103H, Key parameters: Is=2.78E-11 Tt=1E-08
ap_dio_LM113_19930601	Manufacturer: National_Semiconductor, Basic Description: Diode, Part number: LM113, Key parameters: Is=1.61E-13 Tt=1E-08
ap_dio_LM313_19930601	Manufacturer: National_Semiconductor, Basic Description: Diode, Part number: LM313, Key parameters: Is=1.61E-13 Tt=1E-08
ap_dio_MBD101_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBD101, Package: 182-03, Key parameters: Is=192.1e-12 Tt=0
ap_dio_MBD201_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBD201, Package: 182-03, Key parameters: Is=1.684e-12 Tt=0
ap_dio_MBD301_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBD301, Package: 182-03, Key parameters: Is=1.684e-12 Tt=0
ap_dio_MBD501_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBD501, Package: TO-92, Key parameters: Is=276.7E-18 Tt=0
ap_dio_MBD701_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBD701, Package: TO-92, Key parameters: Is=276.7E-18 Tt=0
ap_dio_MBR030_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR030, Package: DO-35, Key parameters: Is=12.29e-9 Tt=0
ap_dio_MBR040_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR040, Package: DO-35, Key parameters: Is=12.29e-9 Tt=0
ap_dio_MBR1035_19930601	Basic Description: Diode, Part number: MBR1035, Key parameters: Is=1.3E-07 Tt=0
ap_dio_MBR1035_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR1035, Package: TO-220AC, Key parameters: Is=168.4e-9 Tt=0
ap_dio_MBR1045_19930601	Basic Description: Diode, Part number: MBR1045, Key parameters: Is=1.3E-07 Tt=0
ap_dio_MBR1045_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR1045, Package: TO-220AC, Key parameters: Is=168.4e-9 Tt=0
ap_dio_MBR115P_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR115P, Package: 59-04, Key parameters: Is=2.835e-6 Tt=0
ap_dio_MBR120P_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR120P, Package: 59-04, Key parameters: Is=2.835e-6 Tt=0
ap_dio_MBR130P_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR130P, Package: 59-04, Key parameters: Is=2.835e-6 Tt=0
ap_dio_MBR140P_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR140P, Package: 59-04, Key parameters: Is=2.835e-6 Tt=0
ap_dio_MBR1520_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR1520, Package: DO-4, Key parameters: Is=4.091e-6 Tt=0
ap_dio_MBR1530_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR1530, Package: DO-4, Key parameters: Is=4.091e-6 Tt=0
ap_dio_MBR1540_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR1540,



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	Package: DO-4, Key parameters: Is=4.091e-6 Tt=0
ap_dio_MBR2520_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR2520, Package: DO-4, Key parameters: Is=21e-6 Tt=0
ap_dio_MBR2530_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR2530, Package: DO-4, Key parameters: Is=21e-6 Tt=0
ap_dio_MBR2540_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR2540, Package: DO-4, Key parameters: Is=21e-6 Tt=0
ap_dio_MBR320M_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR320M, Package: 60, Key parameters: Is=15.65e-6 Tt=0
ap_dio_MBR320P_19930601	Basic Description: Diode, Part number: MBR320P, Key parameters: Is=1.582E-05 Tt=0
ap_dio_MBR320P_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR320P, Package: 267-01, Key parameters: Is=8.425e-6 Tt=0
ap_dio_MBR320_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR320, Package: 267-01, Key parameters: Is=823.9e-9 Tt=0
ap_dio_MBR330M_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR330M, Package: 60, Key parameters: Is=15.65e-6 Tt=0
ap_dio_MBR330P_19930601	Basic Description: Diode, Part number: MBR330P, Key parameters: Is=1.582E-05 Tt=0
ap_dio_MBR330P_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR330P, Package: 267-01, Key parameters: Is=8.425e-6 Tt=0
ap_dio_MBR330_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR330, Package: 267-01, Key parameters: Is=823.9e-9 Tt=0
ap_dio_MBR340M_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR340M, Package: 60, Key parameters: Is=15.65e-6 Tt=0
ap_dio_MBR340P_19930601	Basic Description: Diode, Part number: MBR340P, Key parameters: Is=1.582E-05 Tt=0
ap_dio_MBR340P_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR340P, Package: 267-01, Key parameters: Is=8.425e-6 Tt=0
ap_dio_MBR340_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR340, Package: 267-01, Key parameters: Is=823.9e-9 Tt=0
ap_dio_MBR350_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR350, Package: 267-01, Key parameters: Is=403.6e-9 Tt=0
ap_dio_MBR3520_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR3520, Package: DO-4, Key parameters: Is=271.1e-9 Tt=0
ap_dio_MBR3535_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR3535, Package: DO-4, Key parameters: Is=271.1e-9 Tt=0
ap_dio_MBR3545H1_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR3545H1, Package: DO-4, Key parameters: Is=271.1e-9 Tt=0
ap_dio_MBR3545H_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR3545H, Package: DO-4, Key parameters: Is=271.1e-9 Tt=0
ap_dio_MBR3545_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR3545, Package: DO-4, Key parameters: Is=271.1e-9 Tt=0
ap_dio_MBR360_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR360, Package: 267-01, Key parameters: Is=403.6e-9 Tt=0
ap_dio_MBR4020_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR4020, Package: DO-5, Key parameters: Is=27.51e-6 Tt=0
ap_dio_MBR4030_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR4030, Package: DO-5, Key parameters: Is=27.51e-6 Tt=0

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ap_dio_MBR4040_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR4040, Package: DO-5, Key parameters: Is=27.51e-6 Tt=0
ap_dio_MBR5825H1_19930601	Basic Description: Diode, Part number: MBR5825H1, Key parameters: Is=6.74E-07 Tt=0
ap_dio_MBR5825H1_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR5825H1, Package: 60-01, Key parameters: Is=40.53e-6 Tt=0
ap_dio_MBR5825H_19930601	Basic Description: Diode, Part number: MBR5825H, Key parameters: Is=6.74E-07 Tt=0
ap_dio_MBR5825H_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR5825H, Package: 60-01, Key parameters: Is=40.53e-6 Tt=0
ap_dio_MBR5831H1_19930601	Basic Description: Diode, Part number: MBR5831H1, Key parameters: Is=0.000636 Tt=0
ap_dio_MBR5831H1_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR5831H1, Package: DO-4, Key parameters: Is=89.43e-6 Tt=0
ap_dio_MBR5831H_19930601	Basic Description: Diode, Part number: MBR5831H, Key parameters: Is=0.000636 Tt=0
ap_dio_MBR5831H_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR5831H, Package: DO-4, Key parameters: Is=89.43e-6 Tt=0
ap_dio_MBR6035B_19930601	Basic Description: Diode, Part number: MBR6035B, Key parameters: Is=8E-07 Tt=0
ap_dio_MBR6035B_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR6035B, Package: 257-01, Key parameters: Is=792.9e-9 Tt=0
ap_dio_MBR6035PF_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR6035PF, Package: DO-21, Key parameters: Is=792.9e-9 Tt=0
ap_dio_MBR6035_19930601	Basic Description: Diode, Part number: MBR6035, Key parameters: Is=8E-07 Tt=0
ap_dio_MBR6035_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR6035, Package: 257-01, Key parameters: Is=792.9e-9 Tt=0
ap_dio_MBR6045B_19930601	Basic Description: Diode, Part number: MBR6045B, Key parameters: Is=8E-07 Tt=0
ap_dio_MBR6045B_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR6045B, Package: 257-01, Key parameters: Is=792.9e-9 Tt=0
ap_dio_MBR6045H1_19930601	Basic Description: Diode, Part number: MBR6045H1, Key parameters: Is=8E-07 Tt=0
ap_dio_MBR6045H1_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR6045H1, Package: 257-01, Key parameters: Is=792.9e-9 Tt=0
ap_dio_MBR6045H_19930601	Basic Description: Diode, Part number: MBR6045H, Key parameters: Is=8E-07 Tt=0
ap_dio_MBR6045H_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR6045H, Package: 257-01, Key parameters: Is=792.9e-9 Tt=0
ap_dio_MBR6045PF_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR6045PF, Package: DO-21, Key parameters: Is=792.9e-9 Tt=0
ap_dio_MBR6045_19930601	Basic Description: Diode, Part number: MBR6045, Key parameters: Is=8E-07 Tt=0
ap_dio_MBR6045_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR6045, Package: 257-01, Key parameters: Is=792.9e-9 Tt=0
ap_dio_MBR6535_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR6535, Package: DO-5, Key parameters: Is=183.5e-9 Tt=0
ap_dio_MBR6545_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR6545, Package: DO-5, Key parameters: Is=183.5e-9 Tt=0

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ap_dio_MBR7520_19930601	Basic Description: Diode, Part number: MBR7520, Key parameters: Is=3.626E-07 Tt=0
ap_dio_MBR7520_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR7520, Package: DO-5, Key parameters: Is=4.014e-6 Tt=0
ap_dio_MBR7530_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR7530, Key parameters: Is=3.626E-07 Tt=0
ap_dio_MBR7530_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR7530, Package: DO-5, Key parameters: Is=4.014e-6 Tt=0
ap_dio_MBR7535_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR7535, Key parameters: Is=3.626E-07 Tt=0
ap_dio_MBR7535_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR7535, Package: DO-5, Key parameters: Is=4.014e-6 Tt=0
ap_dio_MBR7540_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR7540, Key parameters: Is=3.626E-07 Tt=0
ap_dio_MBR7540_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR7540, Package: DO-5, Key parameters: Is=4.014e-6 Tt=0
ap_dio_MBR7545_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR7545, Key parameters: Is=3.626E-07 Tt=0
ap_dio_MBR7545_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR7545, Package: DO-5, Key parameters: Is=4.014e-6 Tt=0
ap_dio_MBR7574_19930601	Basic Description: Diode, Part number: MBR7574, Key parameters: Is=3.626E-07 Tt=0
ap_dio_MBR8035_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR8035, Package: DO-5, Key parameters: Is=980.4e-9 Tt=0
ap_dio_MBR8045_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBR8045, Package: DO-5, Key parameters: Is=980.4e-9 Tt=0
ap_dio_MBRL030_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBRL030, Package: 362-01, Key parameters: Is=12.29e-9 Tt=0
ap_dio_MBRL040_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MBRL040, Package: 362-01, Key parameters: Is=12.29e-9 Tt=0
ap_dio_MLL4728_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL4728, Package: 362B-01, Key parameters: Is=11.11e-15 Tt=0
ap_dio_MLL4729_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL4729, Package: 362B-01, Key parameters: Is=2.306e-15 Tt=0
ap_dio_MLL4730_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL4730, Package: 362B-01, Key parameters: Is=1.379e-15 Tt=0
ap_dio_MLL4731_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL4731, Package: 362B-01, Key parameters: Is=837.3E-18 Tt=0
ap_dio_MLL4732_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL4732, Package: 362B-01, Key parameters: Is=1.064e-15 Tt=0
ap_dio_MLL4733_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL4733, Package: 362B-01, Key parameters: Is=1.214e-15 Tt=0
ap_dio_MLL4734_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL4734, Package: 362B-01, Key parameters: Is=1.085e-15 Tt=0
ap_dio_MLL4735_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL4735, Package: 362B-01, Key parameters: Is=1.168e-15 Tt=0
ap_dio_MLL4736_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL4736, Package: 362B-01, Key parameters: Is=1.327e-15 Tt=0
ap_dio_MLL4737_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL4737, Package: 362B-01, Key parameters: Is=1.699e-15 Tt=0

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ap_dio_MLL4738_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL4738, Package: 362B-01, Key parameters: Is=2.102e-15 Tt=0
ap_dio_MLL4739_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL4739, Package: 362B-01, Key parameters: Is=2.11e-15 Tt=0
ap_dio_MLL4740_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL4740, Package: 362B-01, Key parameters: Is=1.945e-15 Tt=0
ap_dio_MLL4741_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL4741, Package: 362B-01, Key parameters: Is=1.566e-15 Tt=0
ap_dio_MLL4742_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL4742, Package: 362B-01, Key parameters: Is=1.773e-15 Tt=0
ap_dio_MLL4743_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL4743, Package: 362B-01, Key parameters: Is=2.253e-15 Tt=0
ap_dio_MLL4744_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL4744, Package: 362B-01, Key parameters: Is=3.142e-15 Tt=0
ap_dio_MLL4745_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL4745, Package: 362B-01, Key parameters: Is=5.461e-15 Tt=0
ap_dio_MLL4746_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL4746, Package: 362B-01, Key parameters: Is=6.994e-15 Tt=0
ap_dio_MLL4747_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL4747, Package: 362B-01, Key parameters: Is=10.22e-15 Tt=0
ap_dio_MLL4748_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL4748, Package: 362B-01, Key parameters: Is=17.49e-15 Tt=0
ap_dio_MLL4749_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL4749, Package: 362B-01, Key parameters: Is=25.94e-15 Tt=0
ap_dio_MLL4750_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL4750, Package: 362B-01, Key parameters: Is=62.63e-15 Tt=0
ap_dio_MLL5226_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5226, Package: 362-01, Key parameters: Is=31.35e-15 Tt=0
ap_dio_MLL5227_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5227, Package: 362-01, Key parameters: Is=1.242e-15 Tt=0
ap_dio_MLL5228_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5228, Package: 362-01, Key parameters: Is=1.252e-15 Tt=0
ap_dio_MLL5229_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5229, Package: 362-01, Key parameters: Is=880.5E-18 Tt=0
ap_dio_MLL5230_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5230, Package: 362-01, Key parameters: Is=880.5E-18 Tt=0
ap_dio_MLL5231_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5231, Package: 362-01, Key parameters: Is=1.004e-15 Tt=0
ap_dio_MLL5232_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5232, Package: 362-01, Key parameters: Is=1.154e-15 Tt=0
ap_dio_MLL5233_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5233, Package: 362-01, Key parameters: Is=629E-18 Tt=0
ap_dio_MLL5234_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5234, Package: 362-01, Key parameters: Is=1.536e-15 Tt=0
ap_dio_MLL5235_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5235, Package: 362-01, Key parameters: Is=1.616e-15 Tt=0
ap_dio_MLL5236_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5236, Package: 362-01, Key parameters: Is=2.077e-15 Tt=0
ap_dio_MLL5237_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5237, Package: 362-01, Key parameters: Is=2.453e-15 Tt=0

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ap_dio_MLL5238_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5238, Package: 362-01, Key parameters: Is=2.463e-15 Tt=0
ap_dio_MLL5239_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5239, Package: 362-01, Key parameters: Is=2.453e-15 Tt=0
ap_dio_MLL5240_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5240, Package: 362-01, Key parameters: Is=1.953e-15 Tt=0
ap_dio_MLL5241_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5241, Package: 362-01, Key parameters: Is=1.609e-15 Tt=0
ap_dio_MLL5242_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5242, Package: 362-01, Key parameters: Is=1.773e-15 Tt=0
ap_dio_MLL5243_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5243, Package: 362-01, Key parameters: Is=2.253e-15 Tt=0
ap_dio_MLL5244_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5244, Package: 362-01, Key parameters: Is=2.579e-15 Tt=0
ap_dio_MLL5245_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5245, Package: 362-01, Key parameters: Is=3.142e-15 Tt=0
ap_dio_MLL5246_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5246, Package: 362-01, Key parameters: Is=5.461e-15 Tt=0
ap_dio_MLL5247_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5247, Package: 362-01, Key parameters: Is=5.398e-15 Tt=0
ap_dio_MLL5248_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5248, Package: 362-01, Key parameters: Is=7.021e-15 Tt=0
ap_dio_MLL5249_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5249, Package: 362-01, Key parameters: Is=7.946e-15 Tt=0
ap_dio_MLL5250_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5250, Package: 362-01, Key parameters: Is=10.18e-15 Tt=0
ap_dio_MLL5251_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5251, Package: 362-01, Key parameters: Is=17.49e-15 Tt=0
ap_dio_MLL5252_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5252, Package: 362-01, Key parameters: Is=25.64e-15 Tt=0
ap_dio_MLL5253_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5253, Package: 362-01, Key parameters: Is=34.8e-15 Tt=0
ap_dio_MLL5254_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL5254, Package: 362-01, Key parameters: Is=81.47e-15 Tt=0
ap_dio_MLL746_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL746, Package: 362-01, Key parameters: Is=31.47e-15 Tt=0
ap_dio_MLL747_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL747, Package: 362-01, Key parameters: Is=1.242e-15 Tt=0
ap_dio_MLL748_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL748, Package: 362-01, Key parameters: Is=1.252e-15 Tt=0
ap_dio_MLL749_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL749, Package: 362-01, Key parameters: Is=880.5E-18 Tt=0
ap_dio_MLL750_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL750, Package: 362-01, Key parameters: Is=880.5E-18 Tt=0
ap_dio_MLL751_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL751, Package: 362-01, Key parameters: Is=1.004e-15 Tt=0
ap_dio_MLL752_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL752, Package: 362-01, Key parameters: Is=1.154e-15 Tt=0
ap_dio_MLL753_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL753, Package: 362-01, Key parameters: Is=1.536e-15 Tt=0



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ap_dio_MLL754_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL754, Package: 362-01, Key parameters: Is=1.616e-15 Tt=0
ap_dio_MLL755_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL755, Package: 362-01, Key parameters: Is=2.077e-15 Tt=0
ap_dio_MLL756_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL756, Package: 362-01, Key parameters: Is=2.453e-15 Tt=0
ap_dio_MLL757_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL757, Package: 362-01, Key parameters: Is=2.453e-15 Tt=0
ap_dio_MLL758_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL758, Package: 362-01, Key parameters: Is=1.953e-15 Tt=0
ap_dio_MLL759_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL759, Package: 362-01, Key parameters: Is=1.773e-15 Tt=0
ap_dio_MLL957A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL957A, Package: 362-01, Key parameters: Is=1.616e-15 Tt=0
ap_dio_MLL958A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL958A, Package: 362-01, Key parameters: Is=2.077e-15 Tt=0
ap_dio_MLL959A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL959A, Package: 362-01, Key parameters: Is=2.491e-15 Tt=0
ap_dio_MLL960A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL960A, Package: 362-01, Key parameters: Is=2.168e-15 Tt=0
ap_dio_MLL961A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL961A, Package: 362-01, Key parameters: Is=1.953e-15 Tt=0
ap_dio_MLL962A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL962A, Package: 362-01, Key parameters: Is=1.609e-15 Tt=0
ap_dio_MLL963A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL963A, Package: 362-01, Key parameters: Is=1.773e-15 Tt=0
ap_dio_MLL964A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL964A, Package: 362-01, Key parameters: Is=2.253e-15 Tt=0
ap_dio_MLL965A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL965A, Package: 362-01, Key parameters: Is=3.142e-15 Tt=0
ap_dio_MLL966A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL966A, Package: 362-01, Key parameters: Is=5.461e-15 Tt=0
ap_dio_MLL967A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL967A, Package: 362-01, Key parameters: Is=7.021e-15 Tt=0
ap_dio_MLL968A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL968A, Package: 362-01, Key parameters: Is=10.18e-15 Tt=0
ap_dio_MLL969A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL969A, Package: 362-01, Key parameters: Is=17.49e-15 Tt=0
ap_dio_MLL970A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL970A, Package: 362-01, Key parameters: Is=25.64e-15 Tt=0
ap_dio_MLL971A_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MLL971A, Package: 362-01, Key parameters: Is=81.47e-15 Tt=0
ap_dio_MPN3404_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MPN3404, Package: 182-03, Key parameters: Is=271.5E-18 Tt=0
ap_dio_MPN3700_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MPN3700, Package: 182-03, Key parameters: Is=266.9E-18 Tt=0
ap_dio_MR1366_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR1366, Key parameters: Is=8.01E-15 Tt=1E-07
ap_dio_MR1366_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MR1366, Package: DO-4, Key parameters: Is=1.058E-18 Tt=369.9e-9



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ap_dio_MR1376_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR1376, Package: DO-4, Key parameters: Is=15.03e-15 Tt=369.9e-9
ap_dio_MR1386_19930601	Basic Description: Diode, Part number: MR1386, Key parameters: Is=1.85E-06 Tt=3.92E-07
ap_dio_MR1386_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MR1386, Package: DO-5, Key parameters: Is=5.62e-15 Tt=521.4e-9
ap_dio_MR1396_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR1396, Key parameters: Is=5.089E-09 Tt=2.936E-07
ap_dio_MR1396_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MR1396, Package: DO-5, Key parameters: Is=20.07e-15 Tt=369.9e-9
ap_dio_MR2400F_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR2400F, Package: 339-02, Key parameters: Is=193.2e-15 Tt=672.2e-9
ap_dio_MR2400_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR2400, Package: 339-02, Key parameters: Is=639.2e-15 Tt=5.41e-6
ap_dio_MR2401F_19930601	Basic Description: Diode, Part number: MR2401F, Key parameters: Is=2.58E-06 Tt=5E-08
ap_dio_MR2401F_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MR2401F, Package: 339-02, Key parameters: Is=193.2e-15 Tt=672.2e-9
ap_dio_MR2401_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR2401, Package: 339-02, Key parameters: Is=639.2e-15 Tt=5.41e-6
ap_dio_MR2402F_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR2402F, Package: 339-02, Key parameters: Is=193.2e-15 Tt=672.2e-9
ap_dio_MR2402_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR2402, Package: 339-02, Key parameters: Is=639.2e-15 Tt=5.41e-6
ap_dio_MR2404F_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR2404F, Package: 339-02, Key parameters: Is=193.2e-15 Tt=672.2e-9
ap_dio_MR2404_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR2404, Package: 339-02, Key parameters: Is=639.2e-15 Tt=5.41e-6
ap_dio_MR2406F_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR2406F, Package: 339-02, Key parameters: Is=193.2e-15 Tt=672.2e-9
ap_dio_MR2406_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR2406, Package: 339-02, Key parameters: Is=639.2e-15 Tt=5.41e-6
ap_dio_MR2500M_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR2500M, Package: 193-04, Key parameters: Is=639.2e-15 Tt=5.338e-6
ap_dio_MR2500_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR2500, Package: 139-03, Key parameters: Is=639.2e-15 Tt=5.338e-6
ap_dio_MR2501M_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR2501M, Package: 193-04, Key parameters: Is=639.2e-15 Tt=5.338e-6
ap_dio_MR2501_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR2501, Package: 139-03, Key parameters: Is=639.2e-15 Tt=5.338e-6
ap_dio_MR2502M_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR2502M, Package: 193-04, Key parameters: Is=639.2e-15 Tt=5.338e-6
ap_dio_MR2502_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR2502, Package: 139-03, Key parameters: Is=639.2e-15 Tt=5.338e-6
ap_dio_MR2504M_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR2504M, Package: 193-04, Key parameters: Is=639.2e-15 Tt=5.338e-6
ap_dio_MR2504_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR2504, Package: 139-03, Key parameters: Is=639.2e-15 Tt=5.338e-6
ap_dio_MR2506M_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR2506M,

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	Package: 193-04, Key parameters: Is=639.2e-15 Tt=5.338e-6
ap_dio_MR2506_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR2506, Package: 139-03, Key parameters: Is=639.2e-15 Tt=5.338e-6
ap_dio_MR2508M_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR2508M, Package: 193-04, Key parameters: Is=639.2e-15 Tt=5.338e-6
ap_dio_MR2508_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR2508, Package: 139-03, Key parameters: Is=639.2e-15 Tt=5.338e-6
ap_dio_MR2510M_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR2510M, Package: 193-04, Key parameters: Is=639.2e-15 Tt=5.338e-6
ap_dio_MR2510_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR2510, Package: 139-03, Key parameters: Is=639.2e-15 Tt=5.338e-6
ap_dio_MR327_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR327, Package: DO-21, Key parameters: Is=68.65e-15 Tt=6.059e-6
ap_dio_MR328_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR328, Package: DO-21, Key parameters: Is=68.65e-15 Tt=6.059e-6
ap_dio_MR330_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR330, Package: DO-21, Key parameters: Is=68.65e-15 Tt=6.059e-6
ap_dio_MR331_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR331, Package: DO-21, Key parameters: Is=68.65e-15 Tt=6.059e-6
ap_dio_MR500_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR500, Package: 267-01, Key parameters: Is=11.5e-15 Tt=6.81e-6
ap_dio_MR501_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR501, Package: 267-01, Key parameters: Is=11.5e-15 Tt=6.81e-6
ap_dio_MR502_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR502, Package: 267-01, Key parameters: Is=11.5e-15 Tt=6.81e-6
ap_dio_MR504_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR504, Package: 267-01, Key parameters: Is=11.5e-15 Tt=6.81e-6
ap_dio_MR506_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR506, Package: 267-01, Key parameters: Is=11.5e-15 Tt=6.81e-6
ap_dio_MR508_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR508, Package: 267-01, Key parameters: Is=11.5e-15 Tt=6.81e-6
ap_dio_MR510_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR510, Package: 267-01, Key parameters: Is=11.5e-15 Tt=6.81e-6
ap_dio_MR750_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR750, Key parameters: Is=1.04E-09 Tt=1.175E-05
ap_dio_MR750_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MR750, Package: 194-05, Key parameters: Is=643.5e-15 Tt=6.131e-6
ap_dio_MR751_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR751, Key parameters: Is=1.04E-09 Tt=1.175E-05
ap_dio_MR751_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MR751, Package: 194-05, Key parameters: Is=643.5e-15 Tt=6.131e-6
ap_dio_MR752_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR752, Key parameters: Is=1.04E-09 Tt=1.175E-05
ap_dio_MR752_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MR752, Package: 194-05, Key parameters: Is=643.5e-15 Tt=6.131e-6
ap_dio_MR754_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR754, Key parameters: Is=1.04E-09 Tt=1.175E-05
ap_dio_MR754_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MR754, Package: 194-05, Key parameters: Is=643.5e-15 Tt=6.131e-6
ap_dio_MR756_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR756, Key

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	parameters: Is=1.04E-09 Tt=1.175E-05
ap_dio_MR756_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MR756, Package: 194-05, Key parameters: Is=643.5e-15 Tt=6.131e-6
ap_dio_MR758_19930601	Basic Description: Diode, Part number: MR758, Key parameters: Is=1.04E-09 Tt=1.175E-05
ap_dio_MR760_19930601	Basic Description: Diode, Part number: MR760, Key parameters: Is=1.04E-09 Tt=1.175E-05
ap_dio_MR810_19930601	Basic Description: Diode, Part number: MR810, Key parameters: Is=3.93E-15 Tt=3.5E-07
ap_dio_MR810_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MR810, Package: 59-04, Key parameters: Is=1.568e-15 Tt=625.5e-9
ap_dio_MR811_19930601	Basic Description: Diode, Part number: MR811, Key parameters: Is=3.93E-15 Tt=3.5E-07
ap_dio_MR811_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MR811, Package: 59-04, Key parameters: Is=1.568e-15 Tt=625.5e-9
ap_dio_MR812_19930601	Basic Description: Diode, Part number: MR812, Key parameters: Is=3.93E-15 Tt=3.5E-07
ap_dio_MR812_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MR812, Package: 59-04, Key parameters: Is=1.568e-15 Tt=625.5e-9
ap_dio_MR813_19930601	Basic Description: Diode, Part number: MR813, Key parameters: Is=3.93E-15 Tt=3.5E-07
ap_dio_MR813_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MR813, Package: 59-04, Key parameters: Is=1.568e-15 Tt=625.5e-9
ap_dio_MR814_19930601	Basic Description: Diode, Part number: MR814, Key parameters: Is=3.93E-15 Tt=3.5E-07
ap_dio_MR814_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MR814, Package: 59-04, Key parameters: Is=1.568e-15 Tt=625.5e-9
ap_dio_MR816_19930601	Basic Description: Diode, Part number: MR816, Key parameters: Is=3.93E-15 Tt=3.5E-07
ap_dio_MR816_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MR816, Package: 59-04, Key parameters: Is=1.568e-15 Tt=625.5e-9
ap_dio_MR817_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR817, Key parameters: Is=4.019E-08
ap_dio_MR817_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MR817, Package: 59-04, Key parameters: Is=1.568e-15 Tt=625.5e-9
ap_dio_MR818_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR818, Key parameters: Is=1.525E-08
ap_dio_MR818_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MR818, Package: 59-04, Key parameters: Is=1.568e-15 Tt=625.5e-9
ap_dio_MR820_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR820, Package: 194-04, Key parameters: Is=441.8e-15 Tt=369.9e-9
ap_dio_MR821_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR821, Package: 194-04, Key parameters: Is=441.8e-15 Tt=369.9e-9
ap_dio_MR822_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR822, Package: 194-04, Key parameters: Is=441.8e-15 Tt=369.9e-9
ap_dio_MR824_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR824, Package: 194-04, Key parameters: Is=441.8e-15 Tt=369.9e-9
ap_dio_MR826_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR826, Package: 194-04, Key parameters: Is=441.8e-15 Tt=369.9e-9
ap_dio_MR831_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR831,

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	Package: 60-1, Key parameters: Is=111.5e-15 Tt=369.9e-9
ap_dio_MR850_19930601	Basic Description: Diode, Part number: MR850, Key parameters: Is=7.527E-13 Tt=1.3E-07
ap_dio_MR850_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MR850, Package: 60-1, Key parameters: Is=111.5e-15 Tt=369.9e-9
ap_dio_MR851_19930601	Basic Description: Diode, Part number: MR851, Key parameters: Is=7.527E-13 Tt=1.3E-07
ap_dio_MR852_19930601	Basic Description: Diode, Part number: MR852, Key parameters: Is=7.527E-13 Tt=1.3E-07
ap_dio_MR852_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MR852, Package: 60-1, Key parameters: Is=111.5e-15 Tt=369.9e-9
ap_dio_MR854_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR854, Key parameters: Is=7.527E-13 Tt=1E-08
ap_dio_MR854_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MR854, Package: 60-1, Key parameters: Is=111.5e-15 Tt=369.9e-9
ap_dio_MR856_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR856, Key parameters: Is=5.246E-08
ap_dio_MR856_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MR856, Package: 60-1, Key parameters: Is=111.5e-15 Tt=369.9e-9
ap_dio_MR860_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR860, Package: DO-5, Key parameters: Is=1.705e-12 Tt=369.9e-9
ap_dio_MR861_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR861, Package: DO-5, Key parameters: Is=1.705e-12 Tt=369.9e-9
ap_dio_MR862_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR862, Package: DO-5, Key parameters: Is=1.705e-12 Tt=369.9e-9
ap_dio_MR864_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR864, Package: DO-5, Key parameters: Is=1.705e-12 Tt=369.9e-9
ap_dio_MR866_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR866, Package: DO-5, Key parameters: Is=1.705e-12 Tt=369.9e-9
ap_dio_MR870_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR870, Package: DO-5, Key parameters: Is=2.553e-12 Tt=369.9e-9
ap_dio_MR871_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR871, Package: DO-5, Key parameters: Is=2.553e-12 Tt=369.9e-9
ap_dio_MR872_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR872, Package: DO-5, Key parameters: Is=2.553e-12 Tt=369.9e-9
ap_dio_MR874_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR874, Package: DO-5, Key parameters: Is=2.553e-12 Tt=369.9e-9
ap_dio_MR876_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MR876, Package: DO-5, Key parameters: Is=2.553e-12 Tt=369.9e-9
ap_dio_MUR105_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR105, Key parameters: Is=3.12E-09 Tt=1E-08
ap_dio_MUR105_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR105, Package: 59-04, Key parameters: Is=5.547e-12 Tt=61.66e-9
ap_dio_MUR1100_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR1100, Key parameters: Is=1.325E-08 Tt=5E-08
ap_dio_MUR1100_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR1100, Package: 59-04, Key parameters: Is=4.5e-15 Tt=185e-9
ap_dio_MUR110_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR110, Key parameters: Is=3.12E-09 Tt=1E-08

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ap_dio_MUR110_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR110, Package: 59-04, Key parameters: Is=5.547e-12 Tt=61.66e-9
ap_dio_MUR115_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR115, Key parameters: Is=3.12E-09 Tt=1E-08
ap_dio_MUR115_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR115, Package: 59-04, Key parameters: Is=5.547e-12 Tt=61.66e-9
ap_dio_MUR120_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR120, Key parameters: Is=2.754E-08 Tt=3E-08
ap_dio_MUR120_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR120, Package: 59-04, Key parameters: Is=1.043e-12 Tt=123.3e-9
ap_dio_MUR130_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR130, Key parameters: Is=2.754E-08 Tt=3E-08
ap_dio_MUR130_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR130, Package: 59-04, Key parameters: Is=1.043e-12 Tt=123.3e-9
ap_dio_MUR140_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR140, Key parameters: Is=2.754E-08 Tt=3E-08
ap_dio_MUR140_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR140, Package: 59-04, Key parameters: Is=1.043e-12 Tt=123.3e-9
ap_dio_MUR1505_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR1505, Key parameters: Is=1.41E-08 Tt=1.5E-08
ap_dio_MUR1505_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR1505, Package: TO-220AC, Key parameters: Is=6.318e-9 Tt=86.32e-9
ap_dio_MUR150_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR150, Key parameters: Is=2.754E-08 Tt=3E-08
ap_dio_MUR150_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR150, Package: 59-04, Key parameters: Is=1.043e-12 Tt=123.3e-9
ap_dio_MUR1510_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR1510, Key parameters: Is=1.41E-08 Tt=1.5E-08
ap_dio_MUR1510_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR1510, Package: TO-220AC, Key parameters: Is=6.318e-9 Tt=86.32e-9
ap_dio_MUR1515_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR1515, Key parameters: Is=1.41E-08 Tt=1.5E-08
ap_dio_MUR1515_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR1515, Package: TO-220AC, Key parameters: Is=6.318e-9 Tt=86.32e-9
ap_dio_MUR1520_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR1520, Key parameters: Is=1E-06 Tt=4E-08
ap_dio_MUR1520_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR1520, Package: TO-220AC, Key parameters: Is=146e-12 Tt=148e-9
ap_dio_MUR1530_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR1530, Key parameters: Is=1E-06 Tt=4E-08
ap_dio_MUR1530_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR1530, Package: TO-220AC, Key parameters: Is=146e-12 Tt=148e-9
ap_dio_MUR1540_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR1540, Key parameters: Is=1E-06 Tt=4E-08
ap_dio_MUR1540_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR1540, Package: TO-220AC, Key parameters: Is=146e-12 Tt=148e-9
ap_dio_MUR1550_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR1550, Key parameters: Is=1E-06 Tt=4E-08
ap_dio_MUR1550_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR1550, Package: TO-220AC, Key parameters: Is=95.51e-12 Tt=148e-9



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ap_dio_MUR1560_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR1560, Key parameters: Is=1E-06 Tt=4E-08
ap_dio_MUR1560_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR1560, Package: TO-220AC, Key parameters: Is=95.51e-12 Tt=148e-9
ap_dio_MUR160_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR160, Key parameters: Is=2.754E-08 Tt=3E-08
ap_dio_MUR160_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR160, Package: 59-04, Key parameters: Is=1.043e-12 Tt=123.3e-9
ap_dio_MUR170_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR170, Key parameters: Is=1.325E-08 Tt=5E-08
ap_dio_MUR170_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR170, Package: 59-04, Key parameters: Is=4.5e-15 Tt=185e-9
ap_dio_MUR180_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR180, Key parameters: Is=1.325E-08 Tt=5E-08
ap_dio_MUR180_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR180, Package: 59-04, Key parameters: Is=4.5e-15 Tt=185e-9
ap_dio_MUR190_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR190, Key parameters: Is=1.325E-08 Tt=5E-08
ap_dio_MUR190_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR190, Package: 59-04, Key parameters: Is=4.5e-15 Tt=185e-9
ap_dio_MUR2505_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR2505, Key parameters: Is=2.771E-09 Tt=1E-08
ap_dio_MUR2505_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR2505, Package: DO-4, Key parameters: Is=67.39e-12 Tt=123.3e-9
ap_dio_MUR2510_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR2510, Key parameters: Is=2.771E-09 Tt=1E-08
ap_dio_MUR2510_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR2510, Package: DO-4, Key parameters: Is=67.39e-12 Tt=123.3e-9
ap_dio_MUR2515_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR2515, Key parameters: Is=2.75E-09 Tt=5E-08
ap_dio_MUR2515_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR2515, Package: DO-4, Key parameters: Is=67.39e-12 Tt=123.3e-9
ap_dio_MUR2520_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR2520, Key parameters: Is=2.771E-09 Tt=1E-08
ap_dio_MUR2520_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR2520, Package: DO-4, Key parameters: Is=67.39e-12 Tt=123.3e-9
ap_dio_MUR405_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR405, Key parameters: Is=8.555E-09 Tt=1.5E-08
ap_dio_MUR405_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR405, Package: 267-01, Key parameters: Is=1.693e-12 Tt=61.66e-9
ap_dio_MUR4100_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR4100, Key parameters: Is=1.23E-09 Tt=5E-08
ap_dio_MUR4100_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR4100, Package: 267-01, Key parameters: Is=92.91e-15 Tt=185e-9
ap_dio_MUR410_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR410, Key parameters: Is=8.555E-09 Tt=1.5E-08
ap_dio_MUR410_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR410, Package: 267-01, Key parameters: Is=1.693e-12 Tt=61.66e-9
ap_dio_MUR415_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR415, Key parameters: Is=8.555E-09 Tt=1.5E-08



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ap_dio_MUR415_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR415, Package: 267-01, Key parameters: Is=1.693e-12 Tt=61.66e-9
ap_dio_MUR420_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR420, Key parameters: Is=8.133E-09 Tt=3E-08
ap_dio_MUR420_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR420, Package: 267-01, Key parameters: Is=289.1e-15 Tt=123.3e-9
ap_dio_MUR430_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR430, Key parameters: Is=8.133E-09 Tt=3E-08
ap_dio_MUR430_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR430, Package: 267-01, Key parameters: Is=289.1e-15 Tt=123.3e-9
ap_dio_MUR440_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR440, Key parameters: Is=8.133E-09 Tt=3E-08
ap_dio_MUR440_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR440, Package: 267-01, Key parameters: Is=289.1e-15 Tt=123.3e-9
ap_dio_MUR450_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR450, Key parameters: Is=8.133E-09 Tt=3E-08
ap_dio_MUR450_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR450, Package: 267-01, Key parameters: Is=289.1e-15 Tt=123.3e-9
ap_dio_MUR460_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR460, Key parameters: Is=8.133E-09 Tt=3E-08
ap_dio_MUR460_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR460, Package: 267-01, Key parameters: Is=289.1e-15 Tt=123.3e-9
ap_dio_MUR470_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR470, Key parameters: Is=1.23E-09 Tt=5E-08
ap_dio_MUR470_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR470, Package: 267-01, Key parameters: Is=92.91e-15 Tt=185e-9
ap_dio_MUR480_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR480, Key parameters: Is=1.23E-09 Tt=5E-08
ap_dio_MUR480_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR480, Package: 267-01, Key parameters: Is=92.91e-15 Tt=185e-9
ap_dio_MUR490_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR490, Key parameters: Is=1.23E-09 Tt=5E-08
ap_dio_MUR490_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR490, Package: 267-01, Key parameters: Is=92.91e-15 Tt=185e-9
ap_dio_MUR5005_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR5005, Key parameters: Is=2.148E-08 Tt=3E-08
ap_dio_MUR5005_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR5005, Package: DO-5, Key parameters: Is=546.8e-12 Tt=123.3e-9
ap_dio_MUR5010_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR5010, Key parameters: Is=2.148E-08 Tt=3E-08
ap_dio_MUR5010_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR5010, Package: DO-5, Key parameters: Is=546.8e-12 Tt=123.3e-9
ap_dio_MUR5015_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR5015, Key parameters: Is=2.148E-08 Tt=3E-08
ap_dio_MUR5015_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR5015, Package: DO-5, Key parameters: Is=546.8e-12 Tt=123.3e-9
ap_dio_MUR5020_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR5020, Key parameters: Is=2.148E-08 Tt=3E-08
ap_dio_MUR5020_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR5020, Package: DO-5, Key parameters: Is=546.8e-12 Tt=123.3e-9

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ap_dio_MUR805_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR805, Key parameters: Is=1.07E-09 Tt=1.5E-08
ap_dio_MUR805_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR805, Package: TO-220AC, Key parameters: Is=12.4e-15 Tt=185e-9
ap_dio_MUR8100_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR8100, Key parameters: Is=1.343E-07 Tt=6E-08
ap_dio_MUR8100_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR8100, Package: TO-220AC, Key parameters: Is=12.4e-15 Tt=185e-9
ap_dio_MUR810_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR810, Key parameters: Is=1.07E-09 Tt=1.5E-08
ap_dio_MUR810_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR810, Package: TO-220AC, Key parameters: Is=4.433e-12 Tt=61.66e-9
ap_dio_MUR815_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR815, Key parameters: Is=1.07E-09 Tt=1.5E-08
ap_dio_MUR815_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR815, Package: TO-220AC, Key parameters: Is=4.433e-12 Tt=61.66e-9
ap_dio_MUR820_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR820, Key parameters: Is=6.747E-08 Tt=3E-08
ap_dio_MUR820_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR820, Package: TO-220AC, Key parameters: Is=1.026e-12 Tt=123.3e-9
ap_dio_MUR830_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR830, Key parameters: Is=6.747E-08 Tt=3E-08
ap_dio_MUR830_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR830, Package: TO-220AC, Key parameters: Is=1.026e-12 Tt=123.3e-9
ap_dio_MUR840_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR840, Key parameters: Is=6.747E-08 Tt=3E-08
ap_dio_MUR840_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR840, Package: TO-220AC, Key parameters: Is=1.026e-12 Tt=123.3e-9
ap_dio_MUR850_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR850, Key parameters: Is=4.65E-09 Tt=3E-08
ap_dio_MUR850_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR850, Package: TO-220AC, Key parameters: Is=853.7e-15 Tt=123.3e-9
ap_dio_MUR860_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR860, Key parameters: Is=4.65E-09 Tt=3E-08
ap_dio_MUR860_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR860, Package: TO-220AC, Key parameters: Is=853.7e-15 Tt=123.3e-9
ap_dio_MUR870_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR870, Key parameters: Is=1.343E-07 Tt=6E-08
ap_dio_MUR870_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR870, Package: TO-220AC, Key parameters: Is=12.4e-15 Tt=185e-9
ap_dio_MUR880_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR880, Key parameters: Is=1.343E-07 Tt=6E-08
ap_dio_MUR880_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR880, Package: TO-220AC, Key parameters: Is=12.4e-15 Tt=185e-9
ap_dio_MUR890_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR890, Key parameters: Is=1.343E-07 Tt=6E-08
ap_dio_MUR890_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MUR890, Package: TO-220AC, Key parameters: Is=12.4e-15 Tt=185e-9
ap_dio_MV104G_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV104G, Package: TO-92, Key parameters: Is=1.465e-12 Tt=0

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ap_dio_MV104_19930601	Basic Description: Diode, Part number: MV104, Key parameters: Is=1E-12 Tt=1.1E-08
ap_dio_MV104_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MV104, Package: TO-92, Key parameters: Is=1.465e-12 Tt=0
ap_dio_MV1404_19930601	Basic Description: Diode, Part number: MV1404, Key parameters:
ap_dio_MV1650_19930601	Basic Description: Diode, Part number: MV1650, Key parameters: Is=3E-11 Tt=5.8E-06
ap_dio_MV1866_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV1866, Package: DO-204AA, Key parameters: Is=10.04e-12 Tt=0
ap_dio_MV1868_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV1868, Package: DO-204AA, Key parameters: Is=10.04e-12 Tt=0
ap_dio_MV1870_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV1870, Package: DO-204AA, Key parameters: Is=10.04e-12 Tt=0
ap_dio_MV1871_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV1871, Package: DO-204AA, Key parameters: Is=10.04e-12 Tt=0
ap_dio_MV1872_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV1872, Package: DO-204AA, Key parameters: Is=10.04e-12 Tt=0
ap_dio_MV1874_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV1874, Package: DO-204AA, Key parameters: Is=10.04e-12 Tt=0
ap_dio_MV1876_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV1876, Package: DO-204AA, Key parameters: Is=10.04e-12 Tt=0
ap_dio_MV1877_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV1877, Package: DO-204AA, Key parameters: Is=10.04e-12 Tt=0
ap_dio_MV1878_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV1878, Package: DO-204AA, Key parameters: Is=10.04e-12 Tt=0
ap_dio_MV209_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV209, Package: 182-03, Key parameters: Is=434e-15 Tt=0
ap_dio_MV2101_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV2101, Package: 182-03, Key parameters: Is=1.365e-12 Tt=0
ap_dio_MV2102_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV2102, Package: 182-03, Key parameters: Is=1.365e-12 Tt=0
ap_dio_MV2103_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV2103, Package: 182-03, Key parameters: Is=1.365e-12 Tt=0
ap_dio_MV2104_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV2104, Package: 182-03, Key parameters: Is=1.365e-12 Tt=0
ap_dio_MV2105_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV2105, Package: 182-03, Key parameters: Is=1.365e-12 Tt=0
ap_dio_MV2106_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV2106, Package: 182-03, Key parameters: Is=1.365e-12 Tt=0
ap_dio_MV2107_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV2107, Package: 182-03, Key parameters: Is=1.365e-12 Tt=0
ap_dio_MV2108_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV2108, Package: 182-03, Key parameters: Is=1.365e-12 Tt=0
ap_dio_MV2109_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV2109, Package: 182-03, Key parameters: Is=1.365e-12 Tt=0
ap_dio_MV2110_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV2110, Package: 182-03, Key parameters: Is=1.365e-12 Tt=0
ap_dio_MV2111_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV2111, Package: 182-03, Key parameters: Is=1.365e-12 Tt=0

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ap_dio_MV2112_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV2112, Package: 182-03, Key parameters: Is=1.365e-12 Tt=0
ap_dio_MV2113_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV2113, Package: 182-03, Key parameters: Is=1.365e-12 Tt=0
ap_dio_MV2114_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV2114, Package: 182-03, Key parameters: Is=1.365e-12 Tt=0
ap_dio_MV2115_19930601	Basic Description: Diode, Part number: MV2115, Key parameters: Is=6.4E-09 Tt=1.3E-06
ap_dio_MV2115_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: MV2115, Package: 182-03, Key parameters: Is=1.365e-12 Tt=0
ap_dio_MV2201_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV2201, Package: 182-03, Key parameters: Is=1.365e-12 Tt=0
ap_dio_MV2203_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV2203, Package: 182-03, Key parameters: Is=1.365e-12 Tt=0
ap_dio_MV2205_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV2205, Package: 182-03, Key parameters: Is=1.365e-12 Tt=0
ap_dio_MV2207_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV2207, Package: 182-03, Key parameters: Is=1.365e-12 Tt=0
ap_dio_MV2209_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV2209, Package: 182-03, Key parameters: Is=1.365e-12 Tt=0
ap_dio_MV2211_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV2211, Package: 182-03, Key parameters: Is=1.365e-12 Tt=0
ap_dio_MV2213_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV2213, Package: 182-03, Key parameters: Is=1.365e-12 Tt=0
ap_dio_MV2215_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: MV2215, Package: 182-03, Key parameters: Is=1.365e-12 Tt=0
ap_dio_P6KE68A_19930601	Basic Description: Diode, Part number: P6KE68A, Key parameters: Is=4.2423476E-13
ap_dio_P6KE68_19930601	Basic Description: Diode, Part number: P6KE68, Key parameters: Is=6.14E-13
ap_dio_RG1J_19930601	Manufacturer: Gen_Inst_Corp, Basic Description: Diode, Part number: RG1J, Key parameters: Is=2.75E-14 Tt=3.6995E-07
ap_dio_SD41_19930601	Basic Description: Diode, Part number: SD41, Key parameters: Is=1.009E-05 Tt=0
ap_dio_SD41_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: SD41, Package: DO-4, Key parameters: Is=1.133e-6 Tt=0
ap_dio_SD51_19930601	Basic Description: Diode, Part number: SD51, Key parameters: Is=1.724E-08 Tt=0
ap_dio_SD51_19930602	Manufacturer: Motorola, Basic Description: Diode, Part number: SD51, Package: DO-5, Key parameters: Is=793.4e-9 Tt=0
ap_dio_SD71_19930601	Manufacturer: Motorola, Basic Description: Diode, Part number: SD71, Key parameters: Is=3.626E-07 Tt=0
ap_dio_SG213D_19930601	Basic Description: Diode, Part number: SG213D, Key parameters: Is=2.256E-22 Tt=1E-09
ap_dio_UES1302_19930601	Basic Description: Diode, Part number: UES1302, Key parameters: Is=4.16972E-07
ap_dio_UES704HR_19930601	Basic Description: Diode, Part number: UES704HR, Key parameters: Is=7.007E-06 Tt=1.5E-08
ap_dio_UES704_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: UES704, Key parameters: Is=7.007E-06 Tt=1.5E-08

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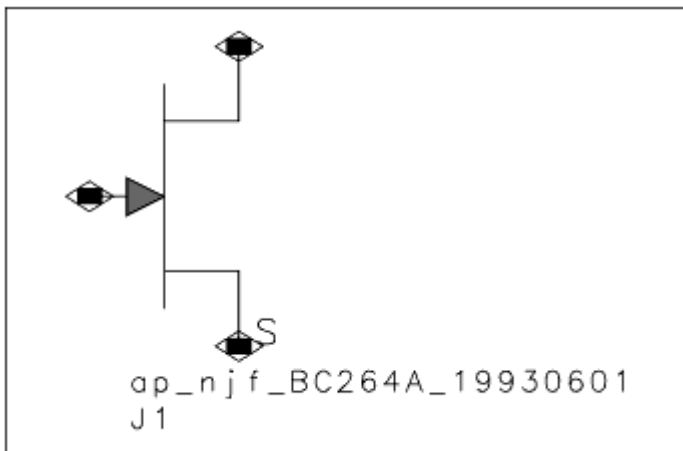
ap_dio_UES705HR_19930601	Basic Description: Diode, Part number: UES705HR, Key parameters: Is=7.007E-06 Tt=1.5E-08
ap_dio_UES705_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: UES705, Key parameters: Is=7.007E-06 Tt=1.5E-08
ap_dio_UES706HR_19930601	Basic Description: Diode, Part number: UES706HR, Key parameters: Is=7.007E-06 Tt=1.5E-08
ap_dio_UES706R_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: UES706R, Key parameters: Is=7.007E-06 Tt=1.5E-08
ap_dio_UES706_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: UES706, Key parameters: Is=7.007E-06 Tt=1.5E-08
ap_dio_UES804HR_19930601	Basic Description: Diode, Part number: UES804HR, Key parameters: Is=9.143E-06 Tt=1.5E-08
ap_dio_UES804_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: UES804, Key parameters: Is=9.143E-06 Tt=1.5E-08
ap_dio_UES805HR_19930601	Basic Description: Diode, Part number: UES805HR, Key parameters: Is=9.143E-06 Tt=1.5E-08
ap_dio_UES805_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: UES805, Key parameters: Is=9.143E-06 Tt=1.5E-08
ap_dio_UES806R_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: UES806R, Key parameters: Is=9.143E-06 Tt=1.5E-08
ap_dio_UES806_19930601	Manufacturer: Unitrode, Basic Description: Diode, Part number: UES806, Key parameters: Is=9.143E-06 Tt=1.5E-08
ap_dio_UF4004_19930601	Basic Description: Diode, Part number: UF4004, Key parameters: Is=1.03338E-09 Tt=1.34E-07
ap_dio_V06E_19930601	Basic Description: Diode, Part number: V06E, Key parameters: Is=1.992E-10 Tt=1E-07



# N-Channel JFET Models

## Schematic Design

The [N-Channel JFET Schematic Component Example](#) shown below illustrates how components representing N-Channel JFETs appear when placed into the Schematic design window. The schematic symbol is derived from the standard SYM\_JFET symbol in the `$HPEESOF_DIR/circuit/symbols` directory. The annotation consists of the component name and the default component ID prefix (in this case, J). No component parameters are displayed.



**N-Channel JFET Schematic Component Example**

The user may scale any of the model parameter values used by the model by displaying the *Component Parameters* dialog box. The dialog box displays the component label, a table of scale factors, and other controls. You can display the dialog box by double-clicking a component symbol after it has been placed in the drawing area or by clicking the **Edit Component Parameters** button.

**Note**  
For details on using the Component Parameters dialog box, click the Help button in the dialog box.

The analog parts model library N-Channel JFET models are suitable for placement in any Analog/RF circuit schematic.

## Data

The N-Channel JFETs include 453 components, each representing an individual part. The naming convention for these components is `ap_njf_<part number>_<extraction date>`.

These JFETs are simulated using the native JFET model component.

**Analog Parts Library - N-Channel JFETs**

Component Name	Description
ap_njf_2N3438_19930601	Basic Description: NJFET Device, Part number: 2N3438, Key parameters: Beta=0.0013183 Vto=-0.426363 Cgs=8.1589E-12 Cgd=8.159E-12
ap_njf_2N3823_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N3823, Key parameters: Beta=0.0010274 Vto=-3.1089846 Cgs=4.66655E-12 Cgd=4.71136E-12
ap_njf_2N3955_19930601	Basic Description: NJFET Device, Part number: 2N3955, Key parameters: Beta=0.00061 Vto=-3.5 Cgs=4.5E-12 Cgd=2E-12
ap_njf_2N4093_19930601	Basic Description: NJFET Device, Part number: 2N4093, Key parameters: Beta=0.00237 Vto=-4.2 Cgs=9E-12 Cgd=2E-12
ap_njf_2N4117A_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4117A, Key parameters: Beta=8.58296E-05 Vto=-0.5708978 Cgs=1.63693E-12 Cgd=1.93209E-12
ap_njf_2N4117_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4117, Key parameters: Beta=4.2E-05 Vto=-1.2 Cgs=3E-12 Cgd=3E-12
ap_njf_2N4118A_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4118A, Key parameters: Beta=3.75E-05 Vto=-2 Cgs=3E-12 Cgd=3E-12
ap_njf_2N4118_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4118, Key parameters: Beta=3.75E-05 Vto=-2 Cgs=3E-12 Cgd=3E-12
ap_njf_2N4119A_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4119A, Key parameters: Beta=1.89515E-05 Vto=-4.8696027 Cgs=1.11308E-12 Cgd=6.28981E-13
ap_njf_2N4119_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4119, Key parameters: Beta=2.41662E-05 Vto=-3.8750598 Cgs=2.34268E-12 Cgd=2.34542E-12
ap_njf_2N4223_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4223, Key parameters: Beta=0.00110583 Vto=-3.1292926 Cgs=4.04E-12 Cgd=3.06E-12
ap_njf_2N4338_19930601	Basic Description: NJFET Device, Part number: 2N4338, Key parameters: Beta=0.000832296 Vto=-0.657571 Cgs=7.11305E-12 Cgd=7.4931E-12
ap_njf_2N4339_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4339, Key parameters: Beta=0.000662742 Vto=-1.2750635 Cgs=7.35459E-12 Cgd=7.76275E-12
ap_njf_2N4340_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4340, Key parameters: Beta=0.000625 Vto=-2 Cgs=3.5E-12 Cgd=3.5E-12
ap_njf_2N4341_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4341, Key parameters: Beta=0.000465238 Vto=-4.3422373 Cgs=7.96702E-12 Cgd=8.18959E-12
ap_njf_2N4391_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4391, Key parameters: Beta=0.00700923 Vto=-5.80345344 Cgs=2.19173E-11 Cgd=2.29364E-11
ap_njf_2N4392_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4392, Key parameters: Beta=0.00673453 Vto=-4.10934536 Cgs=2.23345E-11 Cgd=2.22352E-11
ap_njf_2N4393_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4393, Key parameters: Beta=0.0089934536 Vto=-1.73453645 Cgs=1.53632E-11 Cgd=1.54343E-11
ap_njf_2N4416A_19930601	Basic Description: NJFET Device, Part number: 2N4416A, Key parameters: Beta=0.001 Vto=-3.1 Cgs=2E-12 Cgd=2E-12
ap_njf_2N4416_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4416, Key parameters: Beta=0.00143284 Vto=-2.0589636 Cgs=3.81911E-

## Advanced Design System 2011.01 - Vendor Component Libraries - Analog Parts Library

	12 Cgd=4.03194E-12
ap_njf_2N4856A_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4856A, Key parameters: Beta=0.002344 Vto=-8 Cgs=1.5E-11 Cgd=1E-11
ap_njf_2N4856_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4856, Key parameters: Beta=0.00736724 Vto=-5.0383762 Cgs=2.12726E-11 Cgd=2.16552E-11
ap_njf_2N4857A_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4857A, Key parameters: Beta=0.005 Vto=-4 Cgs=1.8E-11 Cgd=6E-12
ap_njf_2N4857_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4857, Key parameters: Beta=0.004023542 Vto=-4.4364365 Cgs=1.80723E-11 Cgd=1.72336E-11
ap_njf_2N4858A_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4858A, Key parameters: Beta=0.00456669 Vto=-2.6235885 Cgs=1.76114E-11 Cgd=1.79452E-11
ap_njf_2N4858_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4858, Key parameters: Beta=0.00872781 Vto=-1.9737954 Cgs=2.30345E-11 Cgd=2.35776E-11
ap_njf_2N4859A_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4859A, Key parameters: Beta=0.002344 Vto=-8 Cgs=1.5E-11 Cgd=1E-11
ap_njf_2N4859_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4859, Key parameters: Beta=0.00593789 Vto=-7.3165763 Cgs=1.07994E-11 Cgd=1.66703E-11
ap_njf_2N4860A_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4860A, Key parameters: Beta=0.0054512 Vto=-4.3488301 Cgs=2.08437E-11 Cgd=2.10353E-11
ap_njf_2N4860_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4860, Key parameters: Beta=0.005 Vto=-4 Cgs=5E-12 Cgd=2E-11
ap_njf_2N4861A_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4861A, Key parameters: Beta=0.00570133 Vto=-2.1353702 Cgs=2.19229E-11 Cgd=2.18486E-11
ap_njf_2N4861_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N4861, Key parameters: Beta=0.00913174 Vto=-1.8721163 Cgs=1.8889E-11 Cgd=1.88475E-11
ap_njf_2N5397_19930601	Manufacturer: National_Semiconductor, Basic Description: NJFET Device, Part number: 2N5397, Key parameters: Beta=0.00123 Vto=-4 Cgs=3.3E-12 Cgd=3.3E-12
ap_njf_2N5457_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N5457, Key parameters: Beta=0.00133 Vto=-1.5 Cgs=3E-12 Cgd=6E-12
ap_njf_2N5458_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N5458, Key parameters: Beta=0.000666 Vto=-3 Cgs=3E-12 Cgd=6E-12
ap_njf_2N5459_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: 2N5459, Key parameters: Beta=0.000552105 Vto=-2.7926157 Cgs=5.69067E-12 Cgd=5.74686E-12
ap_njf_2N5484_19930601	Basic Description: NJFET Device, Part number: 2N5484, Key parameters: Beta=0.00216311 Vto=-0.9993217 Cgs=4.81179E-12 Cgd=4.93771E-12
ap_njf_2N5486_19930601	Basic Description: NJFET Device, Part number: 2N5486, Key parameters: Beta=0.00119185 Vto=-2.6810373 Cgs=4.21546E-12 Cgd=2.64143E-12
ap_njf_2N5639_19930601	Basic Description: NJFET Device, Part number: 2N5639, Key parameters: Beta=0.00368282 Vto=-3.2680826 Cgs=1.89456E-11 Cgd=1.94282E-11
ap_njf_2N5911_19930601	Manufacturer: National_Semiconductor, Basic Description: NJFET Device, Part number: 2N5911, Key parameters: Beta=0.00122 Vto=-3 Cgs=2.8E-12 Cgd=4E-12

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ap_njf_2N5912_19930601	Basic Description: NJFET Device, Part number: 2N5912, Key parameters: Beta=0.00178 Vto=-3 Cgs=2.8E-12 Cgd=1.7E-12
ap_njf_2N6449_19930601	Basic Description: NJFET Device, Part number: 2N6449, Key parameters: Beta=0.000238 Vto=-4 Cgs=5.5E-12 Cgd=2E-12
ap_njf_2SK121_19930601	Manufacturer: Sony, Basic Description: NJFET Device, Part number: 2SK121, Key parameters: Beta=0.01019 Vto=-0.9669 Cgs=7E-12 Cgd=7E-12
ap_njf_2SK125_19930601	Basic Description: NJFET Device, Part number: 2SK125, Key parameters: Beta=0.003125 Vto=-4 Cgs=6.75E-12 Cgd=1.017E-11
ap_njf_2SK12_19930601	Basic Description: NJFET Device, Part number: 2SK12, Key parameters: Beta=0.3781 Vto=-2.3 Cgs=9E-12 Cgd=9E-12
ap_njf_2SK141A_19930601	Basic Description: NJFET Device, Part number: 2SK141A, Key parameters: Beta=0.001953 Vto=-1.6 Cgs=3E-12 Cgd=3E-12
ap_njf_2SK141_19930601	Basic Description: NJFET Device, Part number: 2SK141, Key parameters: Beta=0.001953 Vto=-1.6 Cgs=3E-12 Cgd=3E-12
ap_njf_2SK152_19930601	Basic Description: NJFET Device, Part number: 2SK152, Key parameters: Beta=0.0174 Vto=-1.2 Cgs=6E-12 Cgd=2E-12
ap_njf_2SK156J_19930601	Basic Description: NJFET Device, Part number: 2SK156J, Key parameters: Beta=0.000891 Vto=-0.41483698 Cgs=1E-17 Cgd=1E-17
ap_njf_2SK156L_19930601	Basic Description: NJFET Device, Part number: 2SK156L, Key parameters: Beta=0.001362 Vto=-0.67869397 Cgs=4E-12 Cgd=4E-12
ap_njf_2SK30A_19930601	Basic Description: NJFET Device, Part number: 2SK30A, Key parameters: Beta=0.0009764 Vto=-1.336 Cgs=8.2E-12 Cgd=8.2E-12
ap_njf_2SK316_19930601	Basic Description: NJFET Device, Part number: 2SK316, Key parameters: Beta=0.00547 Vto=-1.6 Cgs=8.05E-12 Cgd=3.45E-12
ap_njf_2SK520_19930601	Basic Description: NJFET Device, Part number: 2SK520, Key parameters: Beta=0.00375 Vto=-4 Cgs=7.35E-12 Cgd=7.32E-12
ap_njf_2SK94_X3_19930601	Basic Description: NJFET Device, Part number: 2SK94, Key parameters: Beta=0.01019 Vto=-0.9669 Cgs=7E-12 Cgd=7E-12
ap_njf_BC264A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: BC264A, Package: TO-92, Key parameters: Beta=2e-3 Vto=-1.249 Cgs=3.598e-12 Cgd=3.35e-12
ap_njf_BC264B_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: BC264B, Package: TO-92, Key parameters: Beta=2e-3 Vto=-1.48 Cgs=3.598e-12 Cgd=3.35e-12
ap_njf_BC264C_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: BC264C, Package: TO-92, Key parameters: Beta=2e-3 Vto=-1.7 Cgs=3.598e-12 Cgd=3.35e-12
ap_njf_BC264D_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: BC264D, Package: TO-92, Key parameters: Beta=2e-3 Vto=-1.7 Cgs=3.598e-12 Cgd=3.35e-12
ap_njf_BF244A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: BF244A, Package: TO-92, Key parameters: Beta=1.754e-3 Vto=-1.409 Cgs=3.736e-12 Cgd=3.35e-12
ap_njf_BF244B_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: BF244B, Package: TO-92, Key parameters: Beta=1.6e-3 Vto=-2.29 Cgs=3.736e-12 Cgd=3.35e-12
ap_njf_BF244C_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: BF244C, Package: TO-92, Key parameters: Beta=1.5e-3 Vto=-3.099 Cgs=3.736e-12 Cgd=3.35e-12
ap_njf_BF245A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: BF245A, Package: TO-92, Key parameters: Beta=1.754e-3 Vto=-1.409

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	Cgs=3.736e-12 Cgd=3.35e-12
ap_njf_BF245B_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: BF245B, Package: TO-92, Key parameters: Beta=1.6e-3 Vto=-2.29 Cgs=3.736e-12 Cgd=3.35e-12
ap_njf_BF245C_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: BF245C, Package: TO-92, Key parameters: Beta=1.5e-3 Vto=-3.099 Cgs=3.736e-12 Cgd=3.35e-12
ap_njf_BF256A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: BF256A, Package: TO-92, Key parameters: Beta=1.6e-3 Vto=-1.35 Cgs=2.104e-12 Cgd=2.132e-12
ap_njf_BF256B_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: BF256B, Package: TO-92, Key parameters: Beta=1.5e-3 Vto=-2.3 Cgs=2.104e-12 Cgd=2.132e-12
ap_njf_BF256C_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: BF256C, Package: TO-92, Key parameters: Beta=1.4e-3 Vto=-3.1 Cgs=2.104e-12 Cgd=2.132e-12
ap_njf_DN324_19930601	Manufacturer: Agilent Technologies, Basic Description: NJFET Device, Part number: DN324, Key parameters: Beta=0.0006736 Vto=-2.105 Cgs=7E-12 Cgd=6.5E-12
ap_njf_DN5564_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: DN5564, Package: TO-71, Key parameters: Beta=9e-3 Vto=-1.9 Cgs=11.9e-12 Cgd=5.8e-12
ap_njf_DN5565_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: DN5565, Package: TO-71, Key parameters: Beta=9e-3 Vto=-1.9 Cgs=11.9e-12 Cgd=5.8e-12
ap_njf_DN5566_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: DN5566, Package: TO-71, Key parameters: Beta=9e-3 Vto=-1.9 Cgs=11.9e-12 Cgd=5.8e-12
ap_njf_DN5567_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: DN5567, Package: TO-71, Key parameters: Beta=9e-3 Vto=-2 Cgs=6.8e-12 Cgd=5.8e-12
ap_njf_E2131_19930601	Manufacturer: Agilent Technologies, Basic Description: NJFET Device, Part number: E2131, Key parameters: Beta=0.001822 Vto=-2.169 Cgs=4.5E-12 Cgd=4.5E-12
ap_njf_FN4117A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: FN4117A, Package: TO-72, Key parameters: Beta=56.27e-6 Vto=-1.209 Cgs=4.49e-12 Cgd=4.49e-12
ap_njf_FN4117_19930601	Basic Description: NJFET Device, Part number: FN4117, Key parameters: Beta=4.2E-05 Vto=-1.2 Cgs=3E-12 Cgd=3E-12
ap_njf_FN4117_19930602	Manufacturer: National, Basic Description: NJFET Device, Part number: FN4117, Package: TO-72, Key parameters: Beta=49.01e-6 Vto=-1.066 Cgs=4.49e-12 Cgd=4.49e-12
ap_njf_FN4118A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: FN4118A, Package: TO-72, Key parameters: Beta=95.1e-6 Vto=-1.299 Cgs=4.49e-12 Cgd=4.49e-12
ap_njf_FN4118_19930601	Basic Description: NJFET Device, Part number: FN4118, Key parameters: Beta=3.75E-05 Vto=-2 Cgs=3E-12 Cgd=3E-12
ap_njf_FN4118_19930602	Manufacturer: National, Basic Description: NJFET Device, Part number: FN4118, Package: TO-72, Key parameters: Beta=85.1e-6 Vto=-1.259 Cgs=4.49e-12 Cgd=4.49e-12
ap_njf_FN4119A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: FN4119A, Package: TO-72, Key parameters: Beta=22.16e-6 Vto=-4.5



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	Cgs=4.49e-12 Cgd=4.49e-12
ap_njf_FN4119_19930601	Basic Description: NJFET Device, Part number: FN4119, Key parameters: Beta=4.444E-05 Vto=-3 Cgs=3E-12 Cgd=3E-12
ap_njf_FN4119_19930602	Manufacturer: National, Basic Description: NJFET Device, Part number: FN4119, Package: TO-72, Key parameters: Beta=17.64e-6 Vto=-4.27 Cgs=4.49e-12 Cgd=4.49e-12
ap_njf_FN4392_19930601	Basic Description: NJFET Device, Part number: FN4392, Key parameters: Beta=0.004082 Vto=-3.5 Cgs=1.2E-11 Cgd=8.5E-12
ap_njf_FN4392_19930602	Manufacturer: National, Basic Description: NJFET Device, Part number: FN4392, Package: TO-18, Key parameters: Beta=7.477e-3 Vto=-3.15 Cgs=11.9e-12 Cgd=5.8e-12
ap_njf_FN4393_19930601	Basic Description: NJFET Device, Part number: FN4393, Key parameters: Beta=0.005714 Vto=-1.75 Cgs=1.2E-11 Cgd=8.5E-12
ap_njf_FN4393_19930602	Manufacturer: National, Basic Description: NJFET Device, Part number: FN4393, Package: TO-18, Key parameters: Beta=8.4e-3 Vto=-2.1 Cgs=11.9e-12 Cgd=5.8e-12
ap_njf_IDEALNCH_19930601	Basic Description: NJFET Device, Part number: IDEALNCH, Key parameters: Vto=-2
ap_njf_J105_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J105, Package: TO-92, Key parameters: Beta=9e-3 Vto=-6.25 Cgs=142.3e-12 Cgd=140e-12
ap_njf_J106_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J106, Package: TO-92, Key parameters: Beta=12e-3 Vto=-3.95 Cgs=142.3e-12 Cgd=140e-12
ap_njf_J107_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J107, Package: TO-92, Key parameters: Beta=15e-3 Vto=-2.9 Cgs=142.3e-12 Cgd=140e-12
ap_njf_J108_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J108, Package: TO-92, Key parameters: Beta=7.646e-3 Vto=-4.499 Cgs=47.7e-12 Cgd=47.7e-12
ap_njf_J109_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J109, Package: TO-92, Key parameters: Beta=12.42e-3 Vto=-3.002 Cgs=47.7e-12 Cgd=47.7e-12
ap_njf_J110_19930601	Basic Description: NJFET Device, Part number: J110, Key parameters: Beta=0.0460062 Vto=-1.8336628 Cgs=9.1602E-11 Cgd=9.60305E-11
ap_njf_J110_19930602	Manufacturer: National, Basic Description: NJFET Device, Part number: J110, Package: TO-92, Key parameters: Beta=17.3e-3 Vto=-1.379 Cgs=47.7e-12 Cgd=47.7e-12
ap_njf_J111_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J111, Package: TO-92, Key parameters: Beta=2.91e-3 Vto=-4.047 Cgs=5.74e-12 Cgd=6.46e-12
ap_njf_J112_19930601	Basic Description: NJFET Device, Part number: J112, Key parameters: Beta=0.0049105 Vto=-3.29735 Cgs=1.6031E-12 Cgd=1.6008E-11
ap_njf_J112_19930602	Manufacturer: National, Basic Description: NJFET Device, Part number: J112, Package: TO-92, Key parameters: Beta=5.695e-3 Vto=-2.057 Cgs=5.74e-12 Cgd=6.46e-12
ap_njf_J113_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J113, Package: TO-92, Key parameters: Beta=9.109e-3 Vto=-1.382 Cgs=5.74e-12 Cgd=6.46e-12
ap_njf_J114_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J114, Package: TO-92, Key parameters: Beta=910.9e-6 Vto=-4.86 Cgs=4.599e-12 Cgd=4.545e-12

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ap_njf_J201_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J201, Package: TO-92, Key parameters: Beta=1.621e-3 Vto=-.6 Cgs=2.992e-12 Cgd=4.667e-12
ap_njf_J202_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J202, Package: TO-92, Key parameters: Beta=985.5e-6 Vto=-1.612 Cgs=2.992e-12 Cgd=4.667e-12
ap_njf_J203_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J203, Package: TO-92, Key parameters: Beta=304.5e-6 Vto=-5.369 Cgs=2.992e-12 Cgd=4.667e-12
ap_njf_J204_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J204, Package: TO-92, Key parameters: Beta=1.004e-3 Vto=-1.139 Cgs=5.4e-12 Cgd=3.58e-12
ap_njf_J210_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J210, Package: TO-92, Key parameters: Beta=2.222e-3 Vto=-1.526 Cgs=3.496e-12 Cgd=3.913e-12
ap_njf_J211_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J211, Package: TO-92, Key parameters: Beta=1.808e-3 Vto=-2.9 Cgs=3.496e-12 Cgd=3.913e-12
ap_njf_J212_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J212, Package: TO-92, Key parameters: Beta=873.3e-6 Vto=-5.029 Cgs=3.496e-12 Cgd=3.913e-12
ap_njf_J230_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J230, Package: TO-92, Key parameters: Beta=642.1e-6 Vto=-1.718 Cgs=3.882e-12 Cgd=2.59e-12
ap_njf_J231_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J231, Package: TO-92, Key parameters: Beta=1.004e-3 Vto=-2.107 Cgs=3.882e-12 Cgd=2.59e-12
ap_njf_J232_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J232, Package: TO-92, Key parameters: Beta=1.509e-3 Vto=-2.3 Cgs=3.882e-12 Cgd=2.59e-12
ap_njf_J2N3369_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3369, Package: TO-18, Key parameters: Beta=336.2e-6 Vto=-2.07 Cgs=2.916e-12 Cgd=2.8e-12
ap_njf_J2N3370_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3370, Package: TO-18, Key parameters: Beta=766.8e-6 Vto=-.65 Cgs=2.916e-12 Cgd=2.8e-12
ap_njf_J2N3458_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3458, Package: TO-18, Key parameters: Beta=700e-6 Vto=-3.05 Cgs=2.916e-12 Cgd=2.8e-12
ap_njf_J2N3459_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3459, Package: TO-18, Key parameters: Beta=1.265e-3 Vto=-1.4 Cgs=2.916e-12 Cgd=2.8e-12
ap_njf_J2N3460_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3460, Package: TO-18, Key parameters: Beta=2.02e-3 Vto=-.55 Cgs=2.916e-12 Cgd=2.8e-12
ap_njf_J2N3684_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3684, Package: TO-72, Key parameters: Beta=348.1e-6 Vto=-3.18 Cgs=2.083e-12 Cgd=2e-12
ap_njf_J2N3685_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3685, Package: TO-72, Key parameters: Beta=543.4e-6 Vto=-1.691 Cgs=2.083e-12 Cgd=2e-12
ap_njf_J2N3686_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number:

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	J2N3686, Package: TO-72, Key parameters: Beta=723.7e-6 Vto=-.957 Cgs=2.083e-12 Cgd=2e-12
ap_njf_J2N3687_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3687, Package: TO-72, Key parameters: Beta=840e-6 Vto=-.5102 Cgs=2.083e-12 Cgd=2e-12
ap_njf_J2N3819_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3819, Package: TO-92, Key parameters: Beta=1.304e-3 Vto=-3 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_J2N3821_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3821, Package: TO-72, Key parameters: Beta=1.517e-3 Vto=-.8467 Cgs=4.627e-12 Cgd=4e-12
ap_njf_J2N3822_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3822, Package: TO-72, Key parameters: Beta=1.1e-3 Vto=-1.962 Cgs=4.627e-12 Cgd=4e-12
ap_njf_J2N3823_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3823, Package: TO-72, Key parameters: Beta=1.17e-3 Vto=-3.3 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_J2N3824_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3824, Package: TO-72, Key parameters: Beta=436.4e-6 Vto=-2.139 Cgs=4.627e-12 Cgd=4e-12
ap_njf_J2N3921_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3921, Package: TO-71, Key parameters: Beta=1.57e-3 Vto=-1.799 Cgs=4.4e-12 Cgd=8.8e-12
ap_njf_J2N3922_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3922, Package: TO-71, Key parameters: Beta=1.57e-3 Vto=-1.799 Cgs=4.4e-12 Cgd=8.8e-12
ap_njf_J2N3954A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3954A, Package: TO-71, Key parameters: Beta=768.3e-6 Vto=-2.033 Cgs=.86e-12 Cgd=1.71e-12
ap_njf_J2N3954_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3954, Package: TO-71, Key parameters: Beta=768.3e-6 Vto=-2.033 Cgs=.86e-12 Cgd=1.71e-12
ap_njf_J2N3955A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3955A, Package: TO-71, Key parameters: Beta=768.3e-6 Vto=-2.033 Cgs=.86e-12 Cgd=1.71e-12
ap_njf_J2N3955_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3955, Package: TO-71, Key parameters: Beta=768.3e-6 Vto=-2.033 Cgs=.86e-12 Cgd=1.71e-12
ap_njf_J2N3956_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3956, Package: TO-71, Key parameters: Beta=768.3e-6 Vto=-2.033 Cgs=.86e-12 Cgd=1.71e-12
ap_njf_J2N3957_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3957, Package: TO-71, Key parameters: Beta=768.3e-6 Vto=-2.033 Cgs=.86e-12 Cgd=1.71e-12
ap_njf_J2N3958_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3958, Package: TO-71, Key parameters: Beta=768.3e-6 Vto=-2.033 Cgs=.86e-12 Cgd=1.71e-12
ap_njf_J2N3966_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3966, Package: TO-72, Key parameters: Beta=650e-6 Vto=-4.876 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_J2N3967A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3967A, Package: TO-72, Key parameters: Beta=754.7e-6 Vto=-2.49 Cgs=3.742e-12 Cgd=4e-12

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ap_njf_J2N3967_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3967, Package: TO-72, Key parameters: Beta=754.7e-6 Vto=-2.49 Cgs=3.742e-12 Cgd=4e-12
ap_njf_J2N3968A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3968A, Package: TO-72, Key parameters: Beta=1.125e-3 Vto=-1.376 Cgs=3.742e-12 Cgd=4e-12
ap_njf_J2N3968_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3968, Package: TO-72, Key parameters: Beta=1.125e-3 Vto=-1.376 Cgs=3.742e-12 Cgd=4e-12
ap_njf_J2N3969A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3969A, Package: TO-72, Key parameters: Beta=1.57e-3 Vto=-.734 Cgs=3.742e-12 Cgd=4e-12
ap_njf_J2N3969_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3969, Package: TO-72, Key parameters: Beta=1.57e-3 Vto=-.734 Cgs=3.742e-12 Cgd=4e-12
ap_njf_J2N3970_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3970, Package: TO-18, Key parameters: Beta=4.032e-3 Vto=-4.514 Cgs=9.31e-12 Cgd=10.48e-12
ap_njf_J2N3971_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3971, Package: TO-18, Key parameters: Beta=6.313e-3 Vto=-2.598 Cgs=9.31e-12 Cgd=10.48e-12
ap_njf_J2N3972_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N3972, Package: TO-18, Key parameters: Beta=9.109e-3 Vto=-1.403 Cgs=9.31e-12 Cgd=10.48e-12
ap_njf_J2N4084_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4084, Package: TO-71, Key parameters: Beta=1.57e-3 Vto=-1.799 Cgs=4.4e-12 Cgd=8.8e-12
ap_njf_J2N4085_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4085, Package: TO-71, Key parameters: Beta=1.57e-3 Vto=-1.799 Cgs=4.4e-12 Cgd=8.8e-12
ap_njf_J2N4091_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4091, Package: TO-18, Key parameters: Beta=2.658e-3 Vto=-5.743 Cgs=7.06e-12 Cgd=7.94e-12
ap_njf_J2N4092_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4092, Package: TO-18, Key parameters: Beta=4.032e-3 Vto=-2.933 Cgs=7.06e-12 Cgd=7.94e-12
ap_njf_J2N4093_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4093, Package: TO-18, Key parameters: Beta=5.695e-3 Vto=-1.989 Cgs=7.06e-12 Cgd=7.94e-12
ap_njf_J2N4117A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4117A, Package: TO-72, Key parameters: Beta=49.01e-6 Vto=-1.1 Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_J2N4117_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4117, Package: TO-72, Key parameters: Beta=33.07e-6 Vto=-1.2 Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_J2N4118A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4118A, Package: TO-72, Key parameters: Beta=52.58e-6 Vto=-1.732 Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_J2N4118_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4118, Package: TO-72, Key parameters: Beta=52.58e-6 Vto=-1.732 Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_J2N4119A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number:

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	J2N4119A, Package: TO-72, Key parameters: Beta=68.08e-6 Vto=-2.536 Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_J2N4119_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4119, Package: TO-72, Key parameters: Beta=68.08e-6 Vto=-2.536 Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_J2N4220A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4220A, Package: TO-72, Key parameters: Beta=819.8e-6 Vto=-1.195 Cgs=4.627e-12 Cgd=4e-12
ap_njf_J2N4220_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4220, Package: TO-72, Key parameters: Beta=819.8e-6 Vto=-1.195 Cgs=4.627e-12 Cgd=4e-12
ap_njf_J2N4221A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4221A, Package: TO-72, Key parameters: Beta=726.3e-6 Vto=-2.139 Cgs=4.627e-12 Cgd=4e-12
ap_njf_J2N4221_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4221, Package: TO-72, Key parameters: Beta=726.3e-6 Vto=-2.139 Cgs=4.627e-12 Cgd=4e-12
ap_njf_J2N4222A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4222A, Package: TO-72, Key parameters: Beta=436.4e-6 Vto=-4.1 Cgs=4.627e-12 Cgd=4e-12
ap_njf_J2N4222_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4222, Package: TO-72, Key parameters: Beta=436.4e-6 Vto=-4.1 Cgs=4.627e-12 Cgd=4e-12
ap_njf_J2N4223_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4223, Package: TO-72, Key parameters: Beta=1.04e-3 Vto=-3.05 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_J2N4224_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4224, Package: TO-72, Key parameters: Beta=1.04e-3 Vto=-3.12 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_J2N4338_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4338, Package: TO-18, Key parameters: Beta=781e-6 Vto=-.6606 Cgs=2.916e-12 Cgd=2.8e-12
ap_njf_J2N4339_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4339, Package: TO-18, Key parameters: Beta=555.8e-6 Vto=-1.218 Cgs=2.916e-12 Cgd=2.8e-12
ap_njf_J2N4340_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4340, Package: TO-18, Key parameters: Beta=471e-6 Vto=-2.001 Cgs=2.916e-12 Cgd=2.8e-12
ap_njf_J2N4341_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4341, Package: TO-18, Key parameters: Beta=387.1e-6 Vto=-3.336 Cgs=2.916e-12 Cgd=2.8e-12
ap_njf_J2N4391_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4391, Package: TO-18, Key parameters: Beta=2.658e-3 Vto=-5.803 Cgs=4.76e-12 Cgd=5.35e-12
ap_njf_J2N4392_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4392, Package: TO-18, Key parameters: Beta=5.108e-3 Vto=-3.018 Cgs=4.29e-12 Cgd=4.83e-12
ap_njf_J2N4393_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4393, Package: TO-18, Key parameters: Beta=9.109e-3 Vto=-1.422 Cgs=4.06e-12 Cgd=4.57e-12
ap_njf_J2N4416A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4416A, Package: TO-72, Key parameters: Beta=989.4e-6 Vto=-3.06 Cgs=2.414e-12 Cgd=1.6e-12



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ap_njf_J2N4416_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4416, Package: TO-72, Key parameters: Beta=989.4e-6 Vto=-3.06 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_J2N4856A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4856A, Package: TO-18, Key parameters: Beta=3.084e-3 Vto=-5.517 Cgs=5.07e-12 Cgd=5.71e-12
ap_njf_J2N4856_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4856, Package: TO-18, Key parameters: Beta=3.084e-3 Vto=-5.517 Cgs=14.16e-12 Cgd=15.92e-12
ap_njf_J2N4857A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4857A, Package: TO-18, Key parameters: Beta=6.313e-3 Vto=-3.05 Cgs=4.74e-12 Cgd=5.34e-12
ap_njf_J2N4857_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4857, Package: TO-18, Key parameters: Beta=6.313e-3 Vto=-3.05 Cgs=14.16e-12 Cgd=15.92e-12
ap_njf_J2N4858A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4858A, Package: TO-18, Key parameters: Beta=7.646e-3 Vto=-2.387 Cgs=4.74e-12 Cgd=5.34e-12
ap_njf_J2N4858_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4858, Package: TO-18, Key parameters: Beta=7.646e-3 Vto=-2.387 Cgs=14.16e-12 Cgd=15.92e-12
ap_njf_J2N4859A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4859A, Package: TO-18, Key parameters: Beta=3.084e-3 Vto=-5.431 Cgs=5.07e-12 Cgd=5.71e-12
ap_njf_J2N4859_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4859, Package: TO-18, Key parameters: Beta=3.084e-3 Vto=-5.431 Cgs=14.16e-12 Cgd=15.92e-12
ap_njf_J2N4860A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4860A, Package: TO-18, Key parameters: Beta=6.313e-3 Vto=-2.998 Cgs=4.74e-12 Cgd=5.34e-12
ap_njf_J2N4860_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4860, Package: TO-18, Key parameters: Beta=6.313e-3 Vto=-2.998 Cgs=14.16e-12 Cgd=15.92e-12
ap_njf_J2N4861A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4861A, Package: TO-18, Key parameters: Beta=8.362e-3 Vto=-2.308 Cgs=4.74e-12 Cgd=5.34e-12
ap_njf_J2N4861_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4861, Package: TO-18, Key parameters: Beta=8.362e-3 Vto=-2.308 Cgs=14.16e-12 Cgd=15.92e-12
ap_njf_J2N4867A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4867A, Package: TO-72, Key parameters: Beta=609.1e-6 Vto=-1.145 Cgs=12e-12 Cgd=8e-12
ap_njf_J2N4867_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4867, Package: TO-72, Key parameters: Beta=609.1e-6 Vto=-1.145 Cgs=12e-12 Cgd=8e-12
ap_njf_J2N4868A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4868A, Package: TO-72, Key parameters: Beta=768.3e-6 Vto=-1.643 Cgs=12e-12 Cgd=8e-12
ap_njf_J2N4868_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4868, Package: TO-72, Key parameters: Beta=768.3e-6 Vto=-1.643 Cgs=12e-12 Cgd=8e-12
ap_njf_J2N4869A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number:

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	J2N4869A, Package: TO-72, Key parameters: Beta=885.7e-6 Vto=-2.512 Cgs=12e-12 Cgd=8e-12
ap_njf_J2N4869_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N4869, Package: TO-72, Key parameters: Beta=885.7e-6 Vto=-2.512 Cgs=12e-12 Cgd=8e-12
ap_njf_J2N5045_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5045, Package: TO-71, Key parameters: Beta=1.271e-3 Vto=-1.95 Cgs=2.85e-12 Cgd=5.71e-12
ap_njf_J2N5046_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5046, Package: TO-71, Key parameters: Beta=1.271e-3 Vto=-1.95 Cgs=2.85e-12 Cgd=5.71e-12
ap_njf_J2N5047_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5047, Package: TO-71, Key parameters: Beta=1.271e-3 Vto=-1.95 Cgs=2.85e-12 Cgd=5.71e-12
ap_njf_J2N5078_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5078, Package: TO-72, Key parameters: Beta=850.8e-6 Vto=-3.97 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_J2N5103_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5103, Package: TO-72, Key parameters: Beta=1.426e-3 Vto=-1.85 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_J2N5104_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5104, Package: TO-72, Key parameters: Beta=1.914e-3 Vto=-1.51 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_J2N5105_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5105, Package: TO-72, Key parameters: Beta=1.464e-3 Vto=-2.5 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_J2N5196_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5196, Package: TO-71, Key parameters: Beta=812.9e-6 Vto=-2.257 Cgs=1.64e-12 Cgd=3.28e-12
ap_njf_J2N5197_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5197, Package: TO-71, Key parameters: Beta=812.9e-6 Vto=-2.257 Cgs=1.64e-12 Cgd=3.28e-12
ap_njf_J2N5198_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5198, Package: TO-71, Key parameters: Beta=812.9e-6 Vto=-2.257 Cgs=1.64e-12 Cgd=3.28e-12
ap_njf_J2N5199_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5199, Package: TO-71, Key parameters: Beta=812.9e-6 Vto=-2.257 Cgs=1.64e-12 Cgd=3.28e-12
ap_njf_J2N5245_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5245, Package: TO-92, Key parameters: Beta=1.38e-3 Vto=-2.442 Cgs=3.383e-12 Cgd=3e-12
ap_njf_J2N5246_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5246, Package: TO-92, Key parameters: Beta=1.948e-3 Vto=-1.257 Cgs=3.383e-12 Cgd=3e-12
ap_njf_J2N5247_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5247, Package: TO-92, Key parameters: Beta=1.07e-3 Vto=-3.485 Cgs=3.383e-12 Cgd=3e-12
ap_njf_J2N5248_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5248, Package: TO-92, Key parameters: Beta=849.6e-6 Vto=-3.6 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_J2N5358_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5358, Package: TO-72, Key parameters: Beta=1.064e-3 Vto=-.8005 Cgs=4.627e-12 Cgd=4e-12

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ap_njf_J2N5359_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5359, Package: TO-72, Key parameters: Beta=760e-3 Vto=-1.12 Cgs=4.627e-12 Cgd=4e-12
ap_njf_J2N5360_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5360, Package: TO-72, Key parameters: Beta=698.5e-6 Vto=-1.703 Cgs=4.627e-12 Cgd=4e-12
ap_njf_J2N5361_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5361, Package: TO-72, Key parameters: Beta=479.8e-6 Vto=-2.659 Cgs=4.627e-12 Cgd=4e-12
ap_njf_J2N5362_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5362, Package: TO-72, Key parameters: Beta=425e-6 Vto=-3.312 Cgs=4.627e-12 Cgd=4e-12
ap_njf_J2N5363_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5363, Package: TO-72, Key parameters: Beta=381.8e-6 Vto=-4.91 Cgs=4.627e-12 Cgd=4e-12
ap_njf_J2N5364_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5364, Package: TO-72, Key parameters: Beta=698.5e-6 Vto=-1.703 Cgs=4.627e-12 Cgd=4e-12
ap_njf_J2N5397_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5397, Package: TO-72, Key parameters: Beta=1.242e-3 Vto=-3.679 Cgs=3.598e-12 Cgd=2.6e-12
ap_njf_J2N5398_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5398, Package: TO-72, Key parameters: Beta=1.242e-3 Vto=-3.323 Cgs=3.383e-12 Cgd=3e-12
ap_njf_J2N5432_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5432, Package: TO-52, Key parameters: Beta=9.109e-3 Vto=-5.397 Cgs=35.6e-12 Cgd=35.6e-12
ap_njf_J2N5433_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5433, Package: TO-52, Key parameters: Beta=12.42e-3 Vto=-4.16 Cgs=35.6e-12 Cgd=35.6e-12
ap_njf_J2N5434_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5434, Package: TO-52, Key parameters: Beta=18.37e-3 Vto=-1.906 Cgs=35.6e-12 Cgd=35.6e-12
ap_njf_J2N5452_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5452, Package: TO-71, Key parameters: Beta=768.3e-6 Vto=-2.017 Cgs=.86e-12 Cgd=1.71e-12
ap_njf_J2N5453_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5453, Package: TO-71, Key parameters: Beta=768.3e-6 Vto=-2.017 Cgs=.86e-12 Cgd=1.71e-12
ap_njf_J2N5454_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5454, Package: TO-71, Key parameters: Beta=768.3e-6 Vto=-2.017 Cgs=.86e-12 Cgd=1.71e-12
ap_njf_J2N5457_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5457, Package: TO-92, Key parameters: Beta=1.125e-3 Vto=-1.372 Cgs=4.627e-12 Cgd=4e-12
ap_njf_J2N5458_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5458, Package: TO-92, Key parameters: Beta=488.9e-6 Vto=-2.882 Cgs=4.627e-12 Cgd=4e-12
ap_njf_J2N5459_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5459, Package: TO-92, Key parameters: Beta=377.6e-6 Vto=-4.473 Cgs=4.627e-12 Cgd=4e-12
ap_njf_J2N5484_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number:

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	J2N5484, Package: TO-92, Key parameters: Beta=2.224e-3 Vto=-1.2 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_J2N5485_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5485, Package: TO-92, Key parameters: Beta=1.039e-3 Vto=-2.5 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_J2N5486_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5486, Package: TO-92, Key parameters: Beta=736.9e-6 Vto=-3.889 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_J2N5515_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5515, Package: TO-71, Key parameters: Beta=518.5e-6 Vto=-2.5 Cgs=14.64e-12 Cgd=8e-12
ap_njf_J2N5516_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5516, Package: TO-71, Key parameters: Beta=518.5e-6 Vto=-2.5 Cgs=14.64e-12 Cgd=8e-12
ap_njf_J2N5517_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5517, Package: TO-71, Key parameters: Beta=518.5e-6 Vto=-2.5 Cgs=14.64e-12 Cgd=8e-12
ap_njf_J2N5518_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5518, Package: TO-71, Key parameters: Beta=518.5e-6 Vto=-2.5 Cgs=14.64e-12 Cgd=8e-12
ap_njf_J2N5519_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5519, Package: TO-71, Key parameters: Beta=518.5e-6 Vto=-2.5 Cgs=14.64e-12 Cgd=8e-12
ap_njf_J2N5520_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5520, Package: TO-71, Key parameters: Beta=518.5e-6 Vto=-2.5 Cgs=14.64e-12 Cgd=8e-12
ap_njf_J2N5521_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5521, Package: TO-71, Key parameters: Beta=518.5e-6 Vto=-2.5 Cgs=14.64e-12 Cgd=8e-12
ap_njf_J2N5522_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5522, Package: TO-71, Key parameters: Beta=518.5e-6 Vto=-2.5 Cgs=14.64e-12 Cgd=8e-12
ap_njf_J2N5523_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5523, Package: TO-71, Key parameters: Beta=518.5e-6 Vto=-2.5 Cgs=14.64e-12 Cgd=8e-12
ap_njf_J2N5524_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5524, Package: TO-71, Key parameters: Beta=518.5e-6 Vto=-2.5 Cgs=14.64e-12 Cgd=8e-12
ap_njf_J2N5545_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5545, Package: TO-71, Key parameters: Beta=1.271e-3 Vto=-2 Cgs=1.64e-12 Cgd=3.28e-12
ap_njf_J2N5546_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5546, Package: TO-71, Key parameters: Beta=1.271e-3 Vto=-2 Cgs=1.64e-12 Cgd=3.28e-12
ap_njf_J2N5547_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5547, Package: TO-71, Key parameters: Beta=1.271e-3 Vto=-2 Cgs=1.64e-12 Cgd=3.28e-12
ap_njf_J2N5555_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5555, Package: TO-92, Key parameters: Beta=642.1e-6 Vto=-5.7 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_J2N5556_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5556, Package: TO-72, Key parameters: Beta=2.194e-3 Vto=-.875 Cgs=2.414e-12 Cgd=1.6e-12

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ap_njf_J2N5557_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5557, Package: TO-72, Key parameters: Beta=1.307e-3 Vto=-1.805 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_J2N5558_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5558, Package: TO-72, Key parameters: Beta=864e-6 Vto=-2.91 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_J2N5561_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5561, Package: TO-71, Key parameters: Beta=1.617e-3 Vto=-1.373 Cgs=7.546e-12 Cgd=5.6e-12
ap_njf_J2N5562_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5562, Package: TO-71, Key parameters: Beta=1.617e-3 Vto=-1.373 Cgs=7.546e-12 Cgd=5.6e-12
ap_njf_J2N5563_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5563, Package: TO-71, Key parameters: Beta=1.617e-3 Vto=-1.373 Cgs=7.546e-12 Cgd=5.6e-12
ap_njf_J2N5564_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5564, Package: TO-71, Key parameters: Beta=9.109e-3 Vto=-1.447 Cgs=9.76e-12 Cgd=8.67e-12
ap_njf_J2N5565_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5565, Package: TO-71, Key parameters: Beta=9.109e-3 Vto=-1.447 Cgs=9.76e-12 Cgd=8.67e-12
ap_njf_J2N5566_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5566, Package: TO-71, Key parameters: Beta=9.109e-3 Vto=-1.447 Cgs=9.76e-12 Cgd=8.67e-12
ap_njf_J2N5638_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5638, Package: TO-92, Key parameters: Beta=3.542e-3 Vto=-4.887 Cgs=5.95e-12 Cgd=6.7e-12
ap_njf_J2N5639_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5639, Package: TO-92, Key parameters: Beta=5.108e-3 Vto=-3.264 Cgs=5.53e-12 Cgd=6.22e-12
ap_njf_J2N5640_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5640, Package: TO-92, Key parameters: Beta=6.964e-3 Vto=-2.15 Cgs=5.29e-12 Cgd=5.95e-12
ap_njf_J2N5653_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5653, Package: TO-92, Key parameters: Beta=3.084e-3 Vto=-5.119 Cgs=5.59e-12 Cgd=6.29e-12
ap_njf_J2N5654_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5654, Package: TO-92, Key parameters: Beta=4.554e-3 Vto=-3.294 Cgs=5.22e-12 Cgd=5.88e-12
ap_njf_J2N5668_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5668, Package: TO-92, Key parameters: Beta=2.224e-3 Vto=-1.24 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_J2N5669_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5669, Package: TO-92, Key parameters: Beta=1.117e-3 Vto=-2.51 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_J2N5670_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5670, Package: TO-92, Key parameters: Beta=683.1e-6 Vto=-4.25 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_J2N5902_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5902, Package: TO-92, Key parameters: Beta=120e-6 Vto=-1.652 Cgs=1.23e-12 Cgd=1.23e-12
ap_njf_J2N5903_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number:



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	J2N5903, Package: TO-92, Key parameters: Beta=120e-6 Vto=-1.652 Cgs=1.23e-12 Cgd=1.23e-12
ap_njf_J2N5904_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5904, Package: TO-78, Key parameters: Beta=120e-6 Vto=-1.652 Cgs=1.23e-12 Cgd=1.23e-12
ap_njf_J2N5905_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5905, Package: TO-78, Key parameters: Beta=120e-6 Vto=-1.652 Cgs=1.23e-12 Cgd=1.23e-12
ap_njf_J2N5906_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5906, Package: TO-78, Key parameters: Beta=120e-6 Vto=-1.652 Cgs=1.23e-12 Cgd=1.23e-12
ap_njf_J2N5907_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5907, Package: TO-78, Key parameters: Beta=120e-6 Vto=-1.652 Cgs=1.23e-12 Cgd=1.23e-12
ap_njf_J2N5908_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5908, Package: TO-78, Key parameters: Beta=120e-6 Vto=-1.652 Cgs=1.23e-12 Cgd=1.23e-12
ap_njf_J2N5909_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5909, Package: TO-78, Key parameters: Beta=120e-6 Vto=-1.652 Cgs=1.23e-12 Cgd=1.23e-12
ap_njf_J2N5911_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5911, Package: TO-78, Key parameters: Beta=2.203e-3 Vto=-2.694 Cgs=3.65e-12 Cgd=2.822e-12
ap_njf_J2N5912_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5912, Package: TO-78, Key parameters: Beta=2.203e-3 Vto=-2.694 Cgs=3.65e-12 Cgd=2.822e-12
ap_njf_J2N5949_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5949, Package: TO-92, Key parameters: Beta=656.9e-6 Vto=-4.322 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_J2N5950_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5950, Package: TO-92, Key parameters: Beta=696.4e-6 Vto=-3.892 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_J2N5951_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5951, Package: TO-92, Key parameters: Beta=736.9e-6 Vto=-3.427 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_J2N5952_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5952, Package: TO-92, Key parameters: Beta=1.314e-3 Vto=-2.021 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_J2N5953_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N5953, Package: TO-92, Key parameters: Beta=1.645e-3 Vto=-1.444 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_J2N6483_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N6483, Package: TO-71, Key parameters: Beta=518.5e-6 Vto=-2.5 Cgs=14.64e-12 Cgd=8e-12
ap_njf_J2N6484_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N6484, Package: TO-71, Key parameters: Beta=518.5e-6 Vto=-2.5 Cgs=14.64e-12 Cgd=8e-12
ap_njf_J2N6485_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N6485, Package: TO-71, Key parameters: Beta=518.5e-6 Vto=-2.5 Cgs=14.64e-12 Cgd=8e-12
ap_njf_J2N6905_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N6905, Package: TO-71, Key parameters: Beta=4.032e-3 Vto=-1.215 Cgs=4.08e-12 Cgd=4.08e-12

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ap_njf_J2N6906_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N6906, Package: TO-71, Key parameters: Beta=4.032e-3 Vto=-1.215 Cgs=4.08e-12 Cgd=4.08e-12
ap_njf_J2N6907_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J2N6907, Package: TO-71, Key parameters: Beta=4.032e-3 Vto=-1.215 Cgs=4.08e-12 Cgd=4.08e-12
ap_njf_J300_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J300, Package: TO-92, Key parameters: Beta=1.242e-3 Vto=-3.236 Cgs=3.383e-12 Cgd=3e-12
ap_njf_J304_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J304, Package: TO-92, Key parameters: Beta=729e-6 Vto=-3.52 Cgs=2.205e-12 Cgd=2.17e-12
ap_njf_J305_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J305, Package: TO-92, Key parameters: Beta=2.104e-3 Vto=-1.44 Cgs=2.205e-12 Cgd=2.17e-12
ap_njf_J308_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J308, Package: TO-92, Key parameters: Beta=3.688e-3 Vto=-3.095 Cgs=6.2e-12 Cgd=6.2e-12
ap_njf_J309_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: J309, Key parameters: Beta=0.00611126 Vto=-1.8526552 Cgs=1.26597E-11 Cgd=1.28961E-11
ap_njf_J309_19930602	Manufacturer: National, Basic Description: NJFET Device, Part number: J309, Package: TO-92, Key parameters: Beta=4.682e-3 Vto=-2.075 Cgs=6.2e-12 Cgd=6.2e-12
ap_njf_J310_19930601	Basic Description: NJFET Device, Part number: J310, Key parameters: Beta=0.00424411 Vto=-2.8031764 Cgs=7.76159E-12 Cgd=1.13093E-11
ap_njf_J310_19930602	Manufacturer: National, Basic Description: NJFET Device, Part number: J310, Package: TO-92, Key parameters: Beta=3.384e-3 Vto=-3.409 Cgs=6.2e-12 Cgd=6.2e-12
ap_njf_J401_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J401, Package: TO-92, Key parameters: Beta=1.577e-3 Vto=-1.316 Cgs=6.044e-12 Cgd=5.6e-12
ap_njf_J402_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J402, Package: 8-pin, Key parameters: Beta=1.577e-3 Vto=-1.316 Cgs=6.044e-12 Cgd=5.6e-12
ap_njf_J403_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J403, Package: 8-pin, Key parameters: Beta=1.577e-3 Vto=-1.316 Cgs=6.044e-12 Cgd=5.6e-12
ap_njf_J404_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J404, Package: 8-pin, Key parameters: Beta=1.577e-3 Vto=-1.316 Cgs=6.044e-12 Cgd=5.6e-12
ap_njf_J405_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J405, Package: 8-pin, Key parameters: Beta=1.577e-3 Vto=-1.316 Cgs=6.044e-12 Cgd=5.6e-12
ap_njf_J406_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J406, Package: 8-pin, Key parameters: Beta=1.577e-3 Vto=-1.316 Cgs=6.044e-12 Cgd=5.6e-12
ap_njf_J410_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J410, Package: 8-pin, Key parameters: Beta=858.8e-6 Vto=-2 Cgs=1e-12 Cgd=2e-12
ap_njf_J411_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J411, Package: 8-pin, Key parameters: Beta=858.8e-6 Vto=-2 Cgs=1e-12 Cgd=2e-

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ap_njf_J412_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: J412, Package: 8-pin, Key parameters: Beta=858.8e-6 Vto=-2 Cgs=1e-12 Cgd=2e-12
ap_njf_MMBF5459_19930601	Basic Description: NJFET Device, Part number: MMBF5459, Key parameters: Beta=0.00040927 Vto=-4.4513013 Cgs=8.6709E-12 Cgd=8.5241E-12
ap_njf_MP844_19930601	Manufacturer: Micro_Power_Systems, Basic Description: NJFET Device, Part number: MP844, Key parameters: Beta=0.0013 Vto=-2 Cgs=1.65E-11 Cgd=2.37E-11
ap_njf_MPF102_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF102, Package: TO-92, Key parameters: Beta=1.04e-3 Vto=-3.41 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_MPF103_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF103, Package: TO-92, Key parameters: Beta=561.5e-6 Vto=-1.947 Cgs=4.627e-12 Cgd=4e-12
ap_njf_MPF104_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF104, Package: TO-92, Key parameters: Beta=488.9e-6 Vto=-2.882 Cgs=4.627e-12 Cgd=4e-12
ap_njf_MPF105_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF105, Package: TO-92, Key parameters: Beta=377.6e-6 Vto=-4.473 Cgs=4.627e-12 Cgd=4e-12
ap_njf_MPF106_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF106, Package: TO-92, Key parameters: Beta=1.518e-3 Vto=-2.21 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_MPF107_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF107, Package: TO-92, Key parameters: Beta=821.6e-6 Vto=-3.721 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_MPF108_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF108, Package: TO-92, Key parameters: Beta=741.2e-6 Vto=-2.789 Cgs=4.627e-12 Cgd=4e-12
ap_njf_MPF109_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF109, Package: TO-92, Key parameters: Beta=435e-6 Vto=-3.51 Cgs=4.627e-12 Cgd=4e-12
ap_njf_MPF110_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF110, Package: TO-92, Key parameters: Beta=769.7e-6 Vto=-3.56 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_MPF111_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF111, Package: TO-92, Key parameters: Beta=769.7e-3 Vto=-3.88 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_MPF112_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF112, Package: TO-92, Key parameters: Beta=377.1e-6 Vto=-3.85 Cgs=4.627e-12 Cgd=4e-12
ap_njf_MPF256_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF256, Package: TO-92, Key parameters: Beta=1.548e-3 Vto=-2.127 Cgs=3.383e-12 Cgd=3e-12
ap_njf_MPF3970_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF3970, Package: TO-18, Key parameters: Beta=4.032e-3 Vto=-4.514 Cgs=9.31e-12 Cgd=10.48e-12
ap_njf_MPF3971_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF3971, Package: TO-18, Key parameters: Beta=6.313e-3 Vto=-2.598 Cgs=9.31e-12 Cgd=10.48e-12
ap_njf_MPF3972_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number:

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	MPF3972, Package: TO-18, Key parameters: Beta=9.109e-3 Vto=-1.403 Cgs=9.31e-12 Cgd=10.48e-12
ap_njf_MPF4091_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF4091, Package: TO-18, Key parameters: Beta=2.658e-3 Vto=-5.743 Cgs=7.06e-12 Cgd=7.94e-12
ap_njf_MPF4092_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF4092, Package: TO-18, Key parameters: Beta=4.032e-3 Vto=-2.933 Cgs=7.06e-12 Cgd=7.94e-12
ap_njf_MPF4093_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF4093, Package: TO-18, Key parameters: Beta=5.695e-3 Vto=-1.989 Cgs=7.06e-12 Cgd=7.94e-12
ap_njf_MPF4117A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF4117A, Package: TO-18, Key parameters: Beta=49.01e-6 Vto=-1.1 Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_MPF4117_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF4117, Package: TO-18, Key parameters: Beta=33.07e-6 Vto=-1.2 Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_MPF4118A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF4118A, Package: TO-18, Key parameters: Beta=52.58e-6 Vto=-1.732 Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_MPF4118_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF4118, Package: TO-18, Key parameters: Beta=52.58e-6 Vto=-1.732 Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_MPF4119A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF4119A, Package: TO-18, Key parameters: Beta=68.08e-6 Vto=-2.536 Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_MPF4119_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF4119, Package: TO-18, Key parameters: Beta=68.08e-6 Vto=-2.536 Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_MPF4391_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF4391, Package: TO-18, Key parameters: Beta=2.658e-3 Vto=-5.803 Cgs=4.76e-12 Cgd=5.35e-12
ap_njf_MPF4392_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF4392, Package: TO-18, Key parameters: Beta=5.108e-3 Vto=-3.018 Cgs=4.29e-12 Cgd=4.83e-12
ap_njf_MPF4393_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF4393, Package: TO-18, Key parameters: Beta=9.109e-3 Vto=-1.422 Cgs=4.06e-12 Cgd=4.57e-12
ap_njf_MPF4856A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF4856A, Package: TO-18, Key parameters: Beta=3.084e-3 Vto=-5.517 Cgs=5.07e-12 Cgd=5.71e-12
ap_njf_MPF4856_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF4856, Package: TO-18, Key parameters: Beta=3.084e-3 Vto=-5.517 Cgs=14.16e-12 Cgd=15.92e-12
ap_njf_MPF4857A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF4857A, Package: TO-18, Key parameters: Beta=6.313e-3 Vto=-3.05 Cgs=4.74e-12 Cgd=5.34e-12
ap_njf_MPF4857_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF4857, Package: TO-18, Key parameters: Beta=6.313e-3 Vto=-3.05 Cgs=14.16e-12 Cgd=15.92e-12
ap_njf_MPF4858A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF4858A, Package: TO-18, Key parameters: Beta=7.646e-3 Vto=-2.387 Cgs=4.74e-12 Cgd=5.34e-12

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ap_njf_MPF4858_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF4858, Package: TO-18, Key parameters: Beta=7.646e-3 Vto=-2.387 Cgs=14.16e-12 Cgd=15.92e-12
ap_njf_MPF4859A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF4859A, Package: TO-18, Key parameters: Beta=3.084e-3 Vto=-5.431 Cgs=5.07e-12 Cgd=5.71e-12
ap_njf_MPF4859_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF4859, Package: TO-18, Key parameters: Beta=3.084e-3 Vto=-5.431 Cgs=14.16e-12 Cgd=15.92e-12
ap_njf_MPF4860A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF4860A, Package: TO-18, Key parameters: Beta=6.313e-3 Vto=-2.998 Cgs=4.74e-12 Cgd=5.34e-12
ap_njf_MPF4860_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF4860, Package: TO-18, Key parameters: Beta=6.313e-3 Vto=-2.998 Cgs=14.16e-12 Cgd=15.92e-12
ap_njf_MPF4861A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF4861A, Package: TO-18, Key parameters: Beta=8.362e-3 Vto=-2.308 Cgs=4.74e-12 Cgd=5.34e-12
ap_njf_MPF4861_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF4861, Package: TO-18, Key parameters: Beta=8.362e-3 Vto=-2.308 Cgs=14.16e-12 Cgd=15.92e-12
ap_njf_MPF820_19930601	Basic Description: NJFET Device, Part number: MPF820, Key parameters: Beta=0.00432408 Vto=-2.6827535 Cgs=1.79128E-11 Cgd=1.84136E-11
ap_njf_MPF820_19930602	Manufacturer: National, Basic Description: NJFET Device, Part number: MPF820, Package: TO-18, Key parameters: Beta=6.964e-3 Vto=-2.204 Cgs=7.06e-12 Cgd=7.94e-12
ap_njf_NDF9406_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: NDF9406, Package: TO-71, Key parameters: Beta=1.004e-3 Vto=-2.25 Cgs=2.1e-12 Cgd=4.2e-12
ap_njf_NDF9407_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: NDF9407, Package: TO-71, Key parameters: Beta=1.004e-3 Vto=-2.25 Cgs=2.1e-12 Cgd=4.2e-12
ap_njf_NDF9408_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: NDF9408, Package: TO-71, Key parameters: Beta=1.004e-3 Vto=-2.25 Cgs=2.1e-12 Cgd=4.2e-12
ap_njf_NDF9409_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: NDF9409, Package: TO-71, Key parameters: Beta=1.004e-3 Vto=-2.25 Cgs=2.1e-12 Cgd=4.2e-12
ap_njf_NDF9410_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: NDF9410, Package: TO-71, Key parameters: Beta=1.004e-3 Vto=-2.25 Cgs=2.1e-12 Cgd=4.2e-12
ap_njf_NF5101_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: NF5101, Package: TO-72, Key parameters: Beta=12.42e-3 Vto=-.7414 Cgs=9.56e-12 Cgd=10.76e-12
ap_njf_NF5102_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: NF5102, Package: TO-72, Key parameters: Beta=14.28e-3 Vto=-1.001 Cgs=9.56e-12 Cgd=10.76e-12
ap_njf_NF5103_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: NF5103, Package: TO-72, Key parameters: Beta=14.28e-3 Vto=-1.4 Cgs=9.56e-12 Cgd=10.76e-12
ap_njf_NF5301_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: NF5301, Package: TO-72, Key parameters: Beta=62.04e-6 Vto=-1.887



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	Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_NF5301_1_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: NF5301-1, Package: TO-72, Key parameters: Beta=81.03e-6 Vto=-1.428 Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_NF5301_2_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: NF5301-2, Package: TO-72, Key parameters: Beta=72.27e-6 Vto=-2.123 Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_NF5301_3_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: NF5301-3, Package: TO-72, Key parameters: Beta=72.27e-6 Vto=-1.748 Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_NPD5564_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: NPD5564, Package: 8-pin, Key parameters: Beta=9.109e-3 Vto=-1.447 Cgs=9.76e-12 Cgd=8.67e-12
ap_njf_NPD5565_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: NPD5565, Package: 8-pin, Key parameters: Beta=9.109e-3 Vto=-1.447 Cgs=9.76e-12 Cgd=8.67e-12
ap_njf_NPD5566_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: NPD5566, Package: 8-pin, Key parameters: Beta=9.109e-3 Vto=-1.447 Cgs=9.76e-12 Cgd=8.67e-12
ap_njf_NPD8301_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: NPD8301, Package: 8-pin, Key parameters: Beta=858.8e-6 Vto=-2 Cgs=1e-12 Cgd=2e-12
ap_njf_NPD8302_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: NPD8302, Package: 8-pin, Key parameters: Beta=858.8e-6 Vto=-2 Cgs=1e-12 Cgd=2e-12
ap_njf_NPD8303_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: NPD8303, Package: 8-pin, Key parameters: Beta=858.8e-6 Vto=-2 Cgs=1e-12 Cgd=2e-12
ap_njf_PF5101_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PF5101, Package: TO-92, Key parameters: Beta=12.42e-3 Vto=-.7627 Cgs=9.56e-12 Cgd=10.76e-12
ap_njf_PF5102_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PF5102, Package: TO-92, Key parameters: Beta=14.28e-3 Vto=-.9723 Cgs=9.56e-12 Cgd=10.76e-12
ap_njf_PF5103_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PF5103, Package: TO-92, Key parameters: Beta=14.28e-3 Vto=-1.372 Cgs=9.56e-12 Cgd=10.76e-12
ap_njf_PF5301_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PF5301, Package: TO-92, Key parameters: Beta=72.27e-6 Vto=-1.798 Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_PF5301_1_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PF5301-1, Package: TO-92, Key parameters: Beta=95.1e-6 Vto=-1.4 Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_PF5301_2_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PF5301-2, Package: TO-92, Key parameters: Beta=72.27e-6 Vto=-2.088 Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_PF5301_3_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PF5301-3, Package: TO-92, Key parameters: Beta=72.27e-6 Vto=-1.951 Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_PN3684_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN3684, Package: TO-92, Key parameters: Beta=348.1e-6 Vto=-3.18 Cgs=2.083e-12 Cgd=2e-12

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ap_njf_PN3685_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN3685, Package: TO-92, Key parameters: Beta=543.4e-6 Vto=-1.691 Cgs=2.083e-12 Cgd=2e-12
ap_njf_PN3686_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN3686, Package: TO-92, Key parameters: Beta=723.7e-6 Vto=-.957 Cgs=2.083e-12 Cgd=2e-12
ap_njf_PN3687_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN3687, Package: TO-92, Key parameters: Beta=840e-6 Vto=-.5102 Cgs=2.083e-12 Cgd=2e-12
ap_njf_PN4091_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4091, Package: TO-92, Key parameters: Beta=2.417e-3 Vto=-5.481 Cgs=7.06e-12 Cgd=7.94e-12
ap_njf_PN4092_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4092, Package: TO-92, Key parameters: Beta=5.108e-3 Vto=-2.978 Cgs=7.06e-12 Cgd=7.94e-12
ap_njf_PN4093_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4093, Package: TO-92, Key parameters: Beta=8.508e-3 Vto=-1.973 Cgs=7.06e-12 Cgd=7.94e-12
ap_njf_PN4117A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4117A, Package: TO-92, Key parameters: Beta=45.57e-6 Vto=-1.172 Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_PN4117_19930601	Basic Description: NJFET Device, Part number: PN4117, Key parameters: Beta=4.2E-05 Vto=-1.2 Cgs=3E-12 Cgd=3E-12
ap_njf_PN4117_19930602	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4117, Package: TO-92, Key parameters: Beta=30.26e-6 Vto=-1.412 Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_PN4118A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4118A, Package: TO-92, Key parameters: Beta=60.08e-6 Vto=-1.652 Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_PN4118_19930601	Basic Description: NJFET Device, Part number: PN4118, Key parameters: Beta=3.75E-05 Vto=-2 Cgs=3E-12 Cgd=3E-12
ap_njf_PN4118_19930602	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4118, Package: TO-92, Key parameters: Beta=60.08e-6 Vto=-1.652 Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_PN4119A_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4119A, Package: TO-92, Key parameters: Beta=72.27e-6 Vto=-2.5 Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_PN4119_19930601	Basic Description: NJFET Device, Part number: PN4119, Key parameters: Beta=4.444E-05 Vto=-3 Cgs=3E-12 Cgd=3E-12
ap_njf_PN4119_19930602	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4119, Package: TO-92, Key parameters: Beta=72.27e-6 Vto=-2.5 Cgs=4.93e-12 Cgd=3.94e-12
ap_njf_PN4120_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4120, Package: TO-92, Key parameters: Beta=15.41e-6 Vto=-4.679 Cgs=4.49e-12 Cgd=4.49e-12
ap_njf_PN4220_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4220, Package: TO-92, Key parameters: Beta=819.8e-6 Vto=-1.195 Cgs=4.627e-12 Cgd=4e-12
ap_njf_PN4221_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4221, Package: TO-92, Key parameters: Beta=726.3e-6 Vto=-2.139 Cgs=4.627e-12 Cgd=4e-12
ap_njf_PN4222_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number:

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	PN4222, Package: TO-92, Key parameters: Beta=436.4e-6 Vto=-2.9 Cgs=4.627e-12 Cgd=4e-12
ap_njf_PN4223_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4223, Package: TO-92, Key parameters: Beta=1.04e-3 Vto=-3.14 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_PN4224_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4224, Package: TO-92, Key parameters: Beta=1.04e-3 Vto=-3.27 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_PN4302_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4302, Package: TO-92, Key parameters: Beta=650e-6 Vto=-1.55 Cgs=2.916e-12 Cgd=2.8e-12
ap_njf_PN4303_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4303, Package: TO-92, Key parameters: Beta=550e-6 Vto=-2.92 Cgs=2.916e-12 Cgd=2.8e-12
ap_njf_PN4304_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4304, Package: TO-92, Key parameters: Beta=350e-6 Vto=-3.85 Cgs=2.916e-12 Cgd=2.8e-12
ap_njf_PN4391_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4391, Package: TO-92, Key parameters: Beta=3.084e-3 Vto=-5.27 Cgs=4.76e-12 Cgd=5.35e-12
ap_njf_PN4392_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4392, Package: TO-92, Key parameters: Beta=5.816e-3 Vto=-2.808 Cgs=4.29e-12 Cgd=4.83e-12
ap_njf_PN4393_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4393, Package: TO-92, Key parameters: Beta=9.109e-3 Vto=-1.417 Cgs=4.06e-12 Cgd=4.57e-12
ap_njf_PN4416_19930601	Basic Description: NJFET Device, Part number: PN4416, Key parameters: Beta=0.001 Vto=-3.1 Cgs=2E-12 Cgd=2E-12
ap_njf_PN4416_19930602	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4416, Package: TO-92, Key parameters: Beta=989.4e-6 Vto=-3.07 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_PN4856_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4856, Package: TO-92, Key parameters: Beta=3.084e-3 Vto=-5.681 Cgs=14.16e-12 Cgd=15.92e-12
ap_njf_PN4857_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4857, Package: TO-92, Key parameters: Beta=6.313e-3 Vto=-2.997 Cgs=14.16e-12 Cgd=15.92e-12
ap_njf_PN4858_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4858, Package: TO-92, Key parameters: Beta=9.109e-3 Vto=-2.11 Cgs=14.16e-12 Cgd=15.92e-12
ap_njf_PN4859_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4859, Package: TO-92, Key parameters: Beta=3.084e-3 Vto=-5.704 Cgs=14.16e-12 Cgd=15.92e-12
ap_njf_PN4860_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4860, Package: TO-92, Key parameters: Beta=6.313e-3 Vto=-3.017 Cgs=14.16e-12 Cgd=15.92e-12
ap_njf_PN4861_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN4861, Package: TO-92, Key parameters: Beta=9.109e-3 Vto=-2.18 Cgs=14.16e-12 Cgd=15.92e-12
ap_njf_PN5163_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN5163, Package: TO-92, Key parameters: Beta=1.228e-3 Vto=-3.82 Cgs=2.414e-12 Cgd=1.6e-12

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ap_njf_PN5432_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN5432, Package: TO-92, Key parameters: Beta=9.109e-3 Vto=-5.697 Cgs=35.6e-12 Cgd=35.6e-12
ap_njf_PN5433_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN5433, Package: TO-92, Key parameters: Beta=12.42e-3 Vto=-4.4 Cgs=35.6e-12 Cgd=35.6e-12
ap_njf_PN5434_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: PN5434, Package: TO-92, Key parameters: Beta=17.3e-3 Vto=-1.949 Cgs=35.6e-12 Cgd=35.6e-12
ap_njf_SST201_19930601	Basic Description: NJFET Device, Part number: SST201, Key parameters: Beta=0.002 Vto=-0.5 Cgs=3.5E-12 Cgd=3.5E-12
ap_njf_SST202_19930601	Basic Description: NJFET Device, Part number: SST202, Key parameters: Beta=0.001 Vto=-1 Cgs=3.5E-12 Cgd=3.5E-12
ap_njf_SST203_19930601	Basic Description: NJFET Device, Part number: SST203, Key parameters: Beta=0.000625 Vto=-2 Cgs=3.5E-12 Cgd=3.5E-12
ap_njf_SST204_19930601	Basic Description: NJFET Device, Part number: SST204, Key parameters: Beta=0.0004375 Vto=-4 Cgs=3.5E-12 Cgd=3.5E-12
ap_njf_SST4856_19930601	Basic Description: NJFET Device, Part number: SST4856, Key parameters: Beta=0.002344 Vto=-8 Cgs=5E-12 Cgd=2E-11
ap_njf_SST4857_19930601	Basic Description: NJFET Device, Part number: SST4857, Key parameters: Beta=0.005 Vto=-4 Cgs=5E-12 Cgd=2E-11
ap_njf_SST4858_19930601	Basic Description: NJFET Device, Part number: SST4858, Key parameters: Beta=0.005 Vto=-2 Cgs=5E-12 Cgd=2E-11
ap_njf_SST4859_19930601	Basic Description: NJFET Device, Part number: SST4859, Key parameters: Beta=0.002344 Vto=-8 Cgs=5E-12 Cgd=2E-11
ap_njf_SST4860_19930601	Basic Description: NJFET Device, Part number: SST4860, Key parameters: Beta=0.005 Vto=-4 Cgs=5E-12 Cgd=2E-11
ap_njf_SST4861_19930601	Basic Description: NJFET Device, Part number: SST4861, Key parameters: Beta=0.005 Vto=-2 Cgs=5E-12 Cgd=2E-11
ap_njf_SST5457_19930601	Basic Description: NJFET Device, Part number: SST5457, Key parameters: Beta=0.00133 Vto=-1.5 Cgs=3E-12 Cgd=6E-12
ap_njf_SST5458_19930601	Basic Description: NJFET Device, Part number: SST5458, Key parameters: Beta=0.000666 Vto=-3 Cgs=3E-12 Cgd=6E-12
ap_njf_SST5459_19930601	Basic Description: NJFET Device, Part number: SST5459, Key parameters: Beta=0.0005625 Vto=-4 Cgs=3E-12 Cgd=6E-12
ap_njf_TIS58_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: TIS58, Package: TO-92, Key parameters: Beta=1.46e-3 Vto=-1.921 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_TIS59_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: TIS59, Package: TO-92, Key parameters: Beta=764.6e-6 Vto=-4.14 Cgs=2.414e-12 Cgd=1.6e-12
ap_njf_TIS73_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: TIS73, Package: TO-92, Key parameters: Beta=3.084e-3 Vto=-5.581 Cgs=14.16e-12 Cgd=15.92e-12
ap_njf_TIS74_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: TIS74, Package: TO-92, Key parameters: Beta=6.313e-3 Vto=-3.117 Cgs=14.16e-12 Cgd=15.92e-12
ap_njf_TIS75_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: TIS75, Package: TO-92, Key parameters: Beta=9.109e-3 Vto=-2.18 Cgs=14.16e-12 Cgd=15.92e-12
ap_njf_U1897_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U1897,

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	Package: TO-71, Key parameters: Beta=2.741e-3 Vto=-5.5 Cgs=7.06e-12 Cgd=7.94e-12
ap_njf_U1898_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U1898, Package: TO-71, Key parameters: Beta=5.108e-3 Vto=-3 Cgs=7.06e-12 Cgd=7.94e-12
ap_njf_U1899_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U1899, Package: TO-71, Key parameters: Beta=7.646e-3 Vto=-2.131 Cgs=7.06e-12 Cgd=7.94e-12
ap_njf_U200_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U200, Package: TO-18, Key parameters: Beta=10.26e-3 Vto=-1.2 Cgs=11.9e-12 Cgd=5.8e-12
ap_njf_U201_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U201, Package: TO-18, Key parameters: Beta=8e-3 Vto=-2.45 Cgs=11.9e-12 Cgd=5.8e-12
ap_njf_U202_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U202, Package: TO-18, Key parameters: Beta=5.412e-3 Vto=-4 Cgs=11.9e-12 Cgd=5.8e-12
ap_njf_U257_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U257, Package: TO-78, Key parameters: Beta=2.203e-3 Vto=-2.475 Cgs=3.65e-12 Cgd=2.822e-12
ap_njf_U290_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U290, Package: TO-52, Key parameters: Beta=9e-3 Vto=-6.25 Cgs=60e-12 Cgd=60e-12
ap_njf_U291_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U291, Package: TO-52, Key parameters: Beta=15e-3 Vto=-3.6 Cgs=60e-12 Cgd=60e-12
ap_njf_U308_19930601	Basic Description: NJFET Device, Part number: U308, Key parameters: Beta=0.002375 Vto=-4 Cgs=5.8E-12 Cgd=6.5E-12
ap_njf_U308_19930602	Manufacturer: National, Basic Description: NJFET Device, Part number: U308, Package: TO-52, Key parameters: Beta=4.337e-3 Vto=-2.852 Cgs=5e-12 Cgd=5e-12
ap_njf_U309_19930601	Basic Description: NJFET Device, Part number: U309, Key parameters: Beta=0.002375 Vto=-4 Cgs=5.8E-12 Cgd=6.5E-12
ap_njf_U309_19930602	Manufacturer: National, Basic Description: NJFET Device, Part number: U309, Package: TO-52, Key parameters: Beta=5.04e-3 Vto=-2.026 Cgs=5e-12 Cgd=5e-12
ap_njf_U310_19930601	Manufacturer: Motorola, Basic Description: NJFET Device, Part number: U310, Key parameters: Beta=0.00399454 Vto=-3.5460584 Cgs=1.18096E-11 Cgd=1.18847E-11
ap_njf_U310_19930602	Manufacturer: National, Basic Description: NJFET Device, Part number: U310, Package: TO-52, Key parameters: Beta=3.688e-3 Vto=-3.324 Cgs=7.4e-12 Cgd=7.4e-12
ap_njf_U311_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U311, Package: TO-52, Key parameters: Beta=1.485e-3 Vto=-4.796 Cgs=6.5e-12 Cgd=6.5e-12
ap_njf_U312_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U312, Package: TO-52, Key parameters: Beta=1.242e-3 Vto=-3.679 Cgs=3.198e-12 Cgd=2.6e-12
ap_njf_U401_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U401, Package: TO-71, Key parameters: Beta=1.577e-3 Vto=-1.316 Cgs=6.044e-12 Cgd=5.6e-12
ap_njf_U402_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U402,



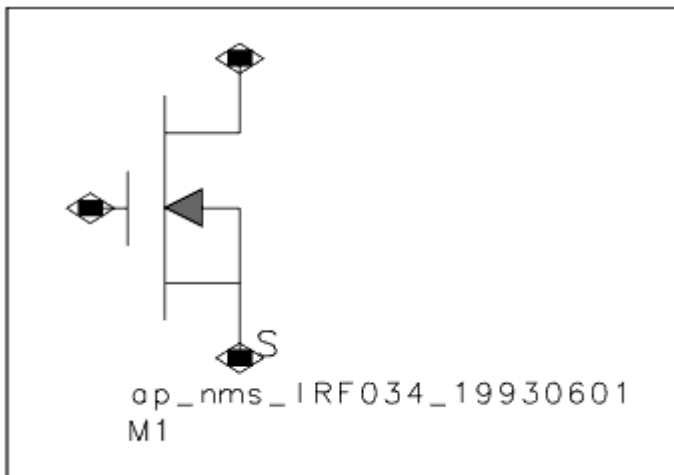
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	Package: TO-71, Key parameters: Beta=1.577e-3 Vto=-1.316 Cgs=6.044e-12 Cgd=5.6e-12
ap_njf_U403_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U403, Package: TO-71, Key parameters: Beta=1.577e-3 Vto=-1.316 Cgs=6.044e-12 Cgd=5.6e-12
ap_njf_U404_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U404, Package: TO-71, Key parameters: Beta=1.577e-3 Vto=-1.316 Cgs=6.044e-12 Cgd=5.6e-12
ap_njf_U405_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U405, Package: TO-71, Key parameters: Beta=1.577e-3 Vto=-1.316 Cgs=6.044e-12 Cgd=5.6e-12
ap_njf_U406_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U406, Package: TO-71, Key parameters: Beta=1.577e-3 Vto=-1.316 Cgs=6.044e-12 Cgd=5.6e-12
ap_njf_U410_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U410, Package: TO-71, Key parameters: Beta=801.3e-6 Vto=-1.866 Cgs=3.03e-12 Cgd=3.03e-12
ap_njf_U411_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U411, Package: TO-71, Key parameters: Beta=801.3e-6 Vto=-1.866 Cgs=3.03e-12 Cgd=3.03e-12
ap_njf_U412_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U412, Package: TO-71, Key parameters: Beta=801.3e-6 Vto=-1.866 Cgs=3.03e-12 Cgd=3.03e-12
ap_njf_U427_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U427, Package: TO-71, Key parameters: Beta=428.6e-6 Vto=-1.25 Cgs=1.7e-12 Cgd=750e-15
ap_njf_U428_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U428, Package: TO-71, Key parameters: Beta=300e-6 Vto=-1.75 Cgs=1.7e-12 Cgd=750e-15
ap_njf_U430_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U430, Package: TO-71, Key parameters: Beta=5.412e-3 Vto=-1.952 Cgs=6.49e-12 Cgd=5.85e-12
ap_njf_U431_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U431, Package: TO-71, Key parameters: Beta=5.412e-3 Vto=-2.802 Cgs=6.49e-12 Cgd=5.85e-12
ap_njf_U440_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U440, Package: TO-71, Key parameters: Beta=1.978e-3 Vto=-2.839 Cgs=2.47e-12 Cgd=2.11e-12
ap_njf_U441_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U441, Package: TO-71, Key parameters: Beta=1.978e-3 Vto=-2.839 Cgs=2.47e-12 Cgd=2.11e-12
ap_njf_U443_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U443, Package: TO-71, Key parameters: Beta=1.978e-3 Vto=-2.839 Cgs=2.47e-12 Cgd=2.11e-12
ap_njf_U444_19930601	Manufacturer: National, Basic Description: NJFET Device, Part number: U444, Package: TO-71, Key parameters: Beta=1.978e-3 Vto=-2.839 Cgs=2.47e-12 Cgd=2.11e-12

# N-Channel MOSFET Models

## Schematic Design

The [N-Channel MOSFET Schematic Component Example](#) shown below illustrates how components representing N-Channel MOSFETs appear when placed into the Schematic design window. The schematic symbol is derived from the standard SYM\_EE\_MOS1 symbol in the `$HPEESOF_DIR/circuit/symbols` directory. The annotation consists of the component name and the default component ID prefix (in this case, M). No component parameters are displayed.



**N-Channel MOSFET Schematic Component Example**

The user may scale any of the model parameter values used by the model by displaying the *Component Parameters* dialog box. The dialog box displays the component label, a table of scale factors, and other controls. You can display the dialog box by double-clicking a component symbol after it has been placed in the drawing area or by clicking the **Edit Component Parameters** button.

**Note**  
For details on using the Component Parameters dialog box, click the Help button in the dialog box.

The analog parts model library N-Channel MOSFET models are suitable for placement in any Analog/RF circuit schematic.

## Data

N-Channel MOSFETs include 547 components, each representing an individual part. The naming convention for these components is `ap_nms_<part number>_<extraction date>`.

MOSFETs are simulated using the native MOSFET model component.

**Analog Parts Library - N-Channel MOSFETs**

<b>Component Name</b>	<b>Description</b>
ap_nms_1N6757_19930601	Basic Description: NMOS Transistor, Part number: 1N6757, Key parameters: Vto=3.53 Kp=11.33
ap_nms_2N6660_19930601	Basic Description: NMOS Transistor, Part number: 2N6660, Key parameters: Vto=1.4 Kp=2.59155E-05
ap_nms_2N6661_19930601	Basic Description: NMOS Transistor, Part number: 2N6661, Key parameters: Vto=2.45 Kp=0.172
ap_nms_2N6755_19930601	Basic Description: NMOS Transistor, Part number: 2N6755, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_2N6756_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: 2N6756, Key parameters: Vto=3.389 Kp=8.933
ap_nms_2N6757_19930601	Basic Description: NMOS Transistor, Part number: 2N6757, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_2N6758_19930601	Basic Description: NMOS Transistor, Part number: 2N6758, Key parameters: Vto=3.3736 Kp=6.7727
ap_nms_2N6759_19930601	Basic Description: NMOS Transistor, Part number: 2N6759, Key parameters: Vto=2.75 Kp=2.59155E-05
ap_nms_2N6760_19930601	Basic Description: NMOS Transistor, Part number: 2N6760, Key parameters: Vto=3.569 Kp=10.22
ap_nms_2N6761_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: 2N6761, Key parameters: Vto=2.75 Kp=2.59155E-05
ap_nms_2N6762_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: 2N6762, Key parameters: Vto=3.8505 Kp=58.27
ap_nms_2N6763_19930601	Basic Description: NMOS Transistor, Part number: 2N6763, Key parameters: Vto=2.75 Kp=2.59155E-05
ap_nms_2N6764_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: 2N6764, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_2N6765_19930601	Basic Description: NMOS Transistor, Part number: 2N6765, Key parameters: Vto=3.196 Kp=9.894
ap_nms_2N6766_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: 2N6766, Key parameters: Vto=2.75 Kp=2.59155E-05
ap_nms_2N6767_19930601	Basic Description: NMOS Transistor, Part number: 2N6767, Key parameters: Vto=3.02 Kp=6.01
ap_nms_2N6768_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: 2N6768, Key parameters: Vto=2.75 Kp=2.59155E-05
ap_nms_2N6769_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: 2N6769, Key parameters: Vto=3.334 Kp=9.273
ap_nms_2N6770_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: 2N6770, Key parameters: Vto=2.7 Kp=2.59155E-05
ap_nms_2N6782_19930601	Basic Description: NMOS Transistor, Part number: 2N6782, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_2N6784_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: 2N6784, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_2N6786_19930601	Basic Description: NMOS Transistor, Part number: 2N6786, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_2N6788_19930601	Basic Description: NMOS Transistor, Part number: 2N6788, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_2N6790_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor,

	Part number: 2N6790, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_2N6792_19930601	Basic Description: NMOS Transistor, Part number: 2N6792, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_2N6794_19930601	Basic Description: NMOS Transistor, Part number: 2N6794, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_2N6796_19930601	Basic Description: NMOS Transistor, Part number: 2N6796, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_2N6798_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: 2N6798, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_2N6800_19930601	Basic Description: NMOS Transistor, Part number: 2N6800, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_2N6802_19930601	Basic Description: NMOS Transistor, Part number: 2N6802, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_2SK430_19930601	Manufacturer: Hitachi, Basic Description: NMOS Transistor, Part number: 2SK430, Key parameters: Vto=2.715 Kp=0.749
ap_nms_2SK553_19930601	Manufacturer: Hitachi, Basic Description: NMOS Transistor, Part number: 2SK553, Key parameters: Vto=3.004 Kp=4.104
ap_nms_2SK579_19930601	Basic Description: NMOS Transistor, Part number: 2SK579, Key parameters: Vto=3.355352 Kp=1.375125
ap_nms_2SK580_19930601	Manufacturer: Hitachi, Basic Description: NMOS Transistor, Part number: 2SK580, Key parameters: Vto=3.395 Kp=1.588
ap_nms_2SK811_19930601	Manufacturer: NEC, Basic Description: NMOS Transistor, Part number: 2SK811, Key parameters: Vto=1.732 Kp=9.516
ap_nms_2SK817_19930601	Manufacturer: NEC, Basic Description: NMOS Transistor, Part number: 2SK817, Key parameters: Vto=1.835 Kp=46.049
ap_nms_BS107_19930601	Manufacturer: Siliconix, Basic Description: NMOS Transistor, Part number: BS107, Key parameters: Vto=2.372 Kp=0.28
ap_nms_BS170_19930601	Manufacturer: Motorola, Basic Description: NMOS Transistor, Part number: BS170, Key parameters: Vto=3.8 Kp=9
ap_nms_BUZ11A_19930601	Basic Description: NMOS Transistor, Part number: BUZ11A, Key parameters: Vto=2.958 Kp=5.369
ap_nms_BUZ41A_19930601	Manufacturer: Ampere, Basic Description: NMOS Transistor, Part number: BUZ41A, Key parameters: Vto=3.25 Kp=3.879
ap_nms_BUZ71A_19930601	Manufacturer: Siemens, Basic Description: NMOS Transistor, Part number: BUZ71A, Key parameters: Vto=3 Kp=4.17
ap_nms_BUZ71_19930601	Manufacturer: Siemens, Basic Description: NMOS Transistor, Part number: BUZ71, Key parameters: Vto=3 Kp=4.17
ap_nms_IDEALNMOS_19930601	Basic Description: NMOS Transistor, Part number: IDEALNMOS, Key parameters: Vto=1 Kp=1E-05
ap_nms_IRF034_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF034, Package: Rectifier, Key parameters: Vto=3.441 Kp=21.5e-6
ap_nms_IRF035_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF035, Package: Rectifier, Key parameters: Vto=3.441 Kp=20.69e-6
ap_nms_IRF044_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF044, Package: Rectifier, Key parameters: Vto=3.441 Kp=21.21e-6
ap_nms_IRF045_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF045, Package: Rectifier, Key parameters: Vto=3.441

	Kp=21.21e-6
ap_nms_IRF120_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF120, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF120_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF120, Package: Rectifier, Key parameters: Vto=3.762 Kp=20.62e-6
ap_nms_IRF121_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF121, Key parameters: Vto=3.417 Kp=5.646
ap_nms_IRF121_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF121, Package: Rectifier, Key parameters: Vto=3.762 Kp=20.62e-6
ap_nms_IRF122_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF122, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF122_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF122, Package: Rectifier, Key parameters: Vto=3.762 Kp=20.58e-6
ap_nms_IRF123_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF123, Key parameters: Vto=3.417 Kp=5.646
ap_nms_IRF123_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF123, Package: Rectifier, Key parameters: Vto=3.762 Kp=20.58e-6
ap_nms_IRF130_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF130, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF130_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF130, Package: Rectifier, Key parameters: Vto=3.412 Kp=20.8e-6
ap_nms_IRF131_19930601	Basic Description: NMOS Transistor, Part number: IRF131, Key parameters: Vto=2.511 Kp=2.0357
ap_nms_IRF131_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF131, Package: Rectifier, Key parameters: Vto=3.412 Kp=20.8e-6
ap_nms_IRF132_19930601	Basic Description: NMOS Transistor, Part number: IRF132, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF132_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF132, Package: Rectifier, Key parameters: Vto=3.373 Kp=20.68e-6
ap_nms_IRF133_19930601	Basic Description: NMOS Transistor, Part number: IRF133, Key parameters: Vto=3.093 Kp=4.51
ap_nms_IRF133_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF133, Package: Rectifier, Key parameters: Vto=3.373 Kp=20.68e-6
ap_nms_IRF140_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF140, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF140_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF140, Package: Rectifier, Key parameters: Vto=3.189 Kp=20.61e-6
ap_nms_IRF141_19930601	Basic Description: NMOS Transistor, Part number: IRF141, Key parameters: Vto=3.477 Kp=8.196
ap_nms_IRF141_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF141, Package: Rectifier, Key parameters: Vto=3.189 Kp=20.61e-6



ap_nms_IRF142_19930601	Basic Description: NMOS Transistor, Part number: IRF142, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF142_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF142, Package: Rectifier, Key parameters: Vto=3.189 Kp=20.61e-6
ap_nms_IRF143_19930601	Basic Description: NMOS Transistor, Part number: IRF143, Key parameters: Vto=3.477 Kp=8.196
ap_nms_IRF143_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF143, Package: Rectifier, Key parameters: Vto=3.189 Kp=20.61e-6
ap_nms_IRF150_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF150, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF150_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF150, Package: Rectifier, Key parameters: Vto=2.831 Kp=20.53e-6
ap_nms_IRF151_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF151, Key parameters: Vto=3.218 Kp=5.447
ap_nms_IRF151_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF151, Package: Rectifier, Key parameters: Vto=2.831 Kp=20.53e-6
ap_nms_IRF152_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF152, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF152_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF152, Package: Rectifier, Key parameters: Vto=2.831 Kp=20.53e-6
ap_nms_IRF153_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF153, Key parameters: Vto=3.218 Kp=5.447
ap_nms_IRF153_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF153, Package: Rectifier, Key parameters: Vto=2.831 Kp=20.53e-6
ap_nms_IRF220_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF220, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF220_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF220, Package: Rectifier, Key parameters: Vto=3.077 Kp=21.11e-6
ap_nms_IRF221_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF221, Key parameters: Vto=3.532 Kp=8.269
ap_nms_IRF221_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF221, Package: Rectifier, Key parameters: Vto=3.077 Kp=21.11e-6
ap_nms_IRF222_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF222, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF222_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF222, Package: Rectifier, Key parameters: Vto=3.077 Kp=20.53e-6
ap_nms_IRF223_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF223, Key parameters: Vto=3.532 Kp=8.269
ap_nms_IRF223_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF223, Package: Rectifier, Key parameters: Vto=3.077 Kp=20.53e-6
ap_nms_IRF224_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF224, Package: Rectifier, Key parameters: Vto=3.803

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	Kp=20.12e-6
ap_nms_IRF225_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF225, Package: Rectifier, Key parameters: Vto=3.803 Kp=20.12e-6
ap_nms_IRF230_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF230, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF230_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF230, Package: Rectifier, Key parameters: Vto=3.436 Kp=20.8e-6
ap_nms_IRF231_19930601	Basic Description: NMOS Transistor, Part number: IRF231, Key parameters: Vto=3.53 Kp=11.33
ap_nms_IRF231_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF231, Package: Rectifier, Key parameters: Vto=3.436 Kp=20.8e-6
ap_nms_IRF232_19930601	Basic Description: NMOS Transistor, Part number: IRF232, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF232_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF232, Package: Rectifier, Key parameters: Vto=3.37 Kp=20.73e-6
ap_nms_IRF233_19930601	Basic Description: NMOS Transistor, Part number: IRF233, Key parameters: Vto=3.53 Kp=11.33
ap_nms_IRF233_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF233, Package: Rectifier, Key parameters: Vto=3.37 Kp=20.73e-6
ap_nms_IRF234_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF234, Package: Rectifier, Key parameters: Vto=3.866 Kp=20.56e-6
ap_nms_IRF235_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF235, Package: Rectifier, Key parameters: Vto=3.866 Kp=20.66e-6
ap_nms_IRF240_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF240, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF240_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF240, Package: Rectifier, Key parameters: Vto=3.814 Kp=20.82e-6
ap_nms_IRF241_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF241, Key parameters: Vto=4.121 Kp=47.285
ap_nms_IRF241_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF241, Package: Rectifier, Key parameters: Vto=3.814 Kp=20.82e-6
ap_nms_IRF242_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF242, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF242_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF242, Package: Rectifier, Key parameters: Vto=3.814 Kp=20.82e-6
ap_nms_IRF243_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF243, Key parameters: Vto=4.121 Kp=47.285
ap_nms_IRF243_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF243, Package: Rectifier, Key parameters: Vto=3.814 Kp=20.82e-6
ap_nms_IRF244_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part

	number: IRF244, Package: Rectifier, Key parameters: Vto=3.405 Kp=20.58e-6
ap_nms_IRF245_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF245, Package: Rectifier, Key parameters: Vto=3.405 Kp=20.58e-6
ap_nms_IRF250_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF250, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF250_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF250, Package: Rectifier, Key parameters: Vto=3.804 Kp=19.93e-6
ap_nms_IRF251_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF251, Key parameters: Vto=3.196 Kp=9.894
ap_nms_IRF251_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF251, Package: Rectifier, Key parameters: Vto=3.804 Kp=19.93e-6
ap_nms_IRF252_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF252, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF252_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF252, Package: Rectifier, Key parameters: Vto=3.794 Kp=20.86e-6
ap_nms_IRF253_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF253, Key parameters: Vto=3.196 Kp=9.894
ap_nms_IRF253_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF253, Package: Rectifier, Key parameters: Vto=3.794 Kp=20.86e-6
ap_nms_IRF254_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF254, Package: Rectifier, Key parameters: Vto=3.613 Kp=20.66e-6
ap_nms_IRF255_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF255, Package: Rectifier, Key parameters: Vto=3.613 Kp=20.66e-6
ap_nms_IRF320_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF320, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF320_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF320, Package: Rectifier, Key parameters: Vto=3.710 Kp=20.94e-6
ap_nms_IRF321_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF321, Key parameters: Vto=3.341 Kp=3.422
ap_nms_IRF321_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF321, Package: Rectifier, Key parameters: Vto=3.710 Kp=20.94e-6
ap_nms_IRF322_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF322, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF322_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF322, Package: Rectifier, Key parameters: Vto=3.710 Kp=20.94e-6
ap_nms_IRF323_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF323, Key parameters: Vto=3.341 Kp=3.422
ap_nms_IRF323_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF323, Package: Rectifier, Key parameters: Vto=3.710 Kp=20.94e-6
ap_nms_IRF330_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor,

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	Part number: IRF330, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF330_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF330, Package: Rectifier, Key parameters: Vto=3.6 Kp=20.47e-6
ap_nms_IRF331_19930601	Basic Description: NMOS Transistor, Part number: IRF331, Key parameters: Vto=3.42 Kp=6.413
ap_nms_IRF331_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF331, Package: Rectifier, Key parameters: Vto=3.6 Kp=20.47e-6
ap_nms_IRF332_19930601	Basic Description: NMOS Transistor, Part number: IRF332, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF332_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF332, Package: Rectifier, Key parameters: Vto=3.6 Kp=20.47e-6
ap_nms_IRF333_19930601	Basic Description: NMOS Transistor, Part number: IRF333, Key parameters: Vto=3.42 Kp=6.413
ap_nms_IRF333_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF333, Package: Rectifier, Key parameters: Vto=3.6 Kp=20.47e-6
ap_nms_IRF340_19930601	Basic Description: NMOS Transistor, Part number: IRF340, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF340_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF340, Package: Rectifier, Key parameters: Vto=3.503 Kp=20.79e-6
ap_nms_IRF341_19930601	Basic Description: NMOS Transistor, Part number: IRF341, Key parameters: Vto=4.071 Kp=18.45
ap_nms_IRF341_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF341, Package: Rectifier, Key parameters: Vto=3.503 Kp=20.79e-6
ap_nms_IRF342_19930601	Basic Description: NMOS Transistor, Part number: IRF342, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF342_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF342, Package: Rectifier, Key parameters: Vto=3.503 Kp=20.79e-6
ap_nms_IRF343_19930601	Basic Description: NMOS Transistor, Part number: IRF343, Key parameters: Vto=4.071 Kp=18.45
ap_nms_IRF343_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF343, Package: Rectifier, Key parameters: Vto=3.503 Kp=20.79e-6
ap_nms_IRF350_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF350, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF350_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF350, Package: Rectifier, Key parameters: Vto=3.234 Kp=20.75e-6
ap_nms_IRF351_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF351, Key parameters: Vto=3.02 Kp=6.01
ap_nms_IRF351_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF351, Package: Rectifier, Key parameters: Vto=3.234 Kp=20.75e-6
ap_nms_IRF352_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF352, Key parameters: Vto=3 Kp=2.59155E-05

ap_nms_IRF352_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF352, Package: Rectifier, Key parameters: Vto=3.234 Kp=20.75e-6
ap_nms_IRF353_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF353, Key parameters: Vto=3.02 Kp=6.01
ap_nms_IRF353_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF353, Package: Rectifier, Key parameters: Vto=3.234 Kp=20.75e-6
ap_nms_IRF360_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF360, Package: Rectifier, Key parameters: Vto=3.820 Kp=21.24e-6
ap_nms_IRF362_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF362, Package: Rectifier, Key parameters: Vto=3.820 Kp=21.24e-6
ap_nms_IRF420_19930601	Basic Description: NMOS Transistor, Part number: IRF420, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF420_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF420, Package: Rectifier, Key parameters: Vto=3.827 Kp=21.11e-6
ap_nms_IRF421_19930601	Basic Description: NMOS Transistor, Part number: IRF421, Key parameters: Vto=4.054 Kp=3.452
ap_nms_IRF421_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF421, Package: Rectifier, Key parameters: Vto=3.827 Kp=21.11e-6
ap_nms_IRF422_19930601	Basic Description: NMOS Transistor, Part number: IRF422, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF422_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF422, Package: Rectifier, Key parameters: Vto=3.827 Kp=21.11e-6
ap_nms_IRF423_19930601	Basic Description: NMOS Transistor, Part number: IRF423, Key parameters: Vto=4.054 Kp=3.452
ap_nms_IRF423_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF423, Package: Rectifier, Key parameters: Vto=3.827 Kp=21.11e-6
ap_nms_IRF430_19930601	Basic Description: NMOS Transistor, Part number: IRF430, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF430_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF430, Package: Rectifier, Key parameters: Vto=3.783 Kp=20.56e-6
ap_nms_IRF431_19930601	Basic Description: NMOS Transistor, Part number: IRF431, Key parameters: Vto=3.457 Kp=4.956
ap_nms_IRF431_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF431, Package: Rectifier, Key parameters: Vto=3.783 Kp=20.56e-6
ap_nms_IRF432_19930601	Basic Description: NMOS Transistor, Part number: IRF432, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF432_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF432, Package: Rectifier, Key parameters: Vto=3.783 Kp=20.56e-6
ap_nms_IRF433_19930601	Basic Description: NMOS Transistor, Part number: IRF433, Key parameters: Vto=3.457 Kp=4.956
ap_nms_IRF433_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part



	number: IRF433, Package: Rectifier, Key parameters: Vto=3.783 Kp=20.56e-6
ap_nms_IRF440_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF440, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF440_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF440, Package: Rectifier, Key parameters: Vto=3.873 Kp=20.87e-6
ap_nms_IRF441_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF441, Package: Rectifier, Key parameters: Vto=3.873 Kp=20.87e-6
ap_nms_IRF442_19930601	Basic Description: NMOS Transistor, Part number: IRF442, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF442_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF442, Package: Rectifier, Key parameters: Vto=3.873 Kp=20.87e-6
ap_nms_IRF443_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF443, Package: Rectifier, Key parameters: Vto=3.873 Kp=20.87e-6
ap_nms_IRF448_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF448, Package: Rectifier, Key parameters: Vto=3.748 Kp=20.7e-6
ap_nms_IRF449_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF449, Package: Rectifier, Key parameters: Vto=3.748 Kp=20.7e-6
ap_nms_IRF450_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF450, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF450_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF450, Package: Rectifier, Key parameters: Vto=3.635 Kp=20.2e-6
ap_nms_IRF451_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF451, Key parameters: Vto=3.3336 Kp=9.2726
ap_nms_IRF451_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF451, Package: Rectifier, Key parameters: Vto=3.635 Kp=20.2e-6
ap_nms_IRF452_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF452, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF452_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF452, Package: Rectifier, Key parameters: Vto=3.635 Kp=20.2e-6
ap_nms_IRF453_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF453, Key parameters: Vto=3.3336 Kp=9.2726
ap_nms_IRF453_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF453, Package: Rectifier, Key parameters: Vto=3.635 Kp=20.2e-6
ap_nms_IRF460_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF460, Package: Rectifier, Key parameters: Vto=3.402 Kp=20.84e-6
ap_nms_IRF462_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF462, Package: Rectifier, Key parameters: Vto=3.402 Kp=20.84e-6
ap_nms_IRF510_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF510, Key parameters: Vto=3 Kp=2.59155E-05

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ap_nms_IRF510_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF510, Package: Rectifier, Key parameters: Vto=3.697 Kp=20.68e-6
ap_nms_IRF511_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF511, Key parameters: Vto=3.75 Kp=2.8
ap_nms_IRF511_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF511, Package: Rectifier, Key parameters: Vto=3.697 Kp=20.68e-6
ap_nms_IRF512_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF512, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF512_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF512, Package: Rectifier, Key parameters: Vto=3.697 Kp=20.68e-6
ap_nms_IRF513_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF513, Key parameters: Vto=3.75 Kp=2.8
ap_nms_IRF513_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF513, Package: Rectifier, Key parameters: Vto=3.697 Kp=20.68e-6
ap_nms_IRF520_19930601	Basic Description: NMOS Transistor, Part number: IRF520, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF520_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF520, Package: Rectifier, Key parameters: Vto=3.59 Kp=20.79e-6
ap_nms_IRF521_19930601	Basic Description: NMOS Transistor, Part number: IRF521, Key parameters: Vto=3.417 Kp=5.646
ap_nms_IRF521_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF521, Package: Rectifier, Key parameters: Vto=3.59 Kp=20.79e-6
ap_nms_IRF522_19930601	Basic Description: NMOS Transistor, Part number: IRF522, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF522_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF522, Package: Rectifier, Key parameters: Vto=3.59 Kp=20.79e-6
ap_nms_IRF523_19930601	Basic Description: NMOS Transistor, Part number: IRF523, Key parameters: Vto=3.417 Kp=5.646
ap_nms_IRF523_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF523, Package: Rectifier, Key parameters: Vto=3.59 Kp=20.79e-6
ap_nms_IRF530_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF530, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF530_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF530, Package: Rectifier, Key parameters: Vto=3.191 Kp=20.73e-6
ap_nms_IRF531_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF531, Key parameters: Vto=2.511 Kp=2.0357
ap_nms_IRF531_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF531, Package: Rectifier, Key parameters: Vto=3.191 Kp=20.73e-6
ap_nms_IRF532_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF532, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF532_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part

	number: IRF532, Package: Rectifier, Key parameters: Vto=3.191 Kp=20.73e-6
ap_nms_IRF533_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF533, Key parameters: Vto=3.093 Kp=4.51
ap_nms_IRF533_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF533, Package: Rectifier, Key parameters: Vto=3.191 Kp=20.73e-6
ap_nms_IRF540_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF540, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF540_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF540, Package: Rectifier, Key parameters: Vto=3.136 Kp=20.71e-6
ap_nms_IRF541_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF541, Key parameters: Vto=3.477 Kp=8.196
ap_nms_IRF541_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF541, Package: Rectifier, Key parameters: Vto=3.136 Kp=20.71e-6
ap_nms_IRF542_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF542, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF542_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF542, Package: Rectifier, Key parameters: Vto=3.136 Kp=20.71e-6
ap_nms_IRF543_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF543, Key parameters: Vto=3.477 Kp=8.196
ap_nms_IRF543_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF543, Package: Rectifier, Key parameters: Vto=3.136 Kp=20.71e-6
ap_nms_IRF610_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF610, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF610_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF610, Package: Rectifier, Key parameters: Vto=3.886 Kp=20.77e-6
ap_nms_IRF611_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF611, Key parameters: Vto=4.082 Kp=2.361
ap_nms_IRF611_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF611, Package: Rectifier, Key parameters: Vto=3.886 Kp=20.77e-6
ap_nms_IRF612_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF612, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF612_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF612, Package: Rectifier, Key parameters: Vto=3.886 Kp=20.77e-6
ap_nms_IRF613_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF613, Key parameters: Vto=4.082 Kp=2.361
ap_nms_IRF613_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF613, Package: Rectifier, Key parameters: Vto=3.886 Kp=20.77e-6
ap_nms_IRF614_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF614, Package: Rectifier, Key parameters: Vto=3.828 Kp=21.18e-6
ap_nms_IRF615_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF615, Package: Rectifier, Key parameters: Vto=3.828

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	Kp=21.18e-6
ap_nms_IRF620_19930601	Basic Description: NMOS Transistor, Part number: IRF620, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF620_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF620, Package: Rectifier, Key parameters: Vto=3.083 Kp=20.39e-6
ap_nms_IRF621_19930601	Basic Description: NMOS Transistor, Part number: IRF621, Key parameters: Vto=3.532 Kp=8.269
ap_nms_IRF621_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF621, Package: Rectifier, Key parameters: Vto=3.083 Kp=20.39e-6
ap_nms_IRF622_19930601	Basic Description: NMOS Transistor, Part number: IRF622, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF622_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF622, Package: Rectifier, Key parameters: Vto=3.083 Kp=20.39e-6
ap_nms_IRF623_19930601	Basic Description: NMOS Transistor, Part number: IRF623, Key parameters: Vto=3.532 Kp=8.269
ap_nms_IRF623_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF623, Package: Rectifier, Key parameters: Vto=3.083 Kp=20.39e-6
ap_nms_IRF624_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF624, Package: Rectifier, Key parameters: Vto=3.682 Kp=20.25e-6
ap_nms_IRF625_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF625, Package: Rectifier, Key parameters: Vto=3.682 Kp=20.25e-6
ap_nms_IRF630_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF630, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF630_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF630, Package: Rectifier, Key parameters: Vto=3.513 Kp=20.8e-6
ap_nms_IRF631_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF631, Key parameters: Vto=3.53 Kp=11.33
ap_nms_IRF631_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF631, Package: Rectifier, Key parameters: Vto=3.513 Kp=20.8e-6
ap_nms_IRF632_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF632, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF632_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF632, Package: Rectifier, Key parameters: Vto=3.513 Kp=20.8e-6
ap_nms_IRF633_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF633, Key parameters: Vto=3.53 Kp=11.33
ap_nms_IRF633_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF633, Package: Rectifier, Key parameters: Vto=3.513 Kp=20.8e-6
ap_nms_IRF634_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF634, Package: Rectifier, Key parameters: Vto=3.888 Kp=20.44e-6
ap_nms_IRF635_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part

	number: IRF635, Package: Rectifier, Key parameters: Vto=3.888 Kp=20.44e-6
ap_nms_IRF640_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF640, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF640_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF640, Package: Rectifier, Key parameters: Vto=3.788 Kp=20.73e-6
ap_nms_IRF641_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF641, Key parameters: Vto=3.535 Kp=5.7773
ap_nms_IRF641_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF641, Package: Rectifier, Key parameters: Vto=3.788 Kp=20.73e-6
ap_nms_IRF642_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF642, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF642_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF642, Package: Rectifier, Key parameters: Vto=3.788 Kp=20.73e-6
ap_nms_IRF643_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF643, Key parameters: Vto=3.535 Kp=5.7773
ap_nms_IRF643_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF643, Package: Rectifier, Key parameters: Vto=3.788 Kp=20.73e-6
ap_nms_IRF644_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF644, Package: Rectifier, Key parameters: Vto=3.389 Kp=20.86e-6
ap_nms_IRF645_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF645, Package: Rectifier, Key parameters: Vto=3.389 Kp=20.86e-6
ap_nms_IRF710_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF710, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF710_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF710, Package: Rectifier, Key parameters: Vto=3.553 Kp=21.18e-6
ap_nms_IRF711_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF711, Key parameters: Vto=3.602 Kp=0.448
ap_nms_IRF711_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF711, Package: Rectifier, Key parameters: Vto=3.553 Kp=21.18e-6
ap_nms_IRF712_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF712, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF712_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF712, Package: Rectifier, Key parameters: Vto=3.553 Kp=21.18e-6
ap_nms_IRF713_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF713, Key parameters: Vto=3.602 Kp=0.448
ap_nms_IRF713_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF713, Package: Rectifier, Key parameters: Vto=3.553 Kp=21.18e-6
ap_nms_IRF720_19930601	Basic Description: NMOS Transistor, Part number: IRF720, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF720_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF720, Package: Rectifier, Key parameters: Vto=3.78



	Kp=20.58e-6
ap_nms_IRF721_19930601	Basic Description: NMOS Transistor, Part number: IRF721, Key parameters: Vto=3.341 Kp=3.422
ap_nms_IRF721_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF721, Package: Rectifier, Key parameters: Vto=3.78 Kp=20.58e-6
ap_nms_IRF722_19930601	Basic Description: NMOS Transistor, Part number: IRF722, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF722_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF722, Package: Rectifier, Key parameters: Vto=3.78 Kp=20.58e-6
ap_nms_IRF723_19930601	Basic Description: NMOS Transistor, Part number: IRF723, Key parameters: Vto=3.341 Kp=3.422
ap_nms_IRF723_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF723, Package: Rectifier, Key parameters: Vto=3.78 Kp=20.58e-6
ap_nms_IRF730_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF730, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF730_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF730, Package: Rectifier, Key parameters: Vto=3.474 Kp=20.5e-6
ap_nms_IRF731_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF731, Key parameters: Vto=3.42 Kp=6.413
ap_nms_IRF731_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF731, Package: Rectifier, Key parameters: Vto=3.474 Kp=20.5e-6
ap_nms_IRF732_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF732, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF732_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF732, Package: Rectifier, Key parameters: Vto=3.474 Kp=20.5e-6
ap_nms_IRF733_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF733, Key parameters: Vto=3.42 Kp=6.413
ap_nms_IRF733_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF733, Package: Rectifier, Key parameters: Vto=3.474 Kp=20.5e-6
ap_nms_IRF740_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF740, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF740_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF740, Package: Rectifier, Key parameters: Vto=3.657 Kp=20.59e-6
ap_nms_IRF741_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF741, Key parameters: Vto=4.071 Kp=18.45
ap_nms_IRF741_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF741, Package: Rectifier, Key parameters: Vto=3.657 Kp=20.59e-6
ap_nms_IRF742_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF742, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF742_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF742, Package: Rectifier, Key parameters: Vto=3.657 Kp=20.59e-6

ap_nms_IRF743_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF743, Key parameters: Vto=4.071 Kp=18.45
ap_nms_IRF743_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF743, Package: Rectifier, Key parameters: Vto=3.657 Kp=20.59e-6
ap_nms_IRF820_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF820, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF820_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF820, Package: Rectifier, Key parameters: Vto=3.858 Kp=20.23e-6
ap_nms_IRF821_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF821, Key parameters: Vto=4.054 Kp=3.452
ap_nms_IRF821_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF821, Package: Rectifier, Key parameters: Vto=3.858 Kp=20.23e-6
ap_nms_IRF822_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF822, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF822_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF822, Package: Rectifier, Key parameters: Vto=3.858 Kp=20.23e-6
ap_nms_IRF823_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF823, Key parameters: Vto=4.054 Kp=3.452
ap_nms_IRF823_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF823, Package: Rectifier, Key parameters: Vto=3.858 Kp=20.23e-6
ap_nms_IRF830_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF830, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF830_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF830, Package: Rectifier, Key parameters: Vto=3.749 Kp=20.55e-6
ap_nms_IRF831_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF831, Key parameters: Vto=3.457 Kp=4.956
ap_nms_IRF831_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF831, Package: Rectifier, Key parameters: Vto=3.749 Kp=20.55e-6
ap_nms_IRF832_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF832, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF832_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF832, Package: Rectifier, Key parameters: Vto=3.749 Kp=20.55e-6
ap_nms_IRF833_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRF833, Key parameters: Vto=3.457 Kp=4.956
ap_nms_IRF833_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF833, Package: Rectifier, Key parameters: Vto=3.749 Kp=20.55e-6
ap_nms_IRF840_19930601	Basic Description: NMOS Transistor, Part number: IRF840, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF840_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF840, Package: Rectifier, Key parameters: Vto=3.879 Kp=20.85e-6
ap_nms_IRF841_19930601	Basic Description: NMOS Transistor, Part number: IRF841, Key parameters: Vto=3.62 Kp=7.47

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ap_nms_IRF841_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF841, Package: Rectifier, Key parameters: Vto=3.879 Kp=20.85e-6
ap_nms_IRF842_19930601	Basic Description: NMOS Transistor, Part number: IRF842, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_IRF842_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF842, Package: Rectifier, Key parameters: Vto=3.879 Kp=20.85e-6
ap_nms_IRF843_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRF843, Package: Rectifier, Key parameters: Vto=3.879 Kp=20.85e-6
ap_nms_IRFAC30_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFAC30, Package: Rectifier, Key parameters: Vto=3.712 Kp=20.5e-6
ap_nms_IRFAC32_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFAC32, Package: Rectifier, Key parameters: Vto=3.712 Kp=20.5e-6
ap_nms_IRFAC40_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFAC40, Package: Rectifier, Key parameters: Vto=3.513 Kp=20.66e-6
ap_nms_IRFAC42_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFAC42, Package: Rectifier, Key parameters: Vto=3.513 Kp=20.66e-6
ap_nms_IRFAE40_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFAE40, Package: Rectifier, Key parameters: Vto=3.879 Kp=20.72e-6
ap_nms_IRFAE42_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFAE42, Package: Rectifier, Key parameters: Vto=3.879 Kp=20.72e-6
ap_nms_IRFAE50_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFAE50, Package: Rectifier, Key parameters: Vto=3.94 Kp=20.7e-6
ap_nms_IRFAE52_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFAE52, Package: Rectifier, Key parameters: Vto=3.94 Kp=20.7e-6
ap_nms_IRFAF40_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFAF40, Package: Rectifier, Key parameters: Vto=3.898 Kp=20.75e-6
ap_nms_IRFAF42_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFAF42, Package: Rectifier, Key parameters: Vto=3.898 Kp=20.75e-6
ap_nms_IRFAF50_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFAF50, Package: Rectifier, Key parameters: Vto=3.931 Kp=20.79e-6
ap_nms_IRFAF52_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFAF52, Package: Rectifier, Key parameters: Vto=3.931 Kp=20.79e-6
ap_nms_IRFAG40_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFAG40, Package: Rectifier, Key parameters: Vto=3.931 Kp=20.84e-6
ap_nms_IRFAG42_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFAG42, Package: Rectifier, Key parameters: Vto=3.931

	Kp=20.84e-6
ap_nms_IRFAG50_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFAG50, Package: Rectifier, Key parameters: Vto=3.924 Kp=20.8e-6
ap_nms_IRFAG52_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFAG52, Package: Rectifier, Key parameters: Vto=3.924 Kp=20.8e-6
ap_nms_IRFBC30_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFBC30, Package: Rectifier, Key parameters: Vto=3.625 Kp=20.43e-6
ap_nms_IRFBC32_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFBC32, Package: Rectifier, Key parameters: Vto=3.625 Kp=20.43e-6
ap_nms_IRFBC40_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFBC40, Package: Rectifier, Key parameters: Vto=3.438 Kp=20.85e-6
ap_nms_IRFBC42_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFBC42, Package: Rectifier, Key parameters: Vto=3.438 Kp=20.85e-6
ap_nms_IRFD010_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFD010, Package: Rectifier, Key parameters: Vto=3.129 Kp=20.33e-6
ap_nms_IRFD012_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFD012, Package: Rectifier, Key parameters: Vto=3.129 Kp=20.33e-6
ap_nms_IRFD020_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFD020, Package: Rectifier, Key parameters: Vto=3.913 Kp=20.55e-6
ap_nms_IRFD022_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFD022, Package: Rectifier, Key parameters: Vto=3.913 Kp=20.55e-6
ap_nms_IRFD110_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFD110, Package: Rectifier, Key parameters: Vto=3.759 Kp=20.81e-6
ap_nms_IRFD113_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFD113, Package: Rectifier, Key parameters: Vto=3.759 Kp=20.81e-6
ap_nms_IRFD120_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRFD120, Key parameters: Vto=3.417 Kp=5.646
ap_nms_IRFD120_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFD120, Package: Rectifier, Key parameters: Vto=2.995 Kp=20.66e-6
ap_nms_IRFD123_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFD123, Package: Rectifier, Key parameters: Vto=2.995 Kp=20.66e-6
ap_nms_IRFD1Z0_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFD1Z0, Package: Rectifier, Key parameters: Vto=3.936 Kp=21.17e-6
ap_nms_IRFD1Z3_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFD1Z3, Package: Rectifier, Key parameters: Vto=3.936 Kp=21.17e-6
ap_nms_IRFD210_19930601	Basic Description: NMOS Transistor, Part number: IRFD210, Key

	parameters: Vto=4.082 Kp=2.361
ap_nms_IRFD210_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFD210, Package: Rectifier, Key parameters: Vto=3.648 Kp=20.76e-6
ap_nms_IRFD213_19930601	Basic Description: NMOS Transistor, Part number: IRFD213, Key parameters: Vto=4.082 Kp=2.361
ap_nms_IRFD213_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFD213, Package: Rectifier, Key parameters: Vto=3.648 Kp=20.76e-6
ap_nms_IRFD220_19930601	Basic Description: NMOS Transistor, Part number: IRFD220, Key parameters: Vto=3.532 Kp=8.269
ap_nms_IRFD220_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFD220, Package: Rectifier, Key parameters: Vto=3.115 Kp=21.04e-6
ap_nms_IRFD223_19930601	Basic Description: NMOS Transistor, Part number: IRFD223, Key parameters: Vto=3.532 Kp=8.269
ap_nms_IRFD223_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFD223, Package: Rectifier, Key parameters: Vto=3.115 Kp=21.04e-6
ap_nms_IRFF110_19930601	Basic Description: NMOS Transistor, Part number: IRFF110, Key parameters: Vto=3.75 Kp=2.8
ap_nms_IRFF110_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFF110, Package: Rectifier, Key parameters: Vto=3.694 Kp=20.82e-6
ap_nms_IRFF111_19930601	Basic Description: NMOS Transistor, Part number: IRFF111, Key parameters: Vto=3.75 Kp=2.8
ap_nms_IRFF111_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFF111, Package: Rectifier, Key parameters: Vto=3.694 Kp=20.82e-6
ap_nms_IRFF112_19930601	Basic Description: NMOS Transistor, Part number: IRFF112, Key parameters: Vto=3.75 Kp=2.8
ap_nms_IRFF112_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFF112, Package: Rectifier, Key parameters: Vto=3.694 Kp=20.82e-6
ap_nms_IRFF113_19930601	Basic Description: NMOS Transistor, Part number: IRFF113, Key parameters: Vto=3.75 Kp=2.8
ap_nms_IRFF113_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFF113, Package: Rectifier, Key parameters: Vto=3.694 Kp=20.82e-6
ap_nms_IRFF120_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFF120, Package: Rectifier, Key parameters: Vto=3.251 Kp=20.55e-6
ap_nms_IRFF121_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFF121, Package: Rectifier, Key parameters: Vto=3.251 Kp=20.55e-6
ap_nms_IRFF122_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFF122, Package: Rectifier, Key parameters: Vto=3.251 Kp=20.55e-6
ap_nms_IRFF123_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFF123, Package: Rectifier, Key parameters: Vto=3.251 Kp=20.55e-6
ap_nms_IRFF130_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor,



	Part number: IRFF130, Key parameters: Vto=3.298 Kp=6.868
ap_nms_IRFF130_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFF130, Package: Rectifier, Key parameters: Vto=3.214 Kp=20.79e-6
ap_nms_IRFF131_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFF131, Package: Rectifier, Key parameters: Vto=3.214 Kp=20.79e-6
ap_nms_IRFF132_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFF132, Package: Rectifier, Key parameters: Vto=3.214 Kp=20.79e-6
ap_nms_IRFF133_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFF133, Package: Rectifier, Key parameters: Vto=3.214 Kp=20.79e-6
ap_nms_IRFF210_19930601	Basic Description: NMOS Transistor, Part number: IRFF210, Key parameters: Vto=4.082 Kp=2.361
ap_nms_IRFF210_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFF210, Package: Rectifier, Key parameters: Vto=3.807 Kp=20.8e-6
ap_nms_IRFF211_19930601	Basic Description: NMOS Transistor, Part number: IRFF211, Key parameters: Vto=4.082 Kp=2.361
ap_nms_IRFF211_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFF211, Package: Rectifier, Key parameters: Vto=3.807 Kp=20.8e-6
ap_nms_IRFF212_19930601	Basic Description: NMOS Transistor, Part number: IRFF212, Key parameters: Vto=4.082 Kp=2.361
ap_nms_IRFF212_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFF212, Package: Rectifier, Key parameters: Vto=3.807 Kp=20.8e-6
ap_nms_IRFF213_19930601	Basic Description: NMOS Transistor, Part number: IRFF213, Key parameters: Vto=4.082 Kp=2.361
ap_nms_IRFF213_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFF213, Package: Rectifier, Key parameters: Vto=3.807 Kp=20.8e-6
ap_nms_IRFF220_19930601	Basic Description: NMOS Transistor, Part number: IRFF220, Key parameters: Vto=3.532 Kp=8.269
ap_nms_IRFF220_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFF220, Package: Rectifier, Key parameters: Vto=3.101 Kp=21.11e-6
ap_nms_IRFF221_19930601	Basic Description: NMOS Transistor, Part number: IRFF221, Key parameters: Vto=3.532 Kp=8.269
ap_nms_IRFF221_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFF221, Package: Rectifier, Key parameters: Vto=3.101 Kp=21.11e-6
ap_nms_IRFF222_19930601	Basic Description: NMOS Transistor, Part number: IRFF222, Key parameters: Vto=3.532 Kp=8.269
ap_nms_IRFF222_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFF222, Package: Rectifier, Key parameters: Vto=3.101 Kp=21.11e-6
ap_nms_IRFF223_19930601	Basic Description: NMOS Transistor, Part number: IRFF223, Key parameters: Vto=3.532 Kp=8.269
ap_nms_IRFF223_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part

	number: IRFF223, Package: Rectifier, Key parameters: Vto=3.101 Kp=21.11e-6
ap_nms_IRFF230_19930601	Manufacturer: International_Rectifier, Basic Description: NMOS Transistor, Part number: IRFF230, Key parameters: Vto=3.3736 Kp=6.7727
ap_nms_IRFF230_19930602	Manufacturer: International, Basic Description: NMOS Transistor, Part number: IRFF230, Package: Rectifier, Key parameters: Vto=3.414 Kp=20.77e-6
ap_nms_IRFF231_19930601	Basic Description: NMOS Transistor, Part number: IRFF231, Key parameters: Vto=3.53 Kp=11.33
ap_nms_IRFF232_19930601	Basic Description: NMOS Transistor, Part number: IRFF232, Key parameters: Vto=3.53 Kp=11.33
ap_nms_IRFF233_19930601	Basic Description: NMOS Transistor, Part number: IRFF233, Key parameters: Vto=3.53 Kp=11.33
ap_nms_IRFF310_19930601	Basic Description: NMOS Transistor, Part number: IRFF310, Key parameters: Vto=3.65 Kp=0.62
ap_nms_IRFF311_19930601	Basic Description: NMOS Transistor, Part number: IRFF311, Key parameters: Vto=3.602 Kp=0.448
ap_nms_IRFF312_19930601	Basic Description: NMOS Transistor, Part number: IRFF312, Key parameters: Vto=3.602 Kp=0.448
ap_nms_IRFF313_19930601	Basic Description: NMOS Transistor, Part number: IRFF313, Key parameters: Vto=3.602 Kp=0.448
ap_nms_IRFF320_19930601	Basic Description: NMOS Transistor, Part number: IRFF320, Key parameters: Vto=3.341 Kp=3.422
ap_nms_IRFF321_19930601	Basic Description: NMOS Transistor, Part number: IRFF321, Key parameters: Vto=3.341 Kp=3.422
ap_nms_IRFF322_19930601	Basic Description: NMOS Transistor, Part number: IRFF322, Key parameters: Vto=3.341 Kp=3.422
ap_nms_IRFF323_19930601	Basic Description: NMOS Transistor, Part number: IRFF323, Key parameters: Vto=3.341 Kp=3.422
ap_nms_IRFF330_19930601	Basic Description: NMOS Transistor, Part number: IRFF330, Key parameters: Vto=3.42 Kp=6.413
ap_nms_IRFF331_19930601	Basic Description: NMOS Transistor, Part number: IRFF331, Key parameters: Vto=3.42 Kp=6.413
ap_nms_IRFF332_19930601	Basic Description: NMOS Transistor, Part number: IRFF332, Key parameters: Vto=3.42 Kp=6.413
ap_nms_IRFF333_19930601	Basic Description: NMOS Transistor, Part number: IRFF333, Key parameters: Vto=3.42 Kp=6.413
ap_nms_IRFF420_19930601	Basic Description: NMOS Transistor, Part number: IRFF420, Key parameters: Vto=4.054 Kp=3.452
ap_nms_IRFF421_19930601	Basic Description: NMOS Transistor, Part number: IRFF421, Key parameters: Vto=4.054 Kp=3.452
ap_nms_IRFF422_19930601	Basic Description: NMOS Transistor, Part number: IRFF422, Key parameters: Vto=4.054 Kp=3.452
ap_nms_IRFF423_19930601	Basic Description: NMOS Transistor, Part number: IRFF423, Key parameters: Vto=4.054 Kp=3.452
ap_nms_IRFF430_19930601	Basic Description: NMOS Transistor, Part number: IRFF430, Key parameters: Vto=3.457 Kp=4.956
ap_nms_IRFF431_19930601	Basic Description: NMOS Transistor, Part number: IRFF431, Key parameters: Vto=3.457 Kp=4.956
ap_nms_IRFF432_19930601	Basic Description: NMOS Transistor, Part number: IRFF432, Key

	parameters: Vto=3.457 Kp=4.956
ap_nms_IRFF433_19930601	Basic Description: NMOS Transistor, Part number: IRFF433, Key parameters: Vto=3.457 Kp=4.956
ap_nms_IRFH150_19930601	Basic Description: NMOS Transistor, Part number: IRFH150, Key parameters: Vto=3.218 Kp=5.447
ap_nms_IRFH350_19930601	Basic Description: NMOS Transistor, Part number: IRFH350, Key parameters: Vto=3.02 Kp=6.01
ap_nms_IRFH450_19930601	Basic Description: NMOS Transistor, Part number: IRFH450, Key parameters: Vto=3.3336 Kp=9.2726
ap_nms_IRFJ130_19930601	Basic Description: NMOS Transistor, Part number: IRFJ130, Key parameters: Vto=3.298 Kp=6.868
ap_nms_IRFJ131_19930601	Basic Description: NMOS Transistor, Part number: IRFJ131, Key parameters: Vto=2.511 Kp=2.0357
ap_nms_IRFJ132_19930601	Basic Description: NMOS Transistor, Part number: IRFJ132, Key parameters: Vto=3.093 Kp=4.51
ap_nms_IRFJ133_19930601	Basic Description: NMOS Transistor, Part number: IRFJ133, Key parameters: Vto=3.093 Kp=4.51
ap_nms_IRFJ140_19930601	Basic Description: NMOS Transistor, Part number: IRFJ140, Key parameters: Vto=3.541 Kp=10.06
ap_nms_IRFJ141_19930601	Basic Description: NMOS Transistor, Part number: IRFJ141, Key parameters: Vto=3.477 Kp=8.196
ap_nms_IRFJ142_19930601	Basic Description: NMOS Transistor, Part number: IRFJ142, Key parameters: Vto=3.477 Kp=8.196
ap_nms_IRFJ143_19930601	Basic Description: NMOS Transistor, Part number: IRFJ143, Key parameters: Vto=3.477 Kp=8.196
ap_nms_IRFJ220_19930601	Basic Description: NMOS Transistor, Part number: IRFJ220, Key parameters: Vto=3.532 Kp=8.269
ap_nms_IRFJ221_19930601	Basic Description: NMOS Transistor, Part number: IRFJ221, Key parameters: Vto=3.532 Kp=8.269
ap_nms_IRFJ222_19930601	Basic Description: NMOS Transistor, Part number: IRFJ222, Key parameters: Vto=3.532 Kp=8.269
ap_nms_IRFJ223_19930601	Basic Description: NMOS Transistor, Part number: IRFJ223, Key parameters: Vto=3.532 Kp=8.269
ap_nms_IRFJ230_19930601	Basic Description: NMOS Transistor, Part number: IRFJ230, Key parameters: Vto=3.3736 Kp=6.7727
ap_nms_IRFJ231_19930601	Basic Description: NMOS Transistor, Part number: IRFJ231, Key parameters: Vto=3.53 Kp=11.33
ap_nms_IRFJ232_19930601	Basic Description: NMOS Transistor, Part number: IRFJ232, Key parameters: Vto=3.53 Kp=11.33
ap_nms_IRFJ233_19930601	Basic Description: NMOS Transistor, Part number: IRFJ233, Key parameters: Vto=3.53 Kp=11.33
ap_nms_IRFJ240_19930601	Basic Description: NMOS Transistor, Part number: IRFJ240, Key parameters: Vto=4.121 Kp=47.285
ap_nms_IRFJ241_19930601	Basic Description: NMOS Transistor, Part number: IRFJ241, Key parameters: Vto=4.121 Kp=47.285
ap_nms_IRFJ242_19930601	Basic Description: NMOS Transistor, Part number: IRFJ242, Key parameters: Vto=4.121 Kp=47.285
ap_nms_IRFJ243_19930601	Basic Description: NMOS Transistor, Part number: IRFJ243, Key parameters: Vto=4.121 Kp=47.285
ap_nms_IRFJ340_19930601	Basic Description: NMOS Transistor, Part number: IRFJ340, Key

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	parameters: Vto=4.071 Kp=18.45
ap_nms_IRFJ341_19930601	Basic Description: NMOS Transistor, Part number: IRFJ341, Key parameters: Vto=4.071 Kp=18.45
ap_nms_IRFJ342_19930601	Basic Description: NMOS Transistor, Part number: IRFJ342, Key parameters: Vto=4.071 Kp=18.45
ap_nms_IRFJ343_19930601	Basic Description: NMOS Transistor, Part number: IRFJ343, Key parameters: Vto=4.071 Kp=18.45
ap_nms_IRFJ420_19930601	Basic Description: NMOS Transistor, Part number: IRFJ420, Key parameters: Vto=4.054 Kp=3.452
ap_nms_IRFJ421_19930601	Basic Description: NMOS Transistor, Part number: IRFJ421, Key parameters: Vto=4.054 Kp=3.452
ap_nms_IRFJ422_19930601	Basic Description: NMOS Transistor, Part number: IRFJ422, Key parameters: Vto=4.054 Kp=3.452
ap_nms_IRFJ423_19930601	Basic Description: NMOS Transistor, Part number: IRFJ423, Key parameters: Vto=4.054 Kp=3.452
ap_nms_IRFJ430_19930601	Basic Description: NMOS Transistor, Part number: IRFJ430, Key parameters: Vto=3.457 Kp=4.956
ap_nms_IRFJ431_19930601	Basic Description: NMOS Transistor, Part number: IRFJ431, Key parameters: Vto=3.457 Kp=4.956
ap_nms_IRFJ432_19930601	Basic Description: NMOS Transistor, Part number: IRFJ432, Key parameters: Vto=3.457 Kp=4.956
ap_nms_IRFJ433_19930601	Basic Description: NMOS Transistor, Part number: IRFJ433, Key parameters: Vto=3.457 Kp=4.956
ap_nms_IRFJ440_19930601	Basic Description: NMOS Transistor, Part number: IRFJ440, Key parameters: Vto=3.62 Kp=7.47
ap_nms_IRFM140_19930601	Basic Description: NMOS Transistor, Part number: IRFM140, Key parameters: Vto=3.541 Kp=10.06
ap_nms_IRFM240_19930601	Basic Description: NMOS Transistor, Part number: IRFM240, Key parameters: Vto=4.121 Kp=47.285
ap_nms_IRFM340_19930601	Basic Description: NMOS Transistor, Part number: IRFM340, Key parameters: Vto=4.071 Kp=18.45
ap_nms_IRFM350_19930601	Basic Description: NMOS Transistor, Part number: IRFM350, Key parameters: Vto=3.02 Kp=6.01
ap_nms_IRFM440_19930601	Basic Description: NMOS Transistor, Part number: IRFM440, Key parameters: Vto=3.62 Kp=7.47
ap_nms_IRFM450_19930601	Basic Description: NMOS Transistor, Part number: IRFM450, Key parameters: Vto=3.3336 Kp=9.2726
ap_nms_IRFP140_19930601	Basic Description: NMOS Transistor, Part number: IRFP140, Key parameters: Vto=3.477 Kp=8.196
ap_nms_IRFP141_19930601	Basic Description: NMOS Transistor, Part number: IRFP141, Key parameters: Vto=3.477 Kp=8.196
ap_nms_IRFP142_19930601	Basic Description: NMOS Transistor, Part number: IRFP142, Key parameters: Vto=3.477 Kp=8.196
ap_nms_IRFP143_19930601	Basic Description: NMOS Transistor, Part number: IRFP143, Key parameters: Vto=3.477 Kp=8.196
ap_nms_IRFP150_19930601	Basic Description: NMOS Transistor, Part number: IRFP150, Key parameters: Vto=3.218 Kp=5.447
ap_nms_IRFP151_19930601	Basic Description: NMOS Transistor, Part number: IRFP151, Key parameters: Vto=3.218 Kp=5.447
ap_nms_IRFP152_19930601	Basic Description: NMOS Transistor, Part number: IRFP152, Key

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	parameters: Vto=3.218 Kp=5.447
ap_nms_IRFP153_19930601	Basic Description: NMOS Transistor, Part number: IRFP153, Key parameters: Vto=3.218 Kp=5.447
ap_nms_IRFP240_19930601	Basic Description: NMOS Transistor, Part number: IRFP240, Key parameters: Vto=4.121 Kp=47.285
ap_nms_IRFP241_19930601	Basic Description: NMOS Transistor, Part number: IRFP241, Key parameters: Vto=4.121 Kp=47.285
ap_nms_IRFP242_19930601	Basic Description: NMOS Transistor, Part number: IRFP242, Key parameters: Vto=4.121 Kp=47.285
ap_nms_IRFP243_19930601	Basic Description: NMOS Transistor, Part number: IRFP243, Key parameters: Vto=4.121 Kp=47.285
ap_nms_IRFP250_19930601	Basic Description: NMOS Transistor, Part number: IRFP250, Key parameters: Vto=3.196 Kp=9.894
ap_nms_IRFP251_19930601	Basic Description: NMOS Transistor, Part number: IRFP251, Key parameters: Vto=3.196 Kp=9.894
ap_nms_IRFP252_19930601	Basic Description: NMOS Transistor, Part number: IRFP252, Key parameters: Vto=3.196 Kp=9.894
ap_nms_IRFP253_19930601	Basic Description: NMOS Transistor, Part number: IRFP253, Key parameters: Vto=3.196 Kp=9.894
ap_nms_IRFP340_19930601	Basic Description: NMOS Transistor, Part number: IRFP340, Key parameters: Vto=3.477 Kp=8.196
ap_nms_IRFP341_19930601	Basic Description: NMOS Transistor, Part number: IRFP341, Key parameters: Vto=4.071 Kp=18.45
ap_nms_IRFP342_19930601	Basic Description: NMOS Transistor, Part number: IRFP342, Key parameters: Vto=4.071 Kp=18.45
ap_nms_IRFP343_19930601	Basic Description: NMOS Transistor, Part number: IRFP343, Key parameters: Vto=4.071 Kp=18.45
ap_nms_IRFP350_19930601	Basic Description: NMOS Transistor, Part number: IRFP350, Key parameters: Vto=3.02 Kp=6.01
ap_nms_IRFP351_19930601	Basic Description: NMOS Transistor, Part number: IRFP351, Key parameters: Vto=3.02 Kp=6.01
ap_nms_IRFP352_19930601	Basic Description: NMOS Transistor, Part number: IRFP352, Key parameters: Vto=3.02 Kp=6.01
ap_nms_IRFP353_19930601	Basic Description: NMOS Transistor, Part number: IRFP353, Key parameters: Vto=3.02 Kp=6.01
ap_nms_IRFP440_19930601	Basic Description: NMOS Transistor, Part number: IRFP440, Key parameters: Vto=3.62 Kp=7.47
ap_nms_IRFP450_19930601	Basic Description: NMOS Transistor, Part number: IRFP450, Key parameters: Vto=3.3336 Kp=9.2726
ap_nms_IRFP451_19930601	Basic Description: NMOS Transistor, Part number: IRFP451, Key parameters: Vto=3.3336 Kp=9.2726
ap_nms_IRFP452_19930601	Basic Description: NMOS Transistor, Part number: IRFP452, Key parameters: Vto=3.3336 Kp=9.2726
ap_nms_IRFP453_19930601	Basic Description: NMOS Transistor, Part number: IRFP453, Key parameters: Vto=3.3336 Kp=9.2726
ap_nms_IRFP460_19930601	Basic Description: NMOS Transistor, Part number: IRFP460, Key parameters: Vto=3.699022 Kp=14.986565
ap_nms_IRFPE52_19930601	Basic Description: NMOS Transistor, Part number: IRFPE52, Key parameters: Vto=4.213713 Kp=9.0994



ap_nms_IRFR110_19930601	Basic Description: NMOS Transistor, Part number: IRFR110, Key parameters: Vto=3.75 Kp=2.8
ap_nms_IRFR111_19930601	Basic Description: NMOS Transistor, Part number: IRFR111, Key parameters: Vto=3.75 Kp=2.8
ap_nms_IRFR120_19930601	Basic Description: NMOS Transistor, Part number: IRFR120, Key parameters: Vto=3.417 Kp=5.646
ap_nms_IRFR121_19930601	Basic Description: NMOS Transistor, Part number: IRFR121, Key parameters: Vto=3.417 Kp=5.646
ap_nms_IRFR210_19930601	Basic Description: NMOS Transistor, Part number: IRFR210, Key parameters: Vto=4.082 Kp=2.361
ap_nms_IRFR212_19930601	Basic Description: NMOS Transistor, Part number: IRFR212, Key parameters: Vto=4.082 Kp=2.361
ap_nms_IRFU120_19930601	Basic Description: NMOS Transistor, Part number: IRFU120, Key parameters: Vto=3.417 Kp=5.646
ap_nms_IRFU121_19930601	Basic Description: NMOS Transistor, Part number: IRFU121, Key parameters: Vto=3.417 Kp=5.646
ap_nms_IRFU210_19930601	Basic Description: NMOS Transistor, Part number: IRFU210, Key parameters: Vto=4.082 Kp=2.361
ap_nms_IRFU212_19930601	Basic Description: NMOS Transistor, Part number: IRFU212, Key parameters: Vto=4.082 Kp=2.361
ap_nms_IRFZ44_19930601	Basic Description: NMOS Transistor, Part number: IRFZ44, Key parameters: Vto=3.611746 Kp=10.2594
ap_nms_IRH150_19930601	Basic Description: NMOS Transistor, Part number: IRH150, Key parameters: Vto=3.218 Kp=5.447
ap_nms_M2N6755_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6755, Package: Rectifier, Key parameters: Vto=3.143 Kp=21.35e-6
ap_nms_M2N6756_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6756, Package: Rectifier, Key parameters: Vto=3.143 Kp=21.35e-6
ap_nms_M2N6757_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6757, Package: Rectifier, Key parameters: Vto=3.391 Kp=19.85e-6
ap_nms_M2N6758_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6758, Package: Rectifier, Key parameters: Vto=3.391 Kp=19.85e-6
ap_nms_M2N6759_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6759, Package: Rectifier, Key parameters: Vto=3.179 Kp=20.77e-6
ap_nms_M2N6760_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6760, Package: Rectifier, Key parameters: Vto=3.179 Kp=20.77e-6
ap_nms_M2N6761_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6761, Package: Rectifier, Key parameters: Vto=3.166 Kp=20.62e-6
ap_nms_M2N6762_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6762, Package: Rectifier, Key parameters: Vto=3.166 Kp=20.62e-6
ap_nms_M2N6763_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6763, Package: Rectifier, Key parameters: Vto=3.061 Kp=20.52e-6

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ap_nms_M2N6764_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6764, Package: Rectifier, Key parameters: Vto=3.061 Kp=20.52e-6
ap_nms_M2N6765_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6765, Package: Rectifier, Key parameters: Vto=3.064 Kp=20.74e-6
ap_nms_M2N6766_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6766, Package: Rectifier, Key parameters: Vto=3.064 Kp=20.74e-6
ap_nms_M2N6767_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6767, Package: Rectifier, Key parameters: Vto=2.885 Kp=20.77e-6
ap_nms_M2N6768_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6768, Package: Rectifier, Key parameters: Vto=2.885 Kp=20.77e-6
ap_nms_M2N6769_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6769, Package: Rectifier, Key parameters: Vto=3.31 Kp=20.65e-6
ap_nms_M2N6770_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6770, Package: Rectifier, Key parameters: Vto=3.31 Kp=20.65e-6
ap_nms_M2N6782_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6782, Package: Rectifier, Key parameters: Vto=3.201 Kp=20.85e-6
ap_nms_M2N6784_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6784, Package: Rectifier, Key parameters: Vto=3.274 Kp=20.86e-6
ap_nms_M2N6786_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6786, Package: Rectifier, Key parameters: Vto=3.906 Kp=21.11e-6
ap_nms_M2N6788_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6788, Package: Rectifier, Key parameters: Vto=3.011 Kp=20.84e-6
ap_nms_M2N6790_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6790, Package: Rectifier, Key parameters: Vto=3.016 Kp=20.41e-6
ap_nms_M2N6792_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6792, Package: Rectifier, Key parameters: Vto=3.025 Kp=20.9e-6
ap_nms_M2N6794_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6794, Package: Rectifier, Key parameters: Vto=3.32 Kp=20.5e-6
ap_nms_M2N6796_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6796, Package: Rectifier, Key parameters: Vto=3.141 Kp=20.65e-6
ap_nms_M2N6798_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6798, Package: Rectifier, Key parameters: Vto=3.054 Kp=20.02e-6
ap_nms_M2N6800_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6800, Package: Rectifier, Key parameters: Vto=3.206 Kp=20.62e-6
ap_nms_M2N6802_19930601	Manufacturer: International, Basic Description: NMOS Transistor, Part number: M2N6802, Package: Rectifier, Key parameters: Vto=3.101

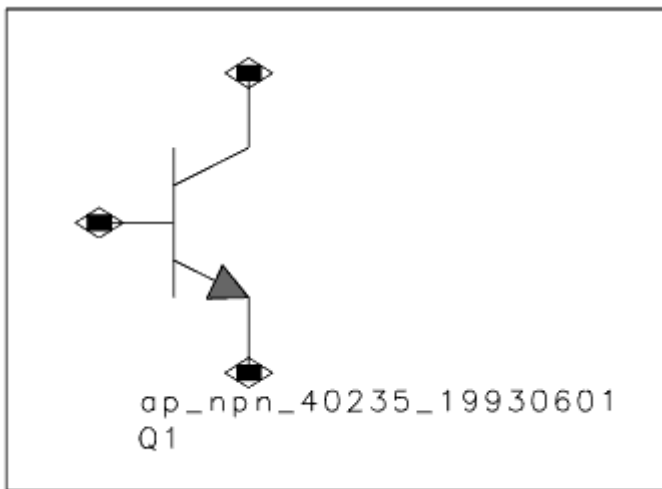
	Kp=20.88e-6
ap_nms_MPM3002N_19930601	Basic Description: NMOS Transistor, Part number: MPM3002N, Key parameters: Vto=3.8 Kp=3.2035
ap_nms_MTM12N10_19930601	Basic Description: NMOS Transistor, Part number: MTM12N10, Key parameters: Vto=3 Kp=2.59155E-05
ap_nms_MTM40N18_19930601	Manufacturer: Motorola, Basic Description: NMOS Transistor, Part number: MTM40N18, Key parameters: Vto=4.566 Kp=37.62
ap_nms_MTM40N20_19930601	Manufacturer: Motorola, Basic Description: NMOS Transistor, Part number: MTM40N20, Key parameters: Vto=4.566 Kp=37.62
ap_nms_MTM45N12_19930601	Manufacturer: Motorola, Basic Description: NMOS Transistor, Part number: MTM45N12, Key parameters: Vto=4.108 Kp=17.26
ap_nms_MTM45N15_19930601	Manufacturer: Motorola, Basic Description: NMOS Transistor, Part number: MTM45N15, Key parameters: Vto=4.108 Kp=17.26
ap_nms_MTM55N08_19930601	Manufacturer: Motorola, Basic Description: NMOS Transistor, Part number: MTM55N08, Key parameters: Vto=4.592 Kp=64.76
ap_nms_MTM55N10_19930601	Manufacturer: Motorola, Basic Description: NMOS Transistor, Part number: MTM55N10, Key parameters: Vto=4.592 Kp=64.76
ap_nms_MTM60N05_19930601	Manufacturer: Motorola, Basic Description: NMOS Transistor, Part number: MTM60N05, Key parameters: Vto=4.592 Kp=64.76
ap_nms_MTM60N06_19930601	Manufacturer: Motorola, Basic Description: NMOS Transistor, Part number: MTM60N06, Key parameters: Vto=4.592 Kp=64.76
ap_nms_RFM15N12_19930601	Manufacturer: RCA, Basic Description: NMOS Transistor, Part number: RFM15N12, Key parameters: Vto=3.571 Kp=36.83
ap_nms_RFP10N15_19930601	Manufacturer: RCA, Basic Description: NMOS Transistor, Part number: RFP10N15, Key parameters: Vto=3.5 Kp=5.4863
ap_nms_SD202_19930601	Basic Description: NMOS Transistor, Part number: SD202, Key parameters: Vto=1 Kp=0.0078
ap_nms_SD214_19930601	Manufacturer: Siliconix, Basic Description: NMOS Transistor, Part number: SD214, Key parameters: Vto=1.5 Kp=0.0078
ap_nms_VN0300M_19930601	Manufacturer: Siliconix, Basic Description: NMOS Transistor, Part number: VN0300M, Key parameters: Vto=0.929 Kp=0.118
ap_nms_VN0545_19930601	Manufacturer: Supertex, Basic Description: NMOS Transistor, Part number: VN0545, Key parameters: Vto=2.69417 Kp=15.3207
ap_nms_VN0606M_19930601	Manufacturer: Siliconix, Basic Description: NMOS Transistor, Part number: VN0606M, Key parameters: Vto=1.248 Kp=0.119
ap_nms_VN0645_19930601	Manufacturer: Supertex, Basic Description: NMOS Transistor, Part number: VN0645, Key parameters: Vto=1.97087 Kp=2.45124
ap_nms_VN0808M_19930601	Manufacturer: Siliconix, Basic Description: NMOS Transistor, Part number: VN0808M, Key parameters: Vto=1.248 Kp=0.119
ap_nms_VN10LM_19930601	Manufacturer: Siliconix, Basic Description: NMOS Transistor, Part number: VN10LM, Key parameters: Vto=2.211 Kp=0.965
ap_nms_VN2222LM_19930601	Manufacturer: Siliconix, Basic Description: NMOS Transistor, Part number: VN2222LM, Key parameters: Vto=2.211 Kp=0.965
ap_nms_VN2222_19930601	Manufacturer: Siliconix, Basic Description: NMOS Transistor, Part number: VN2222, Key parameters: Vto=2.6 Kp=0.12
ap_nms_VNO3D_19930601	Basic Description: NMOS Transistor, Part number: VNO3D, Key parameters: Vto=2.385333 Kp=2.187373
ap_nms_VNO3E_19930601	Basic Description: NMOS Transistor, Part number: VNO3E, Key parameters: Vto=3.028325 Kp=2.2552



# NPN BJT Models

## Schematic Design

The [NPN BJT Schematic Component Example](#) shown below illustrates how components representing NPN BJTs appear when placed into the Schematic design window. The schematic symbol is derived from the standard SYM\_BJT\_NPN symbol in the *\$HPEESOF\_DIR/circuit/symbols* directory. The annotation consists of the component name and the default component ID prefix (in this case, Q). No component parameters are displayed.



### NPN BJT Schematic Component Example

The user may scale any of the model parameter values used by the model by displaying the Component Parameters dialog box. The dialog box displays the component label, a table of scale factors, and other controls. You can display the dialog box by double-clicking a component symbol after it has been placed in the drawing area or by clicking the **Edit Component Parameters** button.

**Note**  
For details on using the Component Parameters dialog box, click the Help button in the dialog box.

The analog parts model library NPN BJT models are suitable for placement in any Analog/RF circuit schematic.

## Data

NPN BJTs include 834 components, each representing an individual part. The naming



convention for these components is *ap\_npn\_<part number>\_<extraction date>*.

NPN BJTs are simulated using the native BJT model component.

### Analog Parts Library - NPN BJTs

Component Name	Description
ap_npn_2N1711_19930601	Basic Description: NPN Transistor, Part number: 2N1711, Key parameters: Is=4.996363E-14 Bf=252.2456766 Tf=1.9423243E-10
ap_npn_2N1893_19930601	Basic Description: NPN Transistor, Part number: 2N1893, Key parameters: Is=1.44135E-14 Bf=70.8246346 Tf=1.172365E-09
ap_npn_2N2060A_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N2060A, Key parameters: Is=1.6678E-13 Bf=100 Tf=1.59E-09
ap_npn_2N2060_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N2060, Key parameters: Is=1.6678E-13 Bf=100 Tf=1.59E-09
ap_npn_2N2102_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N2102, Key parameters: Is=7.03515E-14 Bf=189.849 Tf=3.55196E-10
ap_npn_2N2219A_19930601	Basic Description: NPN Transistor, Part number: 2N2219A, Key parameters: Is=2.3932E-14 Bf=299.856 Tf=3.63236E-10
ap_npn_2N2219_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N2219, Key parameters: Is=1.21251E-14 Bf=218.471 Tf=2.32345E-10
ap_npn_2N2222A_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N2222A, Key parameters: Is=2.0457E-14 Bf=265.1655504 Tf=4.2327E-10
ap_npn_2N2222_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N2222, Key parameters: Is=6.52767E-15 Bf=200.862 Tf=6.735E-11
ap_npn_2N2223A_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N2223A, Key parameters: Is=2.07121E-14 Bf=269.889 Tf=9.77931E-10
ap_npn_2N2223_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N2223, Key parameters: Is=1.6678E-13 Bf=100 Tf=1.59E-09
ap_npn_2N2368_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N2368, Key parameters: Is=1.781E-15 Bf=55 Tf=2.274E-10
ap_npn_2N2369A_19930601	Basic Description: NPN Transistor, Part number: 2N2369A, Key parameters: Is=1.0302E-15 Bf=93.9499 Tf=2.30788E-10
ap_npn_2N2369_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N2369, Key parameters: Is=1.4929E-15 Bf=115.652 Tf=2.05387E-10
ap_npn_2N2480A_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N2480A, Key parameters: Is=1.6678E-13 Bf=100 Tf=1.59E-09
ap_npn_2N2480_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N2480, Key parameters: Is=1.6678E-13 Bf=100 Tf=1.59E-09
ap_npn_2N2481_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N2481, Key parameters: Is=1.8E-15 Bf=80 Tf=1.9894E-10
ap_npn_2N2484_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N2484, Key parameters: Is=9.48713E-15 Bf=463.261 Tf=9.62254E-11
ap_npn_2N2857_19930601	Basic Description: NPN Transistor, Part number: 2N2857, Key parameters: Is=3.21976E-16 Bf=120.398 Tf=1.0853E-10
ap_npn_2N2920_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N2920, Key parameters: Is=5.85478E-15 Bf=870.033 Tf=5.13843E-10
ap_npn_2N3019_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3019, Key parameters: Is=9.04365E-14 Bf=182.6033882 Tf=9.29737E-

	10
ap_npn_2N3055A_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3055A, Key parameters: Is=2.146E-12 Bf=190 Tf=8E-08
ap_npn_2N3055_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3055, Key parameters: Is=1.1479E-15 Bf=186 Tf=1E-08
ap_npn_2N3137_19930601	Basic Description: NPN Transistor, Part number: 2N3137, Key parameters: Is=7.09405E-16 Bf=50.3865404
ap_npn_2N3227_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3227, Key parameters: Is=1.781E-15 Bf=150 Tf=2.274E-10
ap_npn_2N3252_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3252, Key parameters: Is=1.1772E-13 Bf=92 Tf=3.98E-10
ap_npn_2N3375_19930601	Basic Description: NPN Transistor, Part number: 2N3375, Key parameters: Is=1E-14 Bf=95 Tf=2.45E-10
ap_npn_2N3421_19930601	Manufacturer: Unitrode, Basic Description: NPN Transistor, Part number: 2N3421, Key parameters: Is=3.15E-12 Bf=80 Tf=1E-09
ap_npn_2N3439_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3439, Key parameters: Is=3.70588E-14 Bf=103.479 Tf=1.82473E-09
ap_npn_2N3440_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3440, Key parameters: Is=7.14399E-14 Bf=212.4622707 Tf=2.55302E-09
ap_npn_2N3498_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3498, Key parameters: Is=8.47935E-15 Bf=266.293 Tf=3.6917E-10
ap_npn_2N3499_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3499, Key parameters: Is=3.725E-11 Bf=175 Tf=7.957E-10
ap_npn_2N3500_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3500, Key parameters: Is=1.860103E-14 Bf=117.64 Tf=8.324345E-10
ap_npn_2N3501_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3501, Key parameters: Is=2.90115E-14 Bf=211.975 Tf=4.52158E-10
ap_npn_2N3506_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3506, Key parameters: Is=2.500032E-13 Bf=308.7024163 Tf=4.97726E-11
ap_npn_2N3507_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3507, Key parameters: Is=1.15E-15 Bf=82 Tf=5.3E-10
ap_npn_2N3553_19930601	Basic Description: NPN Transistor, Part number: 2N3553, Key parameters: Is=1.17685E-14 Bf=73.51596 Tf=1.51063E-10
ap_npn_2N3566_19930601	Manufacturer: National_Semiconductor, Basic Description: NPN Transistor, Part number: 2N3566, Key parameters: Is=1.6678E-13 Bf=350 Tf=4.544E-10
ap_npn_2N3607_19930601	Manufacturer: National_Semiconductor, Basic Description: NPN Transistor, Part number: 2N3607, Key parameters: Is=1.781E-15 Bf=70 Tf=1.98E-10
ap_npn_2N3647_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3647, Key parameters: Is=2.8627E-13 Bf=30 Tf=2.9837E-10
ap_npn_2N3648_19930601	Basic Description: NPN Transistor, Part number: 2N3648, Key parameters: Is=1.576E-15 Bf=170.7 Tf=8.585E-11
ap_npn_2N3700_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3700, Key parameters: Is=1.177E-14 Bf=170 Tf=7.96E-10
ap_npn_2N3713_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3713, Key parameters: Is=4.334E-13 Bf=100 Tf=1E-08
ap_npn_2N3714_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3714, Key parameters: Is=1E-11 Bf=105 Tf=2.3E-08

ap_npn_2N3715_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3715, Key parameters: Is=1E-11 Bf=120 Tf=2.3E-08
ap_npn_2N3716_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3716, Key parameters: Is=4.06461E-12 Bf=120 Tf=1E-08
ap_npn_2N3724_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3724, Key parameters: Is=8.93434E-14 Bf=294.078 Tf=1.78919E-10
ap_npn_2N3725A_19930601	Basic Description: NPN Transistor, Part number: 2N3725A, Key parameters: Is=1E-14 Bf=138 Tf=4.381E-10
ap_npn_2N3725_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3725, Key parameters: Is=8.93434E-14 Bf=294.078 Tf=3.29623E-10
ap_npn_2N3742_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3742, Key parameters: Is=5.9022E-13 Bf=80 Tf=3.183E-09
ap_npn_2N3772_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3772, Key parameters: Is=1E-11 Bf=155 Tf=2E-07
ap_npn_2N3773_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3773, Key parameters: Is=1.12E-12 Bf=280 Tf=4.82E-08
ap_npn_2N3839_19930601	Basic Description: NPN Transistor, Part number: 2N3839, Key parameters: Is=4.24805E-16 Bf=124.7533203 Tf=4.34235E-11
ap_npn_2N3866A_19930601	Basic Description: NPN Transistor, Part number: 2N3866A, Key parameters: Is=4.2349E-15 Bf=215.233 Tf=6.32994E-11
ap_npn_2N3866_19930601	Basic Description: NPN Transistor, Part number: 2N3866, Key parameters: Is=5.50185E-15 Bf=146.19 Tf=1.27729E-10
ap_npn_2N3903_19930601	Basic Description: NPN Transistor, Part number: 2N3903, Key parameters: Is=1.74853E-15 Bf=117.381 Tf=4.732463325E-10
ap_npn_2N3904_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3904, Key parameters: Is=6.61625E-15 Bf=243.6156546 Tf=2.4524E-10
ap_npn_2N3946_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N3946, Key parameters: Is=1.665E-12 Bf=118.3 Tf=3.183E-10
ap_npn_2N3959_19930601	Basic Description: NPN Transistor, Part number: 2N3959, Key parameters: Is=1E-14 Bf=200 Tf=7E-11
ap_npn_2N3960_19930601	Basic Description: NPN Transistor, Part number: 2N3960, Key parameters: Is=7.56732E-16 Bf=195.6537 Tf=3.06569E-11
ap_npn_2N4013_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N4013, Key parameters: Is=1.1772E-13 Bf=92 Tf=4E-10
ap_npn_2N4063_19930601	Basic Description: NPN Transistor, Part number: 2N4063, Key parameters: Is=4.85E-14 Bf=120 Tf=2.3E-09
ap_npn_2N4064_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N4064, Key parameters: Is=4.85E-14 Bf=120 Tf=2.3E-09
ap_npn_2N4072_19930601	Basic Description: NPN Transistor, Part number: 2N4072, Key parameters: Is=2.33574E-15 Bf=60.038549 Tf=2.55016E-10
ap_npn_2N4123_19930601	Basic Description: NPN Transistor, Part number: 2N4123, Key parameters: Is=2.15152E-15 Bf=121.36 Tf=2.9092E-10
ap_npn_2N4124_19930601	Basic Description: NPN Transistor, Part number: 2N4124, Key parameters: Is=4.86835E-15 Bf=229.9186561 Tf=4.79343765E-10
ap_npn_2N4150_19930601	Basic Description: NPN Transistor, Part number: 2N4150, Key parameters: Is=1E-07 Bf=88.45723 Tf=3.2E-09
ap_npn_2N4237_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N4237, Key parameters: Is=4.226105E-14 Bf=106.3793463 Tf=1.01845E-10

ap_npn_2N4265_19930601	Basic Description: NPN Transistor, Part number: 2N4265, Key parameters: Is=7.7171025E-13 Bf=148 Tf=3E-10
ap_npn_2N4400_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N4400, Key parameters: Is=1.21862E-14 Bf=153.331 Tf=4.18759E-10
ap_npn_2N4401_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N4401, Key parameters: Is=1.6678E-13 Bf=80 Tf=4.544E-10
ap_npn_2N4427_19930601	Basic Description: NPN Transistor, Part number: 2N4427, Key parameters: Is=8.15865E-15 Bf=113.49023 Tf=9.36976E-11
ap_npn_2N4428_19930601	Basic Description: NPN Transistor, Part number: 2N4428, Key parameters: Is=4.05276E-15 Bf=101.1235612 Tf=7.2974E-11
ap_npn_2N4921_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N4921, Key parameters: Is=1.19069E-14 Bf=130 Tf=1E-08
ap_npn_2N4922_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N4922, Key parameters: Is=1.19069E-14 Bf=100 Tf=1E-08
ap_npn_2N4923_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N4923, Key parameters: Is=1.19069E-14 Bf=100 Tf=1E-08
ap_npn_2N5031_19930601	Basic Description: NPN Transistor, Part number: 2N5031, Key parameters: Is=3.68233E-16 Bf=125.7669832 Tf=1.00134E-11
ap_npn_2N5058_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5058, Key parameters: Is=1E-14 Bf=65 Tf=1.2E-09
ap_npn_2N5059_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5059, Key parameters: Is=1E-14 Bf=65 Tf=1.2E-09
ap_npn_2N5088_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5088, Key parameters: Is=2.31694E-14 Bf=845.337 Tf=3.63063E-11
ap_npn_2N5089_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5089, Key parameters: Is=3.99912E-14 Bf=873.126478 Tf=2.00198E-10
ap_npn_2N5109_19930601	Basic Description: NPN Transistor, Part number: 2N5109, Key parameters: Is=3.658E-15 Bf=75.575481 Tf=8.17012E-11
ap_npn_2N5154_19930601	Manufacturer: General_Semiconductor, Basic Description: NPN Transistor, Part number: 2N5154, Key parameters: Is=7.18E-12 Bf=260 Tf=3.1E-09
ap_npn_2N5179_19930601	Basic Description: NPN Transistor, Part number: 2N5179, Key parameters: Is=1.835E-16 Bf=126.6051973 Tf=2.8374326E-11
ap_npn_2N5190_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5190, Key parameters: Is=8.91248E-14 Bf=93.17289 Tf=6.16259E-09
ap_npn_2N5191_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5191, Key parameters: Is=8.04779E-13 Bf=100 Tf=2E-08
ap_npn_2N5192_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5192, Key parameters: Is=7.91795E-13 Bf=97.4354673 Tf=2.36436E-08
ap_npn_2N5209_19930601	Basic Description: NPN Transistor, Part number: 2N5209, Key parameters: Is=3.6836359E-14 Bf=250 Tf=3.54E-09
ap_npn_2N5210_19930601	Basic Description: NPN Transistor, Part number: 2N5210, Key parameters: Is=3.6836359E-14 Bf=300 Tf=3.54E-09
ap_npn_2N5320_19930601	Basic Description: NPN Transistor, Part number: 2N5320, Key parameters: Is=2.80212E-14 Bf=148.127 Tf=4.3611E-10
ap_npn_2N5336_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5336, Key parameters: Is=7.18E-12 Bf=260 Tf=3.1E-09
ap_npn_2N5337_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5337, Key parameters: Is=7.18E-12 Bf=260 Tf=3.1E-09



ap_npn_2N5338_19930601	Basic Description: NPN Transistor, Part number: 2N5338, Key parameters: Is=7.18E-12 Bf=260 Tf=3.1E-09
ap_npn_2N5339_19930601	Basic Description: NPN Transistor, Part number: 2N5339, Key parameters: Is=1.458E-12 Bf=330 Tf=2.653E-09
ap_npn_2N5346_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5346, Key parameters: Is=1.458E-12 Bf=330 Tf=2.653E-09
ap_npn_2N5347_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5347, Key parameters: Is=1.458E-12 Bf=330 Tf=2.653E-09
ap_npn_2N5348_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5348, Key parameters: Is=1.458E-12 Bf=330 Tf=2.653E-09
ap_npn_2N5349_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5349, Key parameters: Is=1.458E-12 Bf=330 Tf=2.653E-09
ap_npn_2N5550_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5550, Key parameters: Is=8.13798E-15 Bf=152.938 Tf=4.82486E-10
ap_npn_2N5551_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5551, Key parameters: Is=9.42081E-15 Bf=168.8523521 Tf=9.44745E-10
ap_npn_2N5629_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5629, Key parameters: Is=3.671E-14 Bf=150 Tf=1.59E-08
ap_npn_2N5630_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5630, Key parameters: Is=3.671E-14 Bf=150 Tf=1.59E-08
ap_npn_2N5631_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5631, Key parameters: Is=3.671E-14 Bf=150 Tf=1.59E-08
ap_npn_2N5632_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5632, Key parameters: Is=9.718E-11 Bf=200 Tf=1.59E-08
ap_npn_2N5633_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5633, Key parameters: Is=9.718E-11 Bf=200 Tf=1.59E-08
ap_npn_2N5634_19930601	Basic Description: NPN Transistor, Part number: 2N5634, Key parameters: Is=9.718E-11 Bf=200 Tf=1.59E-08
ap_npn_2N5681_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5681, Key parameters: Is=3.9554E-13 Bf=125 Tf=2.893E-09
ap_npn_2N5682_19930601	Basic Description: NPN Transistor, Part number: 2N5682, Key parameters: Is=1.5634567E-12 Bf=210.46567 Tf=2.1033E-09
ap_npn_2N5685_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5685, Key parameters: Is=2.7566E-11 Bf=125 Tf=3.978E-08
ap_npn_2N5686_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5686, Key parameters: Is=2.7566E-11 Bf=125 Tf=3.978E-08
ap_npn_2N5758_19930601	Basic Description: NPN Transistor, Part number: 2N5758, Key parameters: Is=5.4E-12 Bf=160 Tf=3.97E-08
ap_npn_2N5759_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5759, Key parameters: Is=5.4E-12 Bf=160 Tf=3.97E-08
ap_npn_2N5760_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5760, Key parameters: Is=5.4E-12 Bf=160 Tf=3.97E-08
ap_npn_2N5836_19930601	Basic Description: NPN Transistor, Part number: 2N5836, Key parameters: Is=8.4124E-15 Bf=96.55309 Tf=5.48998E-11
ap_npn_2N5859_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5859, Key parameters: Is=1.1772E-13 Bf=140 Tf=2.434E-10
ap_npn_2N5881_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5881, Key parameters: Is=2.03E-11 Bf=130 Tf=1E-08
ap_npn_2N5882_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number:



	2N5882, Key parameters: Is=2.03E-11 Bf=130 Tf=1E-08
ap_npn_2N5885_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5885, Key parameters: Is=1E-12 Bf=100 Tf=1E-08
ap_npn_2N5886_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N5886, Key parameters: Is=1E-12 Bf=100 Tf=1E-08
ap_npn_2N5943_19930601	Basic Description: NPN Transistor, Part number: 2N5943, Key parameters: Is=3.1005E-15 Bf=109.935 Tf=5.94259E-11
ap_npn_2N5947_19930601	Basic Description: NPN Transistor, Part number: 2N5947, Key parameters: Is=4.97067E-15 Bf=92.6018173
ap_npn_2N6043_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6043, Key parameters: Is=1.011E-15 Bf=35000 Tf=1.5E-09
ap_npn_2N6044_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6044, Key parameters: Is=1.011E-15 Bf=35000 Tf=1.5E-09
ap_npn_2N6045_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6045, Key parameters: Is=1.011E-15 Bf=35000 Tf=1.5E-09
ap_npn_2N6251_19930601	Basic Description: NPN Transistor, Part number: 2N6251, Key parameters: Is=1.84E-12 Bf=31.0373572 Tf=8.67E-09
ap_npn_2N6259_19930601	Basic Description: NPN Transistor, Part number: 2N6259, Key parameters: Is=4.3453645E-11 Bf=130 Tf=1.393436E-08
ap_npn_2N6262_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6262, Key parameters: Is=5.4E-12 Bf=160 Tf=3.97E-08
ap_npn_2N6274_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6274, Key parameters: Is=3.849E-12 Bf=232.9 Tf=1.32E-09
ap_npn_2N6275_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6275, Key parameters: Is=3.849E-12 Bf=232.9 Tf=1.32E-09
ap_npn_2N6276_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6276, Key parameters: Is=3.849E-12 Bf=232.9 Tf=1.32E-09
ap_npn_2N6277_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6277, Key parameters: Is=3.849E-12 Bf=232.9 Tf=1.32E-09
ap_npn_2N6278_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6278, Key parameters: Is=3.849E-12 Bf=232.9 Tf=1.32E-09
ap_npn_2N6279_19930601	Basic Description: NPN Transistor, Part number: 2N6279, Key parameters: Is=3.849E-12 Bf=232.9 Tf=1.32E-09
ap_npn_2N6280_19930601	Basic Description: NPN Transistor, Part number: 2N6280, Key parameters: Is=3.849E-12 Bf=232.9 Tf=1.32E-09
ap_npn_2N6281_19930601	Basic Description: NPN Transistor, Part number: 2N6281, Key parameters: Is=3.849E-12 Bf=232.9 Tf=1.32E-09
ap_npn_2N6284_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6284, Key parameters: Is=1.439E-08 Bf=8000 Tf=2.653E-09
ap_npn_2N6338_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6338, Key parameters: Is=1.522E-12 Bf=110 Tf=1.01E-09
ap_npn_2N6339_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6339, Key parameters: Is=1.56226E-12 Bf=100 Tf=1.72343E-09
ap_npn_2N6340_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6340, Key parameters: Is=1.522E-12 Bf=110 Tf=1.01E-09
ap_npn_2N6341_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6341, Key parameters: Is=1.522E-12 Bf=110 Tf=1.01E-09
ap_npn_2N6354_19930601	Basic Description: NPN Transistor, Part number: 2N6354, Key parameters: Is=1.522E-12 Bf=110 Tf=1.01E-09
ap_npn_2N6430_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number:

	2N6430, Key parameters: Is=5.9022E-13 Bf=200 Tf=3.183E-09
ap_npn_2N6431_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6431, Key parameters: Is=5.9022E-13 Bf=200 Tf=3.183E-09
ap_npn_2N6502_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6502, Key parameters: Is=3.581E-13 Bf=130 Tf=4.62E-10
ap_npn_2N6513_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6513, Key parameters: Is=3.905E-14 Bf=51 Tf=5.31E-09
ap_npn_2N6544_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6544, Key parameters: Is=3.905E-14 Bf=51 Tf=5.31E-09
ap_npn_2N6545_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6545, Key parameters: Is=8.12185E-13 Bf=49.349472 Tf=5E-09
ap_npn_2N6546_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6546, Key parameters: Is=1.593E-12 Bf=31 Tf=5.684E-09
ap_npn_2N6547_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6547, Key parameters: Is=1.593E-12 Bf=31 Tf=5.684E-09
ap_npn_2N6579_19930601	Manufacturer: TI, Basic Description: NPN Transistor, Part number: 2N6579, Key parameters: Is=7.27E-12 Bf=33 Tf=3.4E-09
ap_npn_2N6584_19930601	Basic Description: NPN Transistor, Part number: 2N6584, Key parameters: Is=1.23E-10 Bf=80 Tf=2.49E-09
ap_npn_2N6603_19930601	Basic Description: NPN Transistor, Part number: 2N6603, Key parameters: Is=3.01101E-16 Bf=137.7128196 Tf=1.38398E-11
ap_npn_2N6604_19930601	Basic Description: NPN Transistor, Part number: 2N6604, Key parameters: Is=8.78644E-16 Bf=56.3788364 Tf=2.46561E-11
ap_npn_2N6671_19930601	Manufacturer: TI, Basic Description: NPN Transistor, Part number: 2N6671, Key parameters: Is=6.827E-12 Bf=92.62 Tf=2.65E-09
ap_npn_2N6672_19930601	Manufacturer: TI, Basic Description: NPN Transistor, Part number: 2N6672, Key parameters: Is=6.827E-12 Bf=92.62 Tf=2.65E-09
ap_npn_2N6673_19930601	Manufacturer: TI, Basic Description: NPN Transistor, Part number: 2N6673, Key parameters: Is=6.827E-12 Bf=92.62 Tf=2.65E-09
ap_npn_2N6702_19930601	Basic Description: NPN Transistor, Part number: 2N6702, Key parameters: Is=7.34623E-13 Bf=201.0294725 Tf=2.63385E-09
ap_npn_2N6716_19930601	Basic Description: NPN Transistor, Part number: 2N6716, Key parameters: Is=1.082E-11 Bf=210 Tf=6.63E-10
ap_npn_2N6717_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6717, Key parameters: Is=6.31681E-13 Bf=387.72 Tf=6.10947E-10
ap_npn_2N6718_19930601	Manufacturer: National_Semiconductor, Basic Description: NPN Transistor, Part number: 2N6718, Key parameters: Is=3E-14 Bf=130 Tf=8.6E-10
ap_npn_2N6731_19930601	Manufacturer: National_Semiconductor, Basic Description: NPN Transistor, Part number: 2N6731, Key parameters: Is=3E-14 Bf=130 Tf=8.6E-10
ap_npn_2N6833_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6833, Key parameters: Is=5.52E-14 Bf=30 Tf=2.12E-09
ap_npn_2N6834_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6834, Key parameters: Is=5.52E-14 Bf=30 Tf=2.12E-09
ap_npn_2N6835_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6835, Key parameters: Is=8.8E-13 Bf=30 Tf=2.12E-09
ap_npn_2N6836_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6836, Key parameters: Is=7.66E-13 Bf=35 Tf=2.12E-09
ap_npn_2N6837_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N6837, Key parameters: Is=1.252E-12 Bf=45 Tf=2.12E-09
ap_npn_2N718A_19930601	Basic Description: NPN Transistor, Part number: 2N718A, Key parameters:

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	Is=1.32607E-14 Bf=69.056928 Tf=7.805953E-10
ap_npn_2N918_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N918, Key parameters: Is=2.60166E-16 Bf=116.445 Tf=1.84255E-10
ap_npn_2N930A_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N930A, Key parameters: Is=4.46647E-15 Bf=530.6489198 Tf=2.93227E-10
ap_npn_2N930_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 2N930, Key parameters: Is=6.29055E-15 Bf=351.508 Tf=3.36133E-10
ap_npn_2SC1000_19930601	Basic Description: NPN Transistor, Part number: 2SC1000, Key parameters: Is=1.234E-14 Bf=440 Tf=3.18E-09
ap_npn_2SC1009_19930601	Basic Description: NPN Transistor, Part number: 2SC1009, Key parameters: Is=1.289E-15 Bf=162 Tf=3.25E-10
ap_npn_2SC108A_19930601	Basic Description: NPN Transistor, Part number: 2SC108A, Key parameters: Is=1.665E-12 Bf=118.3 Tf=3.183E-10
ap_npn_2SC109A_19930601	Basic Description: NPN Transistor, Part number: 2SC109A, Key parameters: Is=1.665E-12 Bf=118.3 Tf=3.183E-10
ap_npn_2SC1213AK_19930601	Basic Description: NPN Transistor, Part number: 2SC1213AK, Key parameters: Is=8.5E-14 Bf=120 Tf=7E-10
ap_npn_2SC1213A_19930601	Basic Description: NPN Transistor, Part number: 2SC1213A, Key parameters: Is=8.5E-14 Bf=120 Tf=7E-09
ap_npn_2SC1280A_19930601	Basic Description: NPN Transistor, Part number: 2SC1280A, Key parameters: Is=1.765137E-14 Bf=39250 Tf=3.75E-10
ap_npn_2SC1385_19930601	Basic Description: NPN Transistor, Part number: 2SC1385, Key parameters: Is=1E-14 Bf=180 Tf=8E-10
ap_npn_2SC1613_19930601	Basic Description: NPN Transistor, Part number: 2SC1613, Key parameters: Is=5.612E-13 Bf=470 Tf=1.675E-09
ap_npn_2SC1614_19930601	Basic Description: NPN Transistor, Part number: 2SC1614, Key parameters: Is=5.612E-13 Bf=470 Tf=1.675E-09
ap_npn_2SC1615_19930601	Basic Description: NPN Transistor, Part number: 2SC1615, Key parameters: Is=5.612E-13 Bf=470 Tf=1.675E-09
ap_npn_2SC1617_19930601	Basic Description: NPN Transistor, Part number: 2SC1617, Key parameters: Is=1E-14 Bf=100 Tf=2.274E-08
ap_npn_2SC1623_19930601	Manufacturer: Toshiba, Basic Description: NPN Transistor, Part number: 2SC1623, Key parameters: Is=2.937E-14 Bf=275 Tf=3.95E-10
ap_npn_2SC1649_19930601	Basic Description: NPN Transistor, Part number: 2SC1649, Key parameters: Is=5.612E-13 Bf=470 Tf=1.675E-09
ap_npn_2SC1650_19930601	Basic Description: NPN Transistor, Part number: 2SC1650, Key parameters: Is=5.612E-13 Bf=470 Tf=1.675E-09
ap_npn_2SC1651_19930601	Basic Description: NPN Transistor, Part number: 2SC1651, Key parameters: Is=5.612E-13 Bf=470 Tf=1.675E-09
ap_npn_2SC1674_19930601	Basic Description: NPN Transistor, Part number: 2SC1674, Key parameters: Is=1.5147E-11 Bf=100 Tf=1.7684E-10
ap_npn_2SC1740S_19930601	Basic Description: NPN Transistor, Part number: 2SC1740S, Key parameters: Is=8.57E-14 Bf=250 Tf=3.18E-10
ap_npn_2SC1740_19930601	Basic Description: NPN Transistor, Part number: 2SC1740, Key parameters: Is=8.57E-14 Bf=250 Tf=3.18E-10
ap_npn_2SC1815_19930601	Manufacturer: Toshiba, Basic Description: NPN Transistor, Part number: 2SC1815, Key parameters: Is=4.209E-14 Bf=440 Tf=3.628E-10
ap_npn_2SC1844_19930601	Basic Description: NPN Transistor, Part number: 2SC1844, Key parameters: Is=3.3838E-14 Bf=430 Tf=2.6E-10

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ap_npn_2SC1941_19930601	Basic Description: NPN Transistor, Part number: 2SC1941, Key parameters: Is=4.6416E-14 Bf=210 Tf=1.25E-09
ap_npn_2SC1959_19930601	Manufacturer: Toshiba, Basic Description: NPN Transistor, Part number: 2SC1959, Key parameters: Is=1E-14 Bf=175 Tf=8.54E-10
ap_npn_2SC2021M_19930601	Basic Description: NPN Transistor, Part number: 2SC2021M, Key parameters: Is=8.57E-14 Bf=250 Tf=3.18E-10
ap_npn_2SC2021_19930601	Basic Description: NPN Transistor, Part number: 2SC2021, Key parameters: Is=8.57E-14 Bf=250 Tf=3.18E-10
ap_npn_2SC2168_19930601	Basic Description: NPN Transistor, Part number: 2SC2168, Key parameters: Is=1.13E-13 Bf=210 Tf=8E-09
ap_npn_2SC2204_19930601	Basic Description: NPN Transistor, Part number: 2SC2204, Key parameters: Is=1.593E-12 Bf=31 Tf=5.684E-09
ap_npn_2SC2220_19930601	Basic Description: NPN Transistor, Part number: 2SC2220, Key parameters: Is=1.593E-12 Bf=31 Tf=5.684E-09
ap_npn_2SC2223_19930601	Manufacturer: Toshiba, Basic Description: NPN Transistor, Part number: 2SC2223, Key parameters: Is=3.134E-16 Bf=119 Tf=2.343E-10
ap_npn_2SC2235_19930601	Basic Description: NPN Transistor, Part number: 2SC2235, Key parameters: Is=1.6277543E-12 Bf=142 Tf=1.326E-09
ap_npn_2SC2238A_19930601	Basic Description: NPN Transistor, Part number: 2SC2238A, Key parameters: Is=4E-11 Bf=134 Tf=1E-09
ap_npn_2SC2238B_19930601	Basic Description: NPN Transistor, Part number: 2SC2238B, Key parameters: Is=4E-11 Bf=134 Tf=1E-09
ap_npn_2SC2238_19930601	Basic Description: NPN Transistor, Part number: 2SC2238, Key parameters: Is=4E-11 Bf=134 Tf=1E-09
ap_npn_2SC2240_19930601	Basic Description: NPN Transistor, Part number: 2SC2240, Key parameters: Is=1.6277543E-12 Bf=142 Tf=1.326E-09
ap_npn_2SC2351_19930601	Basic Description: NPN Transistor, Part number: 2SC2351, Key parameters: Is=5.34455E-16 Bf=100 Tf=9.04E-12
ap_npn_2SC2383_19930601	Basic Description: NPN Transistor, Part number: 2SC2383, Key parameters: Is=1E-12 Bf=200 Tf=9E-10
ap_npn_2SC2405_19930601	Basic Description: NPN Transistor, Part number: 2SC2405, Key parameters: Is=4.08E-13 Bf=680 Tf=3.8E-10
ap_npn_2SC2412KS_19930601	Basic Description: NPN Transistor, Part number: 2SC2412KS, Key parameters: Is=6.4E-14 Bf=270 Tf=3E-10
ap_npn_2SC2462_19930601	Manufacturer: Hitachi, Basic Description: NPN Transistor, Part number: 2SC2462, Key parameters: Is=6.379E-15 Bf=210 Tf=4.54E-10
ap_npn_2SC2527_19930601	Basic Description: NPN Transistor, Part number: 2SC2527, Key parameters: Is=8.9E-12 Bf=190 Tf=1.8E-09
ap_npn_2SC2545_19930601	Manufacturer: Hitachi, Basic Description: NPN Transistor, Part number: 2SC2545, Key parameters: Is=1.599E-13 Bf=578 Tf=2.795E-10
ap_npn_2SC2546_19930601	Basic Description: NPN Transistor, Part number: 2SC2546, Key parameters: Is=2.301737E-15 Bf=845 Tf=3.28E-10
ap_npn_2SC2547_19930601	Basic Description: NPN Transistor, Part number: 2SC2547, Key parameters: Is=2.301737E-15 Bf=845 Tf=3.28E-10
ap_npn_2SC2618_19930601	Manufacturer: Hitachi, Basic Description: NPN Transistor, Part number: 2SC2618, Key parameters: Is=6.007E-14 Bf=224 Tf=1.08E-09
ap_npn_2SC2712_19930601	Basic Description: NPN Transistor, Part number: 2SC2712, Key parameters: Is=1.857E-15 Bf=83.58 Tf=2.8939999E-10
ap_npn_2SC2713_19930601	Basic Description: NPN Transistor, Part number: 2SC2713, Key parameters: Is=8.12E-14 Bf=300 Tf=3.1E-10



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ap_npn_2SC2719_19930601	Basic Description: NPN Transistor, Part number: 2SC2719, Key parameters: Is=8.164E-14 Bf=376 Tf=4.54E-10
ap_npn_2SC2720_19930601	Basic Description: NPN Transistor, Part number: 2SC2720, Key parameters: Is=1.735E-14 Bf=117.5 Tf=2.8E-10
ap_npn_2SC2733_19930601	Manufacturer: Hitachi, Basic Description: NPN Transistor, Part number: 2SC2733, Key parameters: Is=7.176E-16 Bf=131 Tf=8E-11
ap_npn_2SC2785_19930601	Basic Description: NPN Transistor, Part number: 2SC2785, Key parameters: Is=1E-13 Bf=230 Tf=4.8E-10
ap_npn_2SC2855_19930601	Basic Description: NPN Transistor, Part number: 2SC2855, Key parameters: Is=8.465E-14 Bf=710 Tf=3.273E-10
ap_npn_2SC2859_19930601	Manufacturer: Toshiba, Basic Description: NPN Transistor, Part number: 2SC2859, Key parameters: Is=2.763E-14 Bf=139 Tf=4.8E-10
ap_npn_2SC2983_19930601	Manufacturer: Toshiba, Basic Description: NPN Transistor, Part number: 2SC2983, Key parameters: Is=1E-14 Bf=165 Tf=1.054E-09
ap_npn_2SC3281_19930601	Basic Description: NPN Transistor, Part number: 2SC3281, Key parameters: Is=2.2907E-10 Bf=135 Tf=5.3E-09
ap_npn_2SC3355_19930601	Basic Description: NPN Transistor, Part number: 2SC3355, Key parameters: Is=5.345E-16 Bf=83 Tf=1E-11
ap_npn_2SC3392_19930601	Basic Description: NPN Transistor, Part number: 2SC3392, Key parameters: Is=1E-14 Bf=330 Tf=0.51
ap_npn_2SC3423_19930601	Basic Description: NPN Transistor, Part number: 2SC3423, Key parameters: Is=1.4E-14 Bf=130 Tf=7.9577E-10
ap_npn_2SC3424_19930601	Basic Description: NPN Transistor, Part number: 2SC3424, Key parameters: Is=1.755E-14 Bf=110 Tf=1.98E-09
ap_npn_2SC3515_19930601	Manufacturer: Toshiba, Basic Description: NPN Transistor, Part number: 2SC3515, Key parameters: Is=2.944E-14 Bf=128 Tf=1.516E-09
ap_npn_2SC3554_19930601	Basic Description: NPN Transistor, Part number: 2SC3554, Key parameters: Is=1.3E-13 Bf=195 Tf=2.456E-09
ap_npn_2SC3595_19930601	Basic Description: NPN Transistor, Part number: 2SC3595, Key parameters: Is=3.5E-15 Bf=100 Tf=6E-11
ap_npn_2SC3596_19930601	Basic Description: NPN Transistor, Part number: 2SC3596, Key parameters: Is=2.345E-14 Bf=100 Tf=1.6E-10
ap_npn_2SC3597_19930601	Basic Description: NPN Transistor, Part number: 2SC3597, Key parameters: Is=1.416E-14 Bf=100 Tf=1.6E-10
ap_npn_2SC3598_19930601	Basic Description: NPN Transistor, Part number: 2SC3598, Key parameters: Is=2.454E-14 Bf=100 Tf=2.9E-10
ap_npn_2SC3599_19930601	Basic Description: NPN Transistor, Part number: 2SC3599, Key parameters: Is=4.666E-14 Bf=95 Tf=2.9E-10
ap_npn_2SC3600_19930601	Basic Description: NPN Transistor, Part number: 2SC3600, Key parameters: Is=2.09E-14 Bf=95 Tf=3.4E-10
ap_npn_2SC3601_19930601	Basic Description: NPN Transistor, Part number: 2SC3601, Key parameters: Is=2.09E-14 Bf=95 Tf=3.4E-10
ap_npn_2SC3603_19930601	Basic Description: NPN Transistor, Part number: 2SC3603, Key parameters: Is=5.569E-16 Bf=114.2 Tf=6.692E-12
ap_npn_2SC3739_19930601	Manufacturer: RCA, Basic Description: NPN Transistor, Part number: 2SC3739, Key parameters: Is=2.739E-14 Bf=264 Tf=2.65E-10
ap_npn_2SC3858_19930601	Basic Description: NPN Transistor, Part number: 2SC3858, Key parameters: Is=7.1029215E-08 Bf=105 Tf=1.6E-09
ap_npn_2SC503_19930601	Basic Description: NPN Transistor, Part number: 2SC503, Key parameters: Is=1E-14 Bf=180 Tf=8E-10



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ap_npn_2SC512_19930601	Basic Description: NPN Transistor, Part number: 2SC512, Key parameters: Is=1E-14 Bf=100 Tf=3.5E-09
ap_npn_2SC513_19930601	Basic Description: NPN Transistor, Part number: 2SC513, Key parameters: Is=1E-14 Bf=100 Tf=3.5E-09
ap_npn_2SC732_19930601	Manufacturer: Toshiba, Basic Description: NPN Transistor, Part number: 2SC732, Key parameters: Is=5.41E-14 Bf=578 Tf=4.45E-10
ap_npn_2SC941_19930601	Manufacturer: Toshiba, Basic Description: NPN Transistor, Part number: 2SC941, Key parameters: Is=8.789E-15 Bf=124 Tf=2.052E-10
ap_npn_2SC945_19930601	Basic Description: NPN Transistor, Part number: 2SC945, Key parameters: Is=5.59E-14 Bf=220 Tf=4.927E-10
ap_npn_2SC959_19930601	Basic Description: NPN Transistor, Part number: 2SC959, Key parameters: Is=4.008E-13 Bf=260 Tf=1.06E-09
ap_npn_2SD1051_19930601	Manufacturer: National_Semiconductor, Basic Description: NPN Transistor, Part number: 2SD1051, Key parameters: Is=1E-14 Bf=154 Tf=5.3E-10
ap_npn_2SD1316_19930601	Manufacturer: National_Semiconductor, Basic Description: NPN Transistor, Part number: 2SD1316, Key parameters: Is=1E-14 Bf=18000 Tf=8E-09
ap_npn_2SD1317_19930601	Manufacturer: National_Semiconductor, Basic Description: NPN Transistor, Part number: 2SD1317, Key parameters: Is=1E-14 Bf=24000 Tf=8E-09
ap_npn_2SD1323_19930601	Manufacturer: National_Semiconductor, Basic Description: NPN Transistor, Part number: 2SD1323, Key parameters: Is=1E-14 Bf=20000 Tf=8E-09
ap_npn_2SD1441_19930601	Manufacturer: National_Semiconductor, Basic Description: NPN Transistor, Part number: 2SD1441, Key parameters: Is=1E-08 Bf=60 Tf=5E-09
ap_npn_2SD1444_19930601	Manufacturer: National_Semiconductor, Basic Description: NPN Transistor, Part number: 2SD1444, Key parameters: Is=1E-14 Bf=190 Tf=6.3E-10
ap_npn_2SD1590_19930601	Basic Description: NPN Transistor, Part number: 2SD1590, Key parameters: Is=1E-14 Bf=30000 Tf=2.854E-09
ap_npn_2SD1594_19930601	Manufacturer: Hitachi, Basic Description: NPN Transistor, Part number: 2SD1594, Key parameters: Is=1E-14 Bf=1900 Tf=1.221E-09
ap_npn_2SD1695_19930601	Basic Description: NPN Transistor, Part number: 2SD1695, Key parameters: Is=1E-14 Bf=25000 Tf=8E-09
ap_npn_2SD313_19930601	Basic Description: NPN Transistor, Part number: 2SD313, Key parameters: Is=7.18E-12 Bf=260 Tf=3.1E-09
ap_npn_2SD401A_19930601	Basic Description: NPN Transistor, Part number: 2SD401A, Key parameters: Is=1E-14 Bf=100 Tf=2.274E-08
ap_npn_2SD524_19930601	Basic Description: NPN Transistor, Part number: 2SD524, Key parameters: Is=1.011E-15 Bf=35000 Tf=1.5E-09
ap_npn_2SD526_19930601	Basic Description: NPN Transistor, Part number: 2SD526, Key parameters: Is=7.18E-12 Bf=260 Tf=3.1E-09
ap_npn_2SD552_19930601	Basic Description: NPN Transistor, Part number: 2SD552, Key parameters: Is=2.87E-11 Bf=195 Tf=4.5E-08
ap_npn_2SD636_19930601	Manufacturer: National_Semiconductor, Basic Description: NPN Transistor, Part number: 2SD636, Key parameters: Is=2.156E-14 Bf=414 Tf=1.124E-09
ap_npn_2SD643_19930601	Basic Description: NPN Transistor, Part number: 2SD643, Key parameters: Is=1.439E-08 Bf=8000 Tf=2.653E-09
ap_npn_2SD644_19930601	Basic Description: NPN Transistor, Part number: 2SD644, Key parameters: Is=1.436E-13 Bf=23 Tf=7.96E-09
ap_npn_2SD661_19930601	Manufacturer: National_Semiconductor, Basic Description: NPN Transistor, Part number: 2SD661, Key parameters: Is=3.62E-14 Bf=511 Tf=5.016E-10

ap_npn_2SD694_19930601	Basic Description: NPN Transistor, Part number: 2SD694, Key parameters: Is=1.436E-13 Bf=23 Tf=7.96E-09
ap_npn_2SD703_19930601	Basic Description: NPN Transistor, Part number: 2SD703, Key parameters: Is=1.439E-08 Bf=8000 Tf=2.653E-09
ap_npn_2SD878_19930601	Basic Description: NPN Transistor, Part number: 2SD878, Key parameters: Is=1.03E-11 Bf=120 Tf=2E-08
ap_npn_2SD965_19930601	Manufacturer: National_Semiconductor, Basic Description: NPN Transistor, Part number: 2SD965, Key parameters: Is=5.692E-13 Bf=400 Tf=7.377E-10
ap_npn_40235_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: 40235, Package: TO-72, Key parameters: Is=69.28E-18 Bf=285.6 Tf=141.1e-12
ap_npn_40236_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: 40236, Package: TO-72, Key parameters: Is=69.28E-18 Bf=308.6 Tf=141.2e-12
ap_npn_40237_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: 40237, Package: TO-72, Key parameters: Is=69.28E-18 Bf=288.5 Tf=141.2e-12
ap_npn_40238_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: 40238, Package: TO-72, Key parameters: Is=69.28E-18 Bf=285.6 Tf=141.1e-12
ap_npn_40239_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: 40239, Package: TO-72, Key parameters: Is=69.28E-18 Bf=327.6 Tf=140.9e-12
ap_npn_40240_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: 40240, Package: TO-72, Key parameters: Is=69.28E-18 Bf=288.5 Tf=141.2e-12
ap_npn_40242_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: 40242, Package: TO-72, Key parameters: Is=69.28E-18 Bf=285.6 Tf=141.1e-12
ap_npn_40390_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: 40390, Key parameters: Is=4.85E-14 Bf=160 Tf=2.3E-09
ap_npn_40666_19930601	Basic Description: NPN Transistor, Part number: 40666, Key parameters: Is=1E-14 Bf=95 Tf=2.45E-10
ap_npn_AT60135_19930601	Basic Description: NPN Transistor, Part number: AT60135, Key parameters: Is=5.939E-17 Bf=167.27 Tf=1.249234E-11
ap_npn_AT60235_19930601	Basic Description: NPN Transistor, Part number: AT60235, Key parameters: Is=2.0903E-16 Bf=166.1553742 Tf=1.9899E-11
ap_npn_AT60535_19930601	Basic Description: NPN Transistor, Part number: AT60535, Key parameters: Is=5.046243E-16 Bf=149.573262 Tf=1.64523E-11
ap_npn_AT801_19930601	Basic Description: NPN Transistor, Part number: AT801, Key parameters: Is=8.181E-16 Bf=541 Tf=2E-09
ap_npn_BC337_19930601	Basic Description: NPN Transistor, Part number: BC337, Key parameters: Is=5.44568E-16 Bf=253.9343453 Tf=2.70635E-10
ap_npn_BC546B_19930601	Basic Description: NPN Transistor, Part number: BC546B, Key parameters: Is=1.05073E-14 Bf=239.9345135 Tf=2.98136E-10
ap_npn_BC547B_19930601	Basic Description: NPN Transistor, Part number: BC547B, Key parameters: Is=1.41408E-14 Bf=394.0190539 Tf=5.98983E-10
ap_npn_BC547_19930601	Basic Description: NPN Transistor, Part number: BC547, Key parameters: Is=2.67493E-14 Bf=537.1683051 Tf=3.73021E-10
ap_npn_BC639_19930601	Basic Description: NPN Transistor, Part number: BC639, Key parameters:

	Is=5.11174E-14 Bf=121.9073426 Tf=4.92612E-10
ap_npn_BCW71_19930601	Basic Description: NPN Transistor, Part number: BCW71, Key parameters: Is=1.49695E-14 Bf=242.7107954 Tf=5.30692E-10
ap_npn_BCX70GL_19930601	Basic Description: NPN Transistor, Part number: BCX70GL, Key parameters: Is=1.88863E-15 Bf=216.8926527 Tf=5.43907E-10
ap_npn_BCX70G_19930601	Basic Description: NPN Transistor, Part number: BCX70G, Key parameters: Is=1.88863E-15 Bf=216.8926527 Tf=5.43907E-10
ap_npn_BCY59_19930601	Basic Description: NPN Transistor, Part number: BCY59, Key parameters: Is=1.07171E-14 Bf=366.6593177 Tf=5.73315E-10
ap_npn_BD135_19930601	Basic Description: NPN Transistor, Part number: BD135, Key parameters: Is=9.036E-08 Bf=95 Tf=5.6841E-10
ap_npn_BD137_19930601	Basic Description: NPN Transistor, Part number: BD137, Key parameters: Is=9.036E-08 Bf=95 Tf=5.6841E-10
ap_npn_BD139_19930601	Manufacturer: Philips, Basic Description: NPN Transistor, Part number: BD139, Key parameters: Is=9.036E-08 Bf=95 Tf=5.6841E-10
ap_npn_BD243_19930601	Basic Description: NPN Transistor, Part number: BD243, Key parameters: Is=5.2055E-13 Bf=100 Tf=1.11632E-08
ap_npn_BFR90_19930601	Basic Description: NPN Transistor, Part number: BFR90, Key parameters: Is=1.24009E-16 Bf=76.4560984 Tf=1.36246E-11
ap_npn_BFR91_19930601	Basic Description: NPN Transistor, Part number: BFR91, Key parameters: Is=6.1932E-16 Bf=143.6774701 Tf=5.3656E-12
ap_npn_BFR92_19930601	Basic Description: NPN Transistor, Part number: BFR92, Key parameters: Is=5.28859E-17 Bf=83.1135779 Tf=1.024763E-13
ap_npn_BFR93_19930601	Basic Description: NPN Transistor, Part number: BFR93, Key parameters: Is=3.58834E-16 Bf=115.3021563 Tf=7.00404E-12
ap_npn_BFR96_19930601	Basic Description: NPN Transistor, Part number: BFR96, Key parameters: Is=1.71214E-15 Bf=130.497525 Tf=1.69838E-11
ap_npn_BFT25_19930601	Basic Description: NPN Transistor, Part number: BFT25, Key parameters: Is=3.24719E-17 Bf=133.8906792 Tf=1.4487E-11
ap_npn_BFW92A_19930601	Basic Description: NPN Transistor, Part number: BFW92A, Key parameters: Is=4.47904E-16 Bf=87.3334533 Tf=1.83409E-11
ap_npn_BFY90_19930601	Basic Description: NPN Transistor, Part number: BFY90, Key parameters: Is=2.19892E-16 Bf=55.0354301 Tf=4.68416E-11
ap_npn_BSX19_19930601	Basic Description: NPN Transistor, Part number: BSX19, Key parameters: Is=1.3E-13 Bf=38 Tf=2.89E-10
ap_npn_BU204_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: BU204, Key parameters: Is=6.344E-14 Bf=15 Tf=3.98E-09
ap_npn_BU205_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: BU205, Key parameters: Is=6.344E-14 Bf=15 Tf=3.98E-09
ap_npn_BU207_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: BU207, Key parameters: Is=6.065E-13 Bf=15 Tf=3.98E-09
ap_npn_BU208_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: BU208, Key parameters: Is=6.065E-13 Bf=15 Tf=3.98E-09
ap_npn_BU508A_19930601	Basic Description: NPN Transistor, Part number: BU508A, Key parameters: Is=8E-12 Bf=14.377933 Tf=8.9993E-09
ap_npn_BUV26_19930601	Basic Description: NPN Transistor, Part number: BUV26, Key parameters: Is=1.11745E-12 Bf=60 Tf=5.58039E-09
ap_npn_BUV27_19930601	Basic Description: NPN Transistor, Part number: BUV27, Key parameters: Is=1.57424E-12 Bf=60 Tf=7.26863E-09
ap_npn_BUV47A_19930601	Basic Description: NPN Transistor, Part number: BUV47A, Key parameters:

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	Is=4.18707E-13 Bf=35.7500561 Tf=9.00306E-08
ap_npn_CA3086_19930601	Basic Description: NPN Transistor, Part number: CA3086, Key parameters: Is=3.99895E-16 Bf=97.6053716 Tf=1.73833E-10
ap_npn_CA3096N_19930601	Basic Description: NPN Transistor, Part number: CA3096N, Key parameters: Is=8.56429E-16 Bf=219.8871643 Tf=1.97348E-10
ap_npn_CA3127E_19930601	Manufacturer: RCA, Basic Description: NPN Transistor, Part number: CA3127E, Key parameters: Is=6.1035E-16 Bf=90 Tf=1.2E-10
ap_npn_D44H10_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: D44H10, Key parameters: Is=1.786E-12 Bf=120 Tf=1.6E-09
ap_npn_D44H11_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: D44H11, Key parameters: Is=1.786E-12 Bf=120 Tf=1.6E-09
ap_npn_D44H1_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: D44H1, Key parameters: Is=1.786E-12 Bf=120 Tf=1.6E-09
ap_npn_D44H2_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: D44H2, Key parameters: Is=1.786E-12 Bf=120 Tf=1.6E-09
ap_npn_D44H4_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: D44H4, Key parameters: Is=1.786E-12 Bf=120 Tf=1.6E-09
ap_npn_D44H5_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: D44H5, Key parameters: Is=1.786E-12 Bf=120 Tf=1.6E-09
ap_npn_D44H7_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: D44H7, Key parameters: Is=1.786E-12 Bf=120 Tf=1.6E-09
ap_npn_D44H8_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: D44H8, Key parameters: Is=1.786E-12 Bf=120 Tf=1.6E-09
ap_npn_DH3724CD_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: DH3724CD, Package: Ceramic, Key parameters: Is=1.608e-12 Bf=169 Tf=300.5e-12
ap_npn_DH3724CN_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: DH3724CN, Package: Molded, Key parameters: Is=1.608e-12 Bf=169 Tf=300.5e-12
ap_npn_DH3725CD_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: DH3725CD, Package: Ceramic, Key parameters: Is=1.608e-12 Bf=169 Tf=300.5e-12
ap_npn_DH3725CN_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: DH3725CN, Package: Molded, Key parameters: Is=1.608e-12 Bf=169 Tf=300.5e-12
ap_npn_EVK31_050A_19930601	Basic Description: NPN Transistor, Part number: EVK31, Key parameters: Is=2E-08 Bf=30 Tf=3.5368E-08
ap_npn_HA1127_19930601	Manufacturer: Hitachi, Basic Description: NPN Transistor, Part number: HA1127, Key parameters: Is=1.077E-15 Bf=179 Tf=1.522E-10
ap_npn_HXTR6103_19930601	Basic Description: NPN Transistor, Part number: HXTR6103, Key parameters: Is=9.58468E-17 Bf=115.5575567 Tf=1.8501E-11
ap_npn_IDEALNPN_19930601	Basic Description: NPN Transistor, Part number: IDEALNPN, Key parameters: Bf=100
ap_npn_KS621K30_19930601	Basic Description: NPN Transistor, Part number: KS621K30, Key parameters: Is=1E-16 Bf=20000 Tf=7E-09
ap_npn_LM394_19930601	Basic Description: NPN Transistor, Part number: LM394, Key parameters: Is=1.4677E-13 Bf=680 Tf=1E-15
ap_npn_LT1739_19930601	Basic Description: NPN Transistor, Part number: LT1739, Key parameters: Is=1.6235423E-15 Bf=61.2362543 Tf=1.345632E-11
ap_npn_LT1839_19930601	Basic Description: NPN Transistor, Part number: LT1839, Key parameters:

	Is=1E-14 Bf=30 Tf=2E-09
ap_npn_LT4404_19930601	Basic Description: NPN Transistor, Part number: LT4404, Key parameters: Is=1.2419E-15 Bf=208.83 Tf=2.85E-11
ap_npn_LT4704_19930601	Basic Description: NPN Transistor, Part number: LT4704, Key parameters: Is=6.11893E-16 Bf=226.7284339 Tf=3.97669E-12
ap_npn_MAT01_19930601	Basic Description: NPN Transistor, Part number: MAT01, Key parameters: Is=3.64738E-14 Bf=880 Tf=1E-19
ap_npn_MJ11018_19930601	Basic Description: NPN Transistor, Part number: MJ11018, Key parameters: Is=1E-14 Bf=1500 Tf=2.1E-08
ap_npn_MJ12003_19930601	Basic Description: NPN Transistor, Part number: MJ12003, Key parameters: Is=5E-13 Bf=11.8333171 Tf=1E-08
ap_npn_MJ13014_19930601	Basic Description: NPN Transistor, Part number: MJ13014, Key parameters: Is=4.84138E-12 Bf=33.3434526 Tf=5.22982E-10
ap_npn_MJ13080_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MJ13080, Key parameters: Is=8.763E-12 Bf=25 Tf=1.59E-08
ap_npn_MJ13081_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MJ13081, Key parameters: Is=8.763E-12 Bf=25 Tf=1.59E-08
ap_npn_MJ15001_19930601	Basic Description: NPN Transistor, Part number: MJ15001, Key parameters: Is=9.718E-11 Bf=200 Tf=1.59E-08
ap_npn_MJ15003_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MJ15003, Key parameters: Is=2.87E-11 Bf=195 Tf=4.5E-08
ap_npn_MJ15015_19930601	Basic Description: NPN Transistor, Part number: MJ15015, Key parameters: Is=2.146E-12 Bf=190 Tf=8E-08
ap_npn_MJ15022_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MJ15022, Key parameters: Is=7.604E-13 Bf=95 Tf=1.99E-08
ap_npn_MJ15024_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MJ15024, Key parameters: Is=7.604E-13 Bf=95 Tf=1.99E-08
ap_npn_MJ15050_19930601	Basic Description: NPN Transistor, Part number: MJ15050, Key parameters: Is=2.331E-12 Bf=125 Tf=2.148E-08
ap_npn_MJ16002_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MJ16002, Key parameters: Is=8.66E-14 Bf=38 Tf=5.3E-09
ap_npn_MJ16004_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MJ16004, Key parameters: Is=8.66E-14 Bf=38 Tf=5.3E-09
ap_npn_MJ16006_19930601	Basic Description: NPN Transistor, Part number: MJ16006, Key parameters: Is=1.23E-10 Bf=30 Tf=2.49E-09
ap_npn_MJ16008_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MJ16008, Key parameters: Is=1.23E-10 Bf=30 Tf=2.49E-09
ap_npn_MJ16010A_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MJ16010A, Key parameters: Is=1.2033E-12 Bf=35 Tf=1.59E-08
ap_npn_MJ16010_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MJ16010, Key parameters: Is=1.2033E-12 Bf=35 Tf=1.59E-08
ap_npn_MJ16012_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MJ16012, Key parameters: Is=1.2033E-12 Bf=35 Tf=1.59E-08
ap_npn_MJ3000_19930601	Basic Description: NPN Transistor, Part number: MJ3000, Key parameters: Is=1E-16 Bf=250
ap_npn_MJ8504_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MJ8504, Key parameters: Is=8.584E-13 Bf=19 Tf=5.3E-09
ap_npn_MJ8505_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MJ8505, Key parameters: Is=8.584E-13 Bf=19 Tf=5.3E-09
ap_npn_MJE12007_19930601	Basic Description: NPN Transistor, Part number: MJE12007, Key



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	parameters: Is=9.83342E-14 Bf=18.2379248 Tf=6.8469E-09
ap_npn_MJE13008_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MJE13008, Key parameters: Is=1.436E-13 Bf=23 Tf=7.96E-09
ap_npn_MJE13009_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MJE13009, Key parameters: Is=1.436E-13 Bf=23 Tf=7.96E-09
ap_npn_MJE1320_19930601	Basic Description: NPN Transistor, Part number: MJE1320, Key parameters: Is=1.130139E-13 Bf=9.6940827 Tf=1.374543E-08
ap_npn_MJE15028_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MJE15028, Key parameters: Is=1E-13 Bf=123.7847655 Tf=1.5E-09
ap_npn_MJE15030_19930601	Basic Description: NPN Transistor, Part number: MJE15030, Key parameters: Is=1E-14 Bf=100 Tf=2.274E-08
ap_npn_MJE180_19930601	Basic Description: NPN Transistor, Part number: MJE180, Key parameters: Is=1.19074E-13 Bf=250 Tf=8.08122E-10
ap_npn_MJE181_19930601	Basic Description: NPN Transistor, Part number: MJE181, Key parameters: Is=5.1578255E-10 Bf=140 Tf=2.1E-09
ap_npn_MJE182_19930601	Basic Description: NPN Transistor, Part number: MJE182, Key parameters: Is=5.1578255E-10 Bf=140 Tf=2.1E-09
ap_npn_MJE340_19930601	Basic Description: NPN Transistor, Part number: MJE340, Key parameters: Is=5.3262E-10 Bf=86 Tf=1.061E-08
ap_npn_MJE6043_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MJE6043, Key parameters: Is=1.011E-15 Bf=35000 Tf=1.5E-09
ap_npn_MJE6044_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MJE6044, Key parameters: Is=1.011E-15 Bf=35000 Tf=1.5E-09
ap_npn_MJE6045_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MJE6045, Key parameters: Is=1.011E-15 Bf=35000 Tf=1.5E-09
ap_npn_MJE8502_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MJE8502, Key parameters: Is=1.008E-11 Bf=18 Tf=7.96E-09
ap_npn_MJE8503_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MJE8503, Key parameters: Is=1.008E-11 Bf=18 Tf=7.96E-09
ap_npn_MJH12004_19930601	Basic Description: NPN Transistor, Part number: MJH12004, Key parameters: Is=3.83112E-13 Bf=12.3440999 Tf=9.543973E-09
ap_npn_MJH16002_19930601	Basic Description: NPN Transistor, Part number: MJH16002, Key parameters: Is=1E-13 Bf=38.3423745 Tf=1E-07
ap_npn_MJH16006_19930601	Basic Description: NPN Transistor, Part number: MJH16006, Key parameters: Is=1.23E-10 Bf=30 Tf=2.49E-09
ap_npn_MJH16008_19930601	Basic Description: NPN Transistor, Part number: MJH16008, Key parameters: Is=1.23E-10 Bf=30 Tf=2.49E-09
ap_npn_MJH16010A_19930601	Basic Description: NPN Transistor, Part number: MJH16010A, Key parameters: Is=1.2033E-12 Bf=35 Tf=1.59E-08
ap_npn_MJH16010_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MJH16010, Key parameters: Is=1.2033E-12 Bf=35 Tf=1.59E-08
ap_npn_MJH16012_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MJH16012, Key parameters: Is=1.2033E-12 Bf=35 Tf=1.59E-08
ap_npn_MM420_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MM420, Package: TO-39, Key parameters: Is=2.644e-12 Bf=1.941K Tf=2.029e-9
ap_npn_MM421_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MM421, Package: TO-39, Key parameters: Is=2.644e-12 Bf=1.941K Tf=2.029e-9
ap_npn_MM5262_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number:

	MM5262, Package: TO-39, Key parameters: Is=1.988e-12 Bf=190.4 Tf=422.9e-12
ap_npn_MMBR2060_19930601	Basic Description: NPN Transistor, Part number: MMBR2060, Key parameters: Is=2.37389E-17 Bf=61.2203212 Tf=9.42156E-11
ap_npn_MMBR2857_19930601	Basic Description: NPN Transistor, Part number: MMBR2857, Key parameters: Is=5.38533E-16 Bf=146.7163735 Tf=9.0811E-11
ap_npn_MMBR901_19930601	Basic Description: NPN Transistor, Part number: MMBR901, Key parameters: Is=3.58798E-16 Bf=144.896502 Tf=7.46925E-12
ap_npn_MMBR941L_19930601	Basic Description: NPN Transistor, Part number: MMBR941L, Key parameters: Is=1.64494E-16 Bf=131.9945086 Tf=7.042763E-12
ap_npn_MMBR951L_19930601	Basic Description: NPN Transistor, Part number: MMBR951L, Key parameters: Is=3.81404E-16 Bf=121.154097 Tf=1.93463E-12
ap_npn_MMBT3960A_19930601	Basic Description: NPN Transistor, Part number: MMBT3960A, Key parameters: Is=8.108E-16 Bf=135.2 Tf=2.814E-11
ap_npn_MMBT5088_19930601	Basic Description: NPN Transistor, Part number: MMBT5088, Key parameters: Is=4.53186E-15 Bf=530.9405135 Tf=2.65926E-10
ap_npn_MMBTA20_19930601	Basic Description: NPN Transistor, Part number: MMBTA20, Key parameters: Is=3.83074E-15 Bf=399.4947697 Tf=4.349E-10
ap_npn_MPQ6501_19930601	Basic Description: NPN Transistor, Part number: MPQ6501, Key parameters: Is=3.710699E-11 Bf=60 Tf=1E-10
ap_npn_MPQ918_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MPQ918, Key parameters: Is=1.219E-14 Bf=360 Tf=9E-11
ap_npn_MPS2222_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MPS2222, Package: TO-92, Key parameters: Is=3.063e-15 Bf=4.262K Tf=427.6e-12
ap_npn_MPS2369_19930601	Basic Description: NPN Transistor, Part number: MPS2369, Key parameters: Is=2.70881E-15 Bf=86.2367942 Tf=2.18663E-10
ap_npn_MPS2369_19930602	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS2369, Package: TO-92, Key parameters: Is=44.14e-15 Bf=78.32 Tf=227.6e-12
ap_npn_MPS2711_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS2711, Package: TO-92, Key parameters: Is=6.734e-15 Bf=454 Tf=300.5e-12
ap_npn_MPS2712_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS2712, Package: TO-92, Key parameters: Is=6.734e-15 Bf=383.9 Tf=301.1e-12
ap_npn_MPS2713_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS2713, Package: TO-92, Key parameters: Is=44.14e-15 Bf=63.44 Tf=227.6e-12
ap_npn_MPS2714_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS2714, Package: TO-92, Key parameters: Is=44.14e-15 Bf=159.8 Tf=227.6e-12
ap_npn_MPS2716_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS2716, Package: TO-92, Key parameters: Is=6.734e-15 Bf=383.9 Tf=301.5e-12
ap_npn_MPS2923_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS2923, Package: TO-92, Key parameters: Is=6.734e-15 Bf=383.9 Tf=301.1e-12
ap_npn_MPS2924_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS2924, Package: TO-92, Key parameters: Is=6.734e-15 Bf=522 Tf=301.3e-12

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ap_npn_MPS2925_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS2925, Package: TO-92, Key parameters: Is=6.734e-15 Bf=728.3 Tf=301.5e-12
ap_npn_MPS2926_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS2926, Package: TO-92, Key parameters: Is=6.734e-15 Bf=387.5 Tf=301.5e-12
ap_npn_MPS3392_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS3392, Package: TO-92, Key parameters: Is=12.03e-15 Bf=254.8 Tf=385.4e-12
ap_npn_MPS3393_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS3393, Package: TO-92, Key parameters: Is=12.03e-15 Bf=154.1 Tf=390e-12
ap_npn_MPS3394_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS3394, Package: TO-92, Key parameters: Is=12.03e-15 Bf=94.37 Tf=390e-12
ap_npn_MPS3395_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS3395, Package: TO-92, Key parameters: Is=12.03e-15 Bf=330.3 Tf=390e-12
ap_npn_MPS3396_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS3396, Package: TO-92, Key parameters: Is=12.03e-15 Bf=254.8 Tf=390e-12
ap_npn_MPS3397_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS3397, Package: TO-92, Key parameters: Is=12.03e-15 Bf=201.3 Tf=390e-12
ap_npn_MPS3398_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS3398, Package: TO-92, Key parameters: Is=12.03e-15 Bf=254.8 Tf=390e-12
ap_npn_MPS3642_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS3642, Package: TO-92, Key parameters: Is=14.34e-15 Bf=118.6 Tf=410.3e-12
ap_npn_MPS3646_19930601	Basic Description: NPN Transistor, Part number: MPS3646, Key parameters: Is=3.00741E-15 Bf=125.5840655 Tf=2.34523E-10
ap_npn_MPS3646_19930602	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS3646, Package: TO-92, Key parameters: Is=1.017e-15 Bf=85.99 Tf=289.3e-12
ap_npn_MPS3693_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS3693, Package: TO-92, Key parameters: Is=61.01e-15 Bf=118.5 Tf=316.3e-12
ap_npn_MPS3694_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS3694, Package: TO-92, Key parameters: Is=61.01e-15 Bf=287.3 Tf=316.4e-12
ap_npn_MPS3704_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MPS3704, Package: TO-92, Key parameters: Is=26.03e-15 Bf=736.1K Tf=1.03e-9
ap_npn_MPS3707_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS3707, Package: TO-92, Key parameters: Is=5.911e-15 Bf=535.1 Tf=819.6e-12
ap_npn_MPS3708_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS3708, Package: TO-92, Key parameters: Is=5.911e-15 Bf=529.8 Tf=819.5e-12
ap_npn_MPS3709_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS3709, Package: TO-92, Key parameters: Is=5.911e-15 Bf=330.1 Tf=816.3e-12

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ap_npn_MPS3710_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS3710, Package: TO-92, Key parameters: Is=5.911e-15 Bf=423.8 Tf=818.6e-12
ap_npn_MPS3711_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS3711, Package: TO-92, Key parameters: Is=5.911e-15 Bf=680.9 Tf=820.4e-12
ap_npn_MPS3721_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS3721, Package: TO-92, Key parameters: Is=6.734e-15 Bf=503.9 Tf=301.7e-12
ap_npn_MPS3826_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS3826, Package: TO-92, Key parameters: Is=6.734e-15 Bf=335.9 Tf=301.2e-12
ap_npn_MPS3827_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS3827, Package: TO-92, Key parameters: Is=6.734e-15 Bf=473 Tf=301.7e-12
ap_npn_MPS3866_19930601	Basic Description: NPN Transistor, Part number: MPS3866, Key parameters: Is=1.96594E-15 Bf=120 Tf=1.45E-10
ap_npn_MPS3903_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS3903, Package: TO-92, Key parameters: Is=1.949e-15 Bf=535.4 Tf=637.5e-12
ap_npn_MPS3904_19930601	Basic Description: NPN Transistor, Part number: MPS3904, Key parameters: Is=4.71238E-15 Bf=185.2472847 Tf=6.29444E-10
ap_npn_MPS3904_19930602	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS3904, Package: TO-92, Key parameters: Is=1.949e-15 Bf=782.4 Tf=637.7e-12
ap_npn_MPS5172_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS5172, Package: TO-92, Key parameters: Is=12.03e-15 Bf=308.3 Tf=385.4e-12
ap_npn_MPS5179_19930601	Basic Description: NPN Transistor, Part number: MPS5179, Key parameters: Is=2.54912E-16 Bf=71.2312433 Tf=3.37252E-11
ap_npn_MPS571_19930601	Basic Description: NPN Transistor, Part number: MPS571, Key parameters: Is=3.88758E-15 Bf=368.7577115 Tf=1.10937E-11
ap_npn_MPS6512_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS6512, Package: TO-92, Key parameters: Is=6.734e-15 Bf=336.8 Tf=301.2e-12
ap_npn_MPS6513_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS6513, Package: TO-92, Key parameters: Is=6.734e-15 Bf=383.9 Tf=301.5e-12
ap_npn_MPS6514_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS6514, Package: TO-92, Key parameters: Is=6.734e-15 Bf=522 Tf=301.8e-12
ap_npn_MPS6515_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS6515, Package: TO-92, Key parameters: Is=6.734e-15 Bf=760.5 Tf=302e-12
ap_npn_MPS6520_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS6520, Package: TO-92, Key parameters: Is=12.03e-15 Bf=393.2 Tf=390e-12
ap_npn_MPS6521_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS6521, Package: TO-92, Key parameters: Is=12.03e-15 Bf=490.7 Tf=390e-12
ap_npn_MPS6531_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MPS6531, Package: TO-92, Key parameters: Is=26.03e-15 Bf=69.05K

	Tf=466.4e-12
ap_npn_MPS6539_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS6539, Package: TO-92, Key parameters: Is=69.28E-18 Bf=324.7 Tf=135.4e-12
ap_npn_MPS6548_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS6548, Package: TO-92, Key parameters: Is=69.28E-18 Bf=296 Tf=135.5e-12
ap_npn_MPS6564_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS6564, Package: TO-92, Key parameters: Is=61.01e-15 Bf=135.1 Tf=316.3e-12
ap_npn_MPS6565_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS6565, Package: TO-92, Key parameters: Is=61.01e-15 Bf=118.5 Tf=316.3e-12
ap_npn_MPS6566_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS6566, Package: TO-92, Key parameters: Is=61.01e-15 Bf=287.3 Tf=316.4e-12
ap_npn_MPS6571_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS6571, Package: TO-92, Key parameters: Is=5.911e-15 Bf=1.091K Tf=821.6e-12
ap_npn_MPS6573_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS6573, Package: TO-92, Key parameters: Is=1.949e-15 Bf=770 Tf=638.4e-12
ap_npn_MPS6574_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS6574, Package: TO-92, Key parameters: Is=1.949e-15 Bf=717.3 Tf=638e-12
ap_npn_MPS6575_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS6575, Package: TO-92, Key parameters: Is=1.949e-15 Bf=770 Tf=638.4e-12
ap_npn_MPS6576_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS6576, Package: TO-92, Key parameters: Is=1.949e-15 Bf=717.3 Tf=638e-12
ap_npn_MPS6601_19930601	Basic Description: NPN Transistor, Part number: MPS6601, Key parameters: Is=9.07257E-14 Bf=331.8799402 Tf=1.06493E-09
ap_npn_MPS6601_19930602	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MPS6601, Package: TO-92, Key parameters: Is=57.69e-15 Bf=214.1 Tf=670.3e-12
ap_npn_MPS6714_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MPS6714, Package: TO-92, Key parameters: Is=62.33e-15 Bf=18.52K Tf=1.492e-9
ap_npn_MPS6715_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MPS6715, Package: TO-92, Key parameters: Is=62.33e-15 Bf=18.52K Tf=1.492e-9
ap_npn_MPS6733_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MPS6733, Package: TO-92, Key parameters: Is=34.9e-15 Bf=3.069K Tf=2.056e-9
ap_npn_MPS6734_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MPS6734, Package: TO-92, Key parameters: Is=34.9e-15 Bf=3.069K Tf=2.056e-9
ap_npn_MPS6735_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MPS6735, Package: TO-92, Key parameters: Is=34.9e-15 Bf=3.069K Tf=2.056e-9
ap_npn_MPS706_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number:



	MPS706, Package: TO-92, Key parameters: Is=44.14e-15 Bf=50.91 Tf=227.6e-12
ap_npn_MPS8097_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MPS8097, Package: TO-92, Key parameters: Is=33.58e-15 Bf=2.115K Tf=310.2e-12
ap_npn_MPS8098_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS8098, Package: TO-92, Key parameters: Is=4.872e-15 Bf=9.599K Tf=407e-12
ap_npn_MPS8099_19930601	Basic Description: NPN Transistor, Part number: MPS8099, Key parameters: Is=1.317E-14 Bf=202.6038361 Tf=5.70901E-10
ap_npn_MPS8099_19930602	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS8099, Package: TO-92, Key parameters: Is=4.872e-15 Bf=9.599K Tf=407e-12
ap_npn_MPS834_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPS834, Package: TO-92, Key parameters: Is=44.14e-15 Bf=57.96 Tf=227.6e-12
ap_npn_MPS901_19930601	Basic Description: NPN Transistor, Part number: MPS901, Key parameters: Is=3.8614E-16 Bf=234.5 Tf=3.6036E-11
ap_npn_MPS911_19930601	Basic Description: NPN Transistor, Part number: MPS911, Key parameters: Is=1.59065E-15 Bf=305.1610511 Tf=1.84235E-11
ap_npn_MP5A05_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MP5A05, Key parameters: Is=1.97E-13 Bf=270 Tf=5.3E-10
ap_npn_MP5A05_19930602	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MP5A05, Package: TO-92, Key parameters: Is=8.324e-15 Bf=12.16K Tf=516.1e-12
ap_npn_MP5A06_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MP5A06, Key parameters: Is=2.21468E-14 Bf=249.1389 Tf=3.84235E-10
ap_npn_MP5A06_19930602	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MP5A06, Package: TO-92, Key parameters: Is=8.324e-15 Bf=12.16K Tf=516.1e-12
ap_npn_MP5A09_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MP5A09, Package: TO-92, Key parameters: Is=5.911e-15 Bf=621.5 Tf=820.1e-12
ap_npn_MP5A10_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MP5A10, Package: TO-92, Key parameters: Is=61.01e-15 Bf=193 Tf=316.3e-12
ap_npn_MP5A17_19930601	Basic Description: NPN Transistor, Part number: MP5A17, Key parameters: Is=4.75405E-14 Bf=515.6918998 Tf=1.2202E-09
ap_npn_MP5A18_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MP5A18, Key parameters: Is=1.21E-15 Bf=1500 Tf=1E-09
ap_npn_MP5A18_19930602	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MP5A18, Package: TO-92, Key parameters: Is=33.58e-15 Bf=2.365K Tf=310.1e-12
ap_npn_MP5A20_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MP5A20, Package: TO-92, Key parameters: Is=1.949e-15 Bf=873.5 Tf=637.5e-12
ap_npn_MP5A42_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MP5A42, Key parameters: Is=2.43999E-14 Bf=148.0224973 Tf=6.46396E-10
ap_npn_MP5A42_19930602	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MP5A42, Package: TO-92, Key parameters: Is=34.9e-15 Bf=2.65K Tf=1.69e-9

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ap_npn_MPSA43_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MPSA43, Key parameters: Is=1E-14 Bf=210 Tf=1.6E-09
ap_npn_MPSA43_19930602	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MPSA43, Package: TO-92, Key parameters: Is=34.9e-15 Bf=2.65K Tf=1.69e-9
ap_npn_MPSA44_19930601	Basic Description: NPN Transistor, Part number: MPSA44, Key parameters: Is=5.81657E-14 Bf=289.5708047 Tf=4.59334E-09
ap_npn_MPSA44_19930602	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MPSA44, Package: TO-92, Key parameters: Is=2.221e-12 Bf=174.4 Tf=2.686e-9
ap_npn_MPSA45_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MPSA45, Package: TO-92, Key parameters: Is=2.221e-12 Bf=174.4 Tf=2.686e-9
ap_npn_MPSH10_19930601	Basic Description: NPN Transistor, Part number: MPSH10, Key parameters: Is=9.61278E-16 Bf=379.941298 Tf=1.18482E-10
ap_npn_MPSH10_19930602	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPSH10, Package: TO-92, Key parameters: Is=69.28E-18 Bf=308.6 Tf=135.8e-12
ap_npn_MPSH17_19930601	Basic Description: NPN Transistor, Part number: MPSH17, Key parameters: Is=1.755E-15 Bf=300 Tf=1.782E-10
ap_npn_MPSL01_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MPSL01, Package: TO-92, Key parameters: Is=2.511e-15 Bf=213.4 Tf=560.1e-12
ap_npn_MPSU05_19930601	Basic Description: NPN Transistor, Part number: MPSU05, Key parameters: Is=7.2163E-15 Bf=263.21389 Tf=1.86328E-10
ap_npn_MPSU07_19930601	Basic Description: NPN Transistor, Part number: MPSU07, Key parameters: Is=7.12457E-15 Bf=312.124367 Tf=2.17669E-10
ap_npn_MPSU10_19930601	Basic Description: NPN Transistor, Part number: MPSU10, Key parameters: Is=2.848036E-14 Bf=260 Tf=1.9E-09
ap_npn_MPSW01A_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MPSW01A, Package: TO-92, Key parameters: Is=62.33e-15 Bf=18.52K Tf=1.492e-9
ap_npn_MPSW01_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MPSW01, Package: TO-92, Key parameters: Is=62.33e-15 Bf=18.52K Tf=1.492e-9
ap_npn_MPSW10_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MPSW10, Package: TO-92, Key parameters: Is=34.9e-15 Bf=3.069K Tf=2.056e-9
ap_npn_MPSW42_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MPSW42, Package: TO-92, Key parameters: Is=34.9e-15 Bf=3.069K Tf=2.056e-9
ap_npn_MPSW43_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: MPSW43, Package: TO-92, Key parameters: Is=34.9e-15 Bf=3.069K Tf=2.056e-9
ap_npn_MRF0211_19930601	Basic Description: NPN Transistor, Part number: MRF0211, Key parameters: Is=8.447E-16 Bf=104.9 Tf=2.683E-12
ap_npn_MRF1000MA_19930601	Basic Description: NPN Transistor, Part number: MRF1000MA, Key parameters: Is=4.17979E-15 Bf=66.0829854 Tf=5.016E-11
ap_npn_MRF1000M_19930601	Basic Description: NPN Transistor, Part number: MRF1000M, Key parameters: Is=4.17979E-15 Bf=66.0829854 Tf=5.016E-11
ap_npn_MRF1002MA_19930601	Basic Description: NPN Transistor, Part number: MRF1002MA, Key

	parameters: Is=5.26899E-15 Bf=51.3421124 Tf=6.742E-11
ap_npn_MRF1002M_19930601	Basic Description: NPN Transistor, Part number: MRF1002M, Key parameters: Is=5.26899E-15 Bf=51.3421124 Tf=6.742E-11
ap_npn_MRF1004MA_19930601	Basic Description: NPN Transistor, Part number: MRF1004MA, Key parameters: Is=1.77665E-15 Bf=43.6497844 Tf=8.4376E-11
ap_npn_MRF1004M_19930601	Basic Description: NPN Transistor, Part number: MRF1004M, Key parameters: Is=1.77665E-15 Bf=43.6497844 Tf=8.4376E-11
ap_npn_MRF1946A_19930601	Basic Description: NPN Transistor, Part number: MRF1946A, Key parameters: Is=2.007877E-14 Bf=209.64556 Tf=4.86086E-10
ap_npn_MRF1946_19930601	Basic Description: NPN Transistor, Part number: MRF1946, Key parameters: Is=1.627374E-14 Bf=193.6997618 Tf=4.86086E-10
ap_npn_MRF2001_19930601	Basic Description: NPN Transistor, Part number: MRF2001, Key parameters: Is=2.58802E-15 Bf=114.6193413 Tf=7.4554E-12
ap_npn_MRF2003_19930601	Basic Description: NPN Transistor, Part number: MRF2003, Key parameters: Is=6.91987E-15 Bf=41.2045603 Tf=1.4408E-11
ap_npn_MRF2005_19930601	Basic Description: NPN Transistor, Part number: MRF2005, Key parameters: Is=6.30018E-15 Bf=93.1132416 Tf=1.52374E-11
ap_npn_MRF212_19930601	Basic Description: NPN Transistor, Part number: MRF212, Key parameters: Is=1.57861E-14 Bf=93.4823959 Tf=7.262926E-12
ap_npn_MRF220_19930601	Basic Description: NPN Transistor, Part number: MRF220, Key parameters: Is=1.02317E-14 Bf=142.1197558 Tf=1.896676E-10
ap_npn_MRF224_19930601	Basic Description: NPN Transistor, Part number: MRF224, Key parameters: Is=8.65915E-12 Bf=261.9604341 Tf=3.97334E-11
ap_npn_MRF226_19930601	Basic Description: NPN Transistor, Part number: MRF226, Key parameters: Is=3.30487E-14 Bf=72.5354077 Tf=1.39508E-10
ap_npn_MRF237_19930601	Basic Description: NPN Transistor, Part number: MRF237, Key parameters: Is=3.11929E-14 Bf=150.0932456 Tf=1.33431E-10
ap_npn_MRF240_19930601	Basic Description: NPN Transistor, Part number: MRF240, Key parameters: Is=4.14933E-14 Bf=198 Tf=9.899272E-11
ap_npn_MRF313_19930601	Basic Description: NPN Transistor, Part number: MRF313, Key parameters: Is=1.7941E-15 Bf=71.653427 Tf=1.44344E-11
ap_npn_MRF314_19930601	Basic Description: NPN Transistor, Part number: MRF314, Key parameters: Is=1.497008E-14 Bf=218.6280368 Tf=3.53481E-10
ap_npn_MRF321_19930601	Basic Description: NPN Transistor, Part number: MRF321, Key parameters: Is=6.1622E-15 Bf=46.3829147 Tf=1.319502E-10
ap_npn_MRF323_19930601	Basic Description: NPN Transistor, Part number: MRF323, Key parameters: Is=5.1344E-14 Bf=73.32 Tf=1.351438E-10
ap_npn_MRF340_19930601	Basic Description: NPN Transistor, Part number: MRF340, Key parameters: Is=5.43625E-14 Bf=97.0845 Tf=2.8734E-10
ap_npn_MRF342_19930601	Basic Description: NPN Transistor, Part number: MRF342, Key parameters: Is=6.93082E-14 Bf=100.2161358 Tf=1.7074E-10
ap_npn_MRF421_19930601	Basic Description: NPN Transistor, Part number: MRF421, Key parameters: Is=1.837344E-10 Bf=46.3633464 Tf=2.14834E-09
ap_npn_MRF422_19930601	Basic Description: NPN Transistor, Part number: MRF422, Key parameters: Is=5.597145E-12 Bf=77.2589797 Tf=2.13614E-09
ap_npn_MRF450_19930601	Basic Description: NPN Transistor, Part number: MRF450, Key parameters: Is=1.697394E-11 Bf=120.989 Tf=3.97334E-11
ap_npn_MRF455_19930601	Basic Description: NPN Transistor, Part number: MRF455, Key parameters: Is=7.420147E-12 Bf=143.87341 Tf=1.934978E-11
ap_npn_MRF475_19930601	Basic Description: NPN Transistor, Part number: MRF475, Key parameters:

	Is=9.2734E-14 Bf=138.4372421 Tf=3.263668E-10
ap_npn_MRF476_19930601	Basic Description: NPN Transistor, Part number: MRF476, Key parameters: Is=7.98757E-15 Bf=85.3829835 Tf=3.00507E-10
ap_npn_MRF477_19930601	Basic Description: NPN Transistor, Part number: MRF477, Key parameters: Is=1.557613E-12 Bf=45.9686997 Tf=2.63039E-09
ap_npn_MRF479_19930601	Basic Description: NPN Transistor, Part number: MRF479, Key parameters: Is=4.490291E-14 Bf=43.675 Tf=4.42959E-09
ap_npn_MRF486_19930601	Basic Description: NPN Transistor, Part number: MRF486, Key parameters: Is=2.850936E-14 Bf=63.4303125 Tf=9.10023E-11
ap_npn_MRF501_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MRF501, Package: TO-72, Key parameters: Is=69.28E-18 Bf=288.5 Tf=141.2e-12
ap_npn_MRF502_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: MRF502, Package: TO-72, Key parameters: Is=69.28E-18 Bf=285.6 Tf=141.1e-12
ap_npn_MRF511_19930601	Basic Description: NPN Transistor, Part number: MRF511, Key parameters: Is=4.77983E-15 Bf=114.8676538 Tf=5.45945E-11
ap_npn_MRF542_19930601	Basic Description: NPN Transistor, Part number: MRF542, Key parameters: Is=7.86847E-16 Bf=40.1226358 Tf=4.25058E-11
ap_npn_MRF544_19930601	Basic Description: NPN Transistor, Part number: MRF544, Key parameters: Is=8.19125E-15 Bf=43.812503 Tf=8.09192E-11
ap_npn_MRF546_19930601	Basic Description: NPN Transistor, Part number: MRF546, Key parameters: Is=1.89264E-15 Bf=47.5745777 Tf=1.3456E-11
ap_npn_MRF548_19930601	Basic Description: NPN Transistor, Part number: MRF548, Key parameters: Is=2.7232E-15 Bf=133.9868902 Tf=6.79566E-11
ap_npn_MRF553_19930601	Basic Description: NPN Transistor, Part number: MRF553, Key parameters: Is=9.65409E-14 Bf=283.3789931 Tf=6.78912E-11
ap_npn_MRF559_19930601	Basic Description: NPN Transistor, Part number: MRF559, Key parameters: Is=3.10744E-15 Bf=61.0945876 Tf=2.00723E-11
ap_npn_MRF571_19930601	Basic Description: NPN Transistor, Part number: MRF571, Key parameters: Is=1.81437E-15 Bf=109.2338474 Tf=1.38441E-11
ap_npn_MRF572_19930601	Basic Description: NPN Transistor, Part number: MRF572, Key parameters: Is=6.40748E-16 Bf=172.6403015 Tf=8.43252E-12
ap_npn_MRF580A_19930601	Basic Description: NPN Transistor, Part number: MRF580A, Key parameters: Is=1E-14 Bf=360 Tf=1.75E-11
ap_npn_MRF580_19930601	Basic Description: NPN Transistor, Part number: MRF580, Key parameters: Is=1E-14 Bf=360 Tf=1.75E-11
ap_npn_MRF581A_19930601	Basic Description: NPN Transistor, Part number: MRF581A, Key parameters: Is=9.43567E-15 Bf=127.824789 Tf=1.30093E-11
ap_npn_MRF586_19930601	Basic Description: NPN Transistor, Part number: MRF586, Key parameters: Is=1.74447E-15 Bf=130.823 Tf=2.0039E-11
ap_npn_MRF630_19930601	Basic Description: NPN Transistor, Part number: MRF630, Key parameters: Is=2.81815E-14 Bf=102.0825909 Tf=7.237E-11
ap_npn_MRF837_19930601	Basic Description: NPN Transistor, Part number: MRF837, Key parameters: Is=2.5675E-15 Bf=113.4271678 Tf=2.61857E-12
ap_npn_MRF901_19930601	Basic Description: NPN Transistor, Part number: MRF901, Key parameters: Is=1.97975E-16 Bf=87.350356 Tf=2.82309E-12
ap_npn_MRF904_19930601	Basic Description: NPN Transistor, Part number: MRF904, Key parameters: Is=3.99105E-16 Bf=173.026123 Tf=4.19027E-11
ap_npn_MRF905_19930601	Basic Description: NPN Transistor, Part number: MRF905, Key parameters:

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	Is=4.5477E-15 Bf=64.6755789 Tf=1.92479E-11
ap_npn_MRF911_19930601	Basic Description: NPN Transistor, Part number: MRF911, Key parameters: Is=5.02133E-16 Bf=66.8136372 Tf=9.16473E-12
ap_npn_MRF914_19930601	Basic Description: NPN Transistor, Part number: MRF914, Key parameters: Is=6.75673E-16 Bf=81.67845 Tf=2.26081E-12
ap_npn_MRF931_19930601	Basic Description: NPN Transistor, Part number: MRF931, Key parameters: Is=6.8282377E-17 Bf=103.248376 Tf=2.485012E-11
ap_npn_MRF9331L_19930601	Basic Description: NPN Transistor, Part number: MRF9331L, Key parameters: Is=6.519075E-16 Bf=127.9197671 Tf=1.34108E-11
ap_npn_MRF941_19930601	Basic Description: NPN Transistor, Part number: MRF941, Key parameters: Is=1.40924E-16 Bf=198.2363543 Tf=1.30627E-11
ap_npn_MRF9511L_19930601	Basic Description: NPN Transistor, Part number: MRF9511L, Key parameters: Is=5.28101E-16 Bf=155.0502088 Tf=6.43853E-12
ap_npn_MRF951_19930601	Basic Description: NPN Transistor, Part number: MRF951, Key parameters: Is=4.00935E-16 Bf=141.6634254 Tf=5.63452E-12
ap_npn_MRF961_19930601	Basic Description: NPN Transistor, Part number: MRF961, Key parameters: Is=8.09233E-16 Bf=99.2530125 Tf=1.76238E-11
ap_npn_MRF962_19930601	Basic Description: NPN Transistor, Part number: MRF962, Key parameters: Is=2.36486E-15 Bf=101.5357463 Tf=6.05423E-11
ap_npn_MRF965_19930601	Basic Description: NPN Transistor, Part number: MRF965, Key parameters: Is=9.73695E-16 Bf=90.7237 Tf=3.93752E-11
ap_npn_NE680_19930601	Basic Description: NPN Transistor, Part number: NE680, Key parameters: Is=8.83E-15 Bf=130 Tf=2.16E-12
ap_npn_NS3903_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: NS3903, Package: TO-18, Key parameters: Is=6.734e-15 Bf=335.2 Tf=300.8e-12
ap_npn_NS3904_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: NS3904, Package: TO-18, Key parameters: Is=6.734e-15 Bf=416.4 Tf=301.2e-12
ap_npn_PE4010_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PE4010, Package: TO-92, Key parameters: Is=5.911e-15 Bf=868.7 Tf=821.1e-12
ap_npn_PE5025_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PE5025, Package: TO-92, Key parameters: Is=429.8E-18 Bf=68.61 Tf=298.4e-12
ap_npn_PM94_19930601	Basic Description: NPN Transistor, Part number: PM94, Key parameters: Is=1.34E-15 Bf=134 Tf=2E-09
ap_npn_PN2221A_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN2221A, Package: TO-92, Key parameters: Is=14.34e-15 Bf=118.6 Tf=410.3e-12
ap_npn_PN2221_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN2221, Package: TO-92, Key parameters: Is=14.34e-15 Bf=118.6 Tf=410.3e-12
ap_npn_PN2222A_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN2222A, Package: TO-92, Key parameters: Is=14.34e-15 Bf=255.9 Tf=411.1e-12
ap_npn_PN2222_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN2222, Package: TO-92, Key parameters: Is=14.34e-15 Bf=255.9 Tf=411.1e-12
ap_npn_PN2369A_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN2369A, Package: TO-92, Key parameters: Is=44.14e-15 Bf=78.32



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	Tf=227.6e-12
ap_npn_PN2369_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN2369, Package: TO-92, Key parameters: Is=44.14e-15 Bf=78.32 Tf=227.6e-12
ap_npn_PN2484_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN2484, Package: TO-92, Key parameters: Is=5.911e-15 Bf=697.1 Tf=820.4e-12
ap_npn_PN3565_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN3565, Package: TO-92, Key parameters: Is=5.911e-15 Bf=697.1 Tf=820.4e-12
ap_npn_PN3641_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN3641, Package: TO-92, Key parameters: Is=14.34e-15 Bf=118.6 Tf=410.3e-12
ap_npn_PN3642_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN3642, Package: TO-92, Key parameters: Is=14.34e-15 Bf=118.6 Tf=410.3e-12
ap_npn_PN3643_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN3643, Package: TO-92, Key parameters: Is=14.34e-15 Bf=255.9 Tf=411.1e-12
ap_npn_PN3646_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN3646, Package: TO-92, Key parameters: Is=1.017e-15 Bf=85.99 Tf=289.3e-12
ap_npn_PN3691_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN3691, Package: TO-92, Key parameters: Is=6.734e-15 Bf=339.6 Tf=301.2e-12
ap_npn_PN3692_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN3692, Package: TO-92, Key parameters: Is=6.734e-15 Bf=450.4 Tf=301.7e-12
ap_npn_PN3694_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN3694, Package: TO-92, Key parameters: Is=61.01e-15 Bf=269.5 Tf=316.3e-12
ap_npn_PN4140_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN4140, Package: TO-92, Key parameters: Is=14.34e-15 Bf=118.6 Tf=410.3e-12
ap_npn_PN4141_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN4141, Package: TO-92, Key parameters: Is=14.34e-15 Bf=255.9 Tf=411.1e-12
ap_npn_PN4274_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN4274, Package: TO-92, Key parameters: Is=44.14e-15 Bf=73.62 Tf=227.6e-12
ap_npn_PN4275_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN4275, Package: TO-92, Key parameters: Is=44.14e-15 Bf=73.62 Tf=227.6e-12
ap_npn_PN5127_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN5127, Package: TO-92, Key parameters: Is=61.01e-15 Bf=110.3 Tf=316.3e-12
ap_npn_PN5128_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN5128, Package: TO-92, Key parameters: Is=14.34e-15 Bf=158.3 Tf=409.5e-12
ap_npn_PN5129_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN5129, Package: TO-92, Key parameters: Is=14.34e-15 Bf=158.3 Tf=409.5e-12

ap_npn_PN5131_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN5131, Package: TO-92, Key parameters: Is=61.01e-15 Bf=184.7 Tf=316.3e-12
ap_npn_PN5132_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN5132, Package: TO-92, Key parameters: Is=61.01e-15 Bf=162.7 Tf=316.3e-12
ap_npn_PN5133_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN5133, Package: TO-92, Key parameters: Is=5.911e-15 Bf=529.8 Tf=819.5e-12
ap_npn_PN5134_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN5134, Package: TO-92, Key parameters: Is=44.14e-15 Bf=61.88 Tf=227.6e-12
ap_npn_PN5135_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN5135, Package: TO-92, Key parameters: Is=14.34e-15 Bf=92.53 Tf=408.9e-12
ap_npn_PN5136_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN5136, Package: TO-92, Key parameters: Is=14.34e-15 Bf=134.2 Tf=409.4e-12
ap_npn_PN5137_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN5137, Package: TO-92, Key parameters: Is=14.34e-15 Bf=134.2 Tf=409.4e-12
ap_npn_PN5179_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN5179, Package: TO-92, Key parameters: Is=69.28E-18 Bf=282.1 Tf=135.6e-12
ap_npn_PN930_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: PN930, Package: TO-92, Key parameters: Is=5.911e-15 Bf=578.3 Tf=819.8e-12
ap_npn_Q2N1420_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N1420, Package: TO-5, Key parameters: Is=14.34e-15 Bf=255.9 Tf=410e-12
ap_npn_Q2N1566_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N1566, Package: TO-5, Key parameters: Is=14.34e-15 Bf=173.4 Tf=409.7e-12
ap_npn_Q2N1613_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N1613, Package: TO-39, Key parameters: Is=14.1e-15 Bf=88.85 Tf=1.332e-9
ap_npn_Q2N1711_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N1711, Package: TO-39, Key parameters: Is=14.1e-15 Bf=213.7 Tf=499.1e-12
ap_npn_Q2N2193A_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N2193A, Package: TO-39, Key parameters: Is=14.1e-15 Bf=88.85 Tf=808.1e-12
ap_npn_Q2N2217_19930601	Manufacturer: TI, Basic Description: NPN Transistor, Part number: Q2N2217, Package: TO-5, Key parameters: Is=3.108e-15 Bf=45.18 Tf=449.4e-12
ap_npn_Q2N2218A_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N2218A, Package: TO-5, Key parameters: Is=14.34e-15 Bf=118.6 Tf=410.3e-12
ap_npn_Q2N2218_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N2218, Package: TO-5, Key parameters: Is=14.34e-15 Bf=118.6 Tf=410.3e-12
ap_npn_Q2N2219A_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N2219A, Package: TO-5, Key parameters: Is=14.34e-15 Bf=255.9

	Tf=411.1e-12
ap_npn_Q2N2219_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N2219, Package: TO-5, Key parameters: Is=14.34e-15 Bf=255.9 Tf=411.1e-12
ap_npn_Q2N2220_19930601	Manufacturer: TI, Basic Description: NPN Transistor, Part number: Q2N2220, Package: TO-18, Key parameters: Is=3.108e-15 Bf=45.18 Tf=449.4e-12
ap_npn_Q2N2221A_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N2221A, Package: TO-18, Key parameters: Is=14.34e-15 Bf=118.6 Tf=410.3e-12
ap_npn_Q2N2221_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N2221, Package: TO-18, Key parameters: Is=14.34e-15 Bf=118.6 Tf=410.3e-12
ap_npn_Q2N2222A_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N2222A, Package: TO-18, Key parameters: Is=14.34e-15 Bf=255.9 Tf=411.1e-12
ap_npn_Q2N2222_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N2222, Package: TO-18, Key parameters: Is=14.34e-15 Bf=255.9 Tf=411.1e-12
ap_npn_Q2N2270_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N2270, Package: TO-39, Key parameters: Is=14.1e-15 Bf=162.9 Tf=584.2e-12
ap_npn_Q2N2282_19930601	Manufacturer: TI, Basic Description: NPN Transistor, Part number: Q2N2282, Package: TO?, Key parameters: Is=3.108e-15 Bf=217.5 Tf=365.3e-12
ap_npn_Q2N2369A_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N2369A, Package: TO-18, Key parameters: Is=44.14e-15 Bf=78.32 Tf=227.6e-12
ap_npn_Q2N2369_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N2369, Package: TO-52, Key parameters: Is=44.14e-15 Bf=78.32 Tf=227.6e-12
ap_npn_Q2N2484_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N2484, Package: TO-18, Key parameters: Is=5.911e-15 Bf=697.1 Tf=820.4e-12
ap_npn_Q2N2509_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N2509, Package: TO-18, Key parameters: Is=5.911e-15 Bf=332.3 Tf=815.9e-12
ap_npn_Q2N2510_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N2510, Package: TO-18, Key parameters: Is=5.911e-15 Bf=508.3 Tf=819.4e-12
ap_npn_Q2N2511_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N2511, Package: TO-18, Key parameters: Is=5.911e-15 Bf=659.4 Tf=820.3e-12
ap_npn_Q2N2586_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N2586, Package: TO-18, Key parameters: Is=5.911e-15 Bf=659.4 Tf=820.3e-12
ap_npn_Q2N2712_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N2712, Package: TO-92, Key parameters: Is=61.01e-15 Bf=204 Tf=414e-12
ap_npn_Q2N2714_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N2714, Package: TO-92, Key parameters: Is=61.01e-15 Bf=204 Tf=316.3e-12

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ap_npn_Q2N2857_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N2857, Package: TO-72, Key parameters: Is=69.28E-18 Bf=288 Tf=115.7e-12
ap_npn_Q2N2897_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N2897, Package: TO-18, Key parameters: Is=14.34e-15 Bf=160.6 Tf=409.6e-12
ap_npn_Q2N2923_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N2923, Package: TO-92, Key parameters: Is=12.03e-15 Bf=176.2 Tf=385.4e-12
ap_npn_Q2N2924_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N2924, Package: TO-92, Key parameters: Is=12.03e-15 Bf=295.7 Tf=385.4e-12
ap_npn_Q2N2925_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N2925, Package: TO-92, Key parameters: Is=12.03e-15 Bf=462.4 Tf=385.4e-12
ap_npn_Q2N2926_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N2926, Package: TO-92, Key parameters: Is=12.03e-15 Bf=226.5 Tf=385.4e-12
ap_npn_Q2N3009_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3009, Package: TO-52, Key parameters: Is=1.017e-15 Bf=85.99 Tf=289.3e-12
ap_npn_Q2N3011_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3011, Package: TO-52, Key parameters: Is=44.14e-15 Bf=67.62 Tf=227.7e-12
ap_npn_Q2N3013_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3013, Package: TO-52, Key parameters: Is=1.017e-15 Bf=85.99 Tf=289.3e-12
ap_npn_Q2N3015_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3015, Package: TO-39, Key parameters: Is=1.608e-12 Bf=118.4 Tf=300.9e-12
ap_npn_Q2N3019_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N3019, Package: TO-39, Key parameters: Is=14.1e-15 Bf=213.7 Tf=808.1e-12
ap_npn_Q2N3020_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N3020, Package: TO-39, Key parameters: Is=14.1e-15 Bf=88.85 Tf=1.008e-9
ap_npn_Q2N3053_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N3053, Package: TO-39, Key parameters: Is=14.1e-15 Bf=138.2 Tf=808.1e-12
ap_npn_Q2N3115_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3115, Package: TO-18, Key parameters: Is=14.34e-15 Bf=118.6 Tf=410.3e-12
ap_npn_Q2N3116_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3116, Package: TO-18, Key parameters: Is=14.34e-15 Bf=255.9 Tf=411.1e-12
ap_npn_Q2N3117_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3117, Package: TO-18, Key parameters: Is=5.911e-15 Bf=1.007K Tf=821.4e-12
ap_npn_Q2N3227_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N3227, Package: TO-18, Key parameters: Is=498.7e-15 Bf=281 Tf=385.5e-12
ap_npn_Q2N3246_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3246, Package: TO-18, Key parameters: Is=5.911e-15 Bf=990.7

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	Tf=821.4e-12
ap_npn_Q2N3252_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3252, Package: TO-39, Key parameters: Is=1.608e-12 Bf=135.3 Tf=300.5e-12
ap_npn_Q2N3253_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3253, Package: TO-39, Key parameters: Is=1.608e-12 Bf=93.03 Tf=300.5e-12
ap_npn_Q2N3299_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3299, Package: TO-5, Key parameters: Is=14.34e-15 Bf=118.6 Tf=410.3e-12
ap_npn_Q2N3300_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3300, Package: TO-5, Key parameters: Is=14.34e-15 Bf=255.9 Tf=411.1e-12
ap_npn_Q2N3301_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3301, Package: TO-18, Key parameters: Is=14.34e-15 Bf=118.6 Tf=410.3e-12
ap_npn_Q2N3302_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3302, Package: TO-18, Key parameters: Is=14.34e-15 Bf=255.9 Tf=411.1e-12
ap_npn_Q2N3390_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3390, Package: TO-92, Key parameters: Is=12.03e-15 Bf=685.8 Tf=385.4e-12
ap_npn_Q2N3391A_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3391A, Package: TO-92, Key parameters: Is=12.03e-15 Bf=427.8 Tf=385.4e-12
ap_npn_Q2N3391_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3391, Package: TO-92, Key parameters: Is=12.03e-15 Bf=427.8 Tf=385.4e-12
ap_npn_Q2N3392_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3392, Package: TO-92, Key parameters: Is=12.03e-15 Bf=254.8 Tf=385.4e-12
ap_npn_Q2N3393_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3393, Package: TO-92, Key parameters: Is=12.03e-15 Bf=154.1 Tf=385.4e-12
ap_npn_Q2N3394_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3394, Package: TO-92, Key parameters: Is=61.01e-15 Bf=121.3 Tf=316.3e-12
ap_npn_Q2N3395_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3395, Package: TO-92, Key parameters: Is=12.03e-15 Bf=330.3 Tf=385.4e-12
ap_npn_Q2N3396_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3396, Package: TO-92, Key parameters: Is=12.03e-15 Bf=254.8 Tf=385.4e-12
ap_npn_Q2N3397_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3397, Package: TO-92, Key parameters: Is=12.03e-15 Bf=201.3 Tf=385.4e-12
ap_npn_Q2N3398_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3398, Package: TO-92, Key parameters: Is=12.03e-15 Bf=254.8 Tf=385.4e-12
ap_npn_Q2N3414_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3414, Package: TO-92, Key parameters: Is=14.34e-15 Bf=184.4 Tf=409.7e-12



ap_npn_Q2N3415_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3415, Package: TO-92, Key parameters: Is=12.03e-15 Bf=377.5 Tf=385.4e-12
ap_npn_Q2N3416_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3416, Package: TO-92, Key parameters: Is=12.03e-15 Bf=157.3 Tf=385.4e-12
ap_npn_Q2N3417_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3417, Package: TO-92, Key parameters: Is=12.03e-15 Bf=377.5 Tf=385.4e-12
ap_npn_Q2N3439_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N3439, Package: TO-39, Key parameters: Is=2.644e-12 Bf=1.557K Tf=2.033e-9
ap_npn_Q2N3440_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N3440, Package: TO-39, Key parameters: Is=2.644e-12 Bf=1.557K Tf=2.033e-9
ap_npn_Q2N3444_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3444, Package: TO-39, Key parameters: Is=1.608e-12 Bf=93.03 Tf=300.5e-12
ap_npn_Q2N3478_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3478, Package: TO-72, Key parameters: Is=69.28E-18 Bf=295.3 Tf=140.9e-12
ap_npn_Q2N3508_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N3508, Package: TO-46, Key parameters: Is=498.7e-15 Bf=97.11 Tf=385.5e-12
ap_npn_Q2N3509_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N3509, Package: TO-46, Key parameters: Is=498.7e-15 Bf=281 Tf=385.5e-12
ap_npn_Q2N3565_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3565, Package: TO-92, Key parameters: Is=5.911e-15 Bf=697.1 Tf=820.4e-12
ap_npn_Q2N3600_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3600, Package: TO-72, Key parameters: Is=69.28E-18 Bf=330.9 Tf=140.9e-12
ap_npn_Q2N3605_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3605, Package: TO-92, Key parameters: Is=44.14e-15 Bf=67.62 Tf=227.7e-12
ap_npn_Q2N3606_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3606, Package: TO-92, Key parameters: Is=44.14e-15 Bf=67.62 Tf=227.7e-12
ap_npn_Q2N3607_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3607, Package: TO-92, Key parameters: Is=44.14e-15 Bf=67.62 Tf=227.7e-12
ap_npn_Q2N3641_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3641, Package: TO-92, Key parameters: Is=14.34e-15 Bf=118.6 Tf=410.3e-12
ap_npn_Q2N3642_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3642, Package: TO-92, Key parameters: Is=14.34e-15 Bf=118.6 Tf=410.3e-12
ap_npn_Q2N3643_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3643, Package: TO-92, Key parameters: Is=14.34e-15 Bf=255.9 Tf=411.1e-12
ap_npn_Q2N3646_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3646, Package: TO-92, Key parameters: Is=1.017e-15 Bf=85.99

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	Tf=289.3e-12
ap_npn_Q2N3678_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3678, Package: TO-5, Key parameters: Is=14.34e-15 Bf=118.6 Tf=409.2e-12
ap_npn_Q2N3691_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3691, Package: TO-92, Key parameters: Is=6.734e-15 Bf=339.6 Tf=301.2e-12
ap_npn_Q2N3692_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3692, Package: TO-92, Key parameters: Is=6.734e-15 Bf=450.4 Tf=301.7e-12
ap_npn_Q2N3693_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3693, Package: TO-92, Key parameters: Is=61.01e-15 Bf=118.5 Tf=316.3e-12
ap_npn_Q2N3694_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3694, Package: TO-92, Key parameters: Is=61.01e-15 Bf=269.5 Tf=316.3e-12
ap_npn_Q2N3700_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N3700, Package: TO-18, Key parameters: Is=14.1e-15 Bf=213.7 Tf=808.1e-12
ap_npn_Q2N3707_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3707, Package: TO-92, Key parameters: Is=5.911e-15 Bf=535.1 Tf=819.6e-12
ap_npn_Q2N3708_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3708, Package: TO-92, Key parameters: Is=5.911e-15 Bf=423.8 Tf=818.6e-12
ap_npn_Q2N3709_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3709, Package: TO-92, Key parameters: Is=5.911e-15 Bf=330.6 Tf=816.1e-12
ap_npn_Q2N3710_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3710, Package: TO-92, Key parameters: Is=5.911e-15 Bf=423.8 Tf=818.6e-12
ap_npn_Q2N3711_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3711, Package: TO-92, Key parameters: Is=5.911e-15 Bf=680.9 Tf=820.4e-12
ap_npn_Q2N3721_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3721, Package: TO-92, Key parameters: Is=61.01e-15 Bf=314 Tf=316.4e-12
ap_npn_Q2N3724A_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3724A, Package: TO-39, Key parameters: Is=1.608e-12 Bf=169 Tf=300.5e-12
ap_npn_Q2N3724_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3724, Package: TO-39, Key parameters: Is=1.608e-12 Bf=169 Tf=300.5e-12
ap_npn_Q2N3725A_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3725A, Package: TO-39, Key parameters: Is=1.608e-12 Bf=169 Tf=300.5e-12
ap_npn_Q2N3725_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3725, Package: TO-39, Key parameters: Is=1.608e-12 Bf=169 Tf=300.5e-12
ap_npn_Q2N3734_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N3734, Package: TO-39, Key parameters: Is=1.988e-12 Bf=312.4 Tf=424.9e-12

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ap_npn_Q2N3735_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N3735, Package: TO-39, Key parameters: Is=1.988e-12 Bf=238.2 Tf=424.9e-12
ap_npn_Q2N3736_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N3736, Package: TO-46, Key parameters: Is=1.988e-12 Bf=312.4 Tf=424.9e-12
ap_npn_Q2N3737_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N3737, Package: TO-46, Key parameters: Is=1.988e-12 Bf=238.2 Tf=424.9e-12
ap_npn_Q2N3742_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N3742, Package: TO-39, Key parameters: Is=63.41e-15 Bf=1.901K Tf=2.768e-9
ap_npn_Q2N3827_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3827, Package: TO-92, Key parameters: Is=61.01e-15 Bf=287.3 Tf=316.4e-12
ap_npn_Q2N3858A_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3858A, Package: TO-92, Key parameters: Is=5.911e-15 Bf=330.6 Tf=816.4e-12
ap_npn_Q2N3858_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3858, Package: TO-92, Key parameters: Is=61.01e-15 Bf=132.3 Tf=524e-12
ap_npn_Q2N3859A_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3859A, Package: TO-92, Key parameters: Is=5.911e-15 Bf=393.6 Tf=818.2e-12
ap_npn_Q2N3859_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3859, Package: TO-92, Key parameters: Is=61.01e-15 Bf=220.6 Tf=524e-12
ap_npn_Q2N3860_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3860, Package: TO-92, Key parameters: Is=61.01e-15 Bf=314 Tf=524.3e-12
ap_npn_Q2N3877A_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3877A, Package: TO-92, Key parameters: Is=5.911e-15 Bf=350.3 Tf=815.3e-12
ap_npn_Q2N3877_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3877, Package: TO-92, Key parameters: Is=5.911e-15 Bf=350.3 Tf=815.3e-12
ap_npn_Q2N3900A_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3900A, Package: TO-92, Key parameters: Is=5.911e-15 Bf=680.9 Tf=820.4e-12
ap_npn_Q2N3900_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3900, Package: TO-92, Key parameters: Is=12.03e-15 Bf=427.8 Tf=385.4e-12
ap_npn_Q2N3901_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3901, Package: TO-92, Key parameters: Is=5.911e-15 Bf=884.6 Tf=821.1e-12
ap_npn_Q2N3903_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3903, Package: TO-92, Key parameters: Is=6.734e-15 Bf=335.2 Tf=300.8e-12
ap_npn_Q2N3904_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3904, Package: TO-92, Key parameters: Is=6.734e-15 Bf=416.4 Tf=301.2e-12
ap_npn_Q2N3932_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3932, Package: TO-72, Key parameters: Is=69.28E-18 Bf=285

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	Tf=141.1e-12
ap_npn_Q2N3933_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3933, Package: TO-72, Key parameters: Is=69.28E-18 Bf=309.9 Tf=141.2e-12
ap_npn_Q2N3946_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3946, Package: TO-92, Key parameters: Is=6.734e-15 Bf=335.2 Tf=300.8e-12
ap_npn_Q2N3947_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N3947, Package: TO-18, Key parameters: Is=6.734e-15 Bf=416.4 Tf=301.2e-12
ap_npn_Q2N4013_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N4013, Package: TO-18, Key parameters: Is=1.608e-12 Bf=169 Tf=300.5e-12
ap_npn_Q2N4014_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N4014, Package: TO-18, Key parameters: Is=1.608e-12 Bf=169 Tf=300.5e-12
ap_npn_Q2N4047_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N4047, Package: TO-39, Key parameters: Is=1.608e-12 Bf=142.2 Tf=300.5e-12
ap_npn_Q2N4123_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N4123, Package: TO-92, Key parameters: Is=6.734e-15 Bf=335.3 Tf=300.8e-12
ap_npn_Q2N4124_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N4124, Package: TO-92, Key parameters: Is=6.734e-15 Bf=495 Tf=301.3e-12
ap_npn_Q2N4140_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N4140, Package: TO-92, Key parameters: Is=14.34e-15 Bf=118.6 Tf=410.3e-12
ap_npn_Q2N4141_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N4141, Package: TO-92, Key parameters: Is=14.34e-15 Bf=255.9 Tf=411.1e-12
ap_npn_Q2N4259_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N4259, Package: TO-72, Key parameters: Is=69.28E-18 Bf=323.6 Tf=141.3e-12
ap_npn_Q2N4274_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N4274, Package: TO-92, Key parameters: Is=44.14e-15 Bf=73.62 Tf=227.6e-12
ap_npn_Q2N4275_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N4275, Package: TO-92, Key parameters: Is=44.14e-15 Bf=73.62 Tf=227.6e-12
ap_npn_Q2N4286_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N4286, Package: TO-92, Key parameters: Is=5.911e-15 Bf=610.7 Tf=820e-12
ap_npn_Q2N4287_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N4287, Package: TO-92, Key parameters: Is=5.911e-15 Bf=610.7 Tf=820e-12
ap_npn_Q2N4294_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N4294, Package: TO-92, Key parameters: Is=44.14e-15 Bf=67.62 Tf=227.7e-12
ap_npn_Q2N4295_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N4295, Package: TO-92, Key parameters: Is=44.14e-15 Bf=78.32 Tf=227.6e-12

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ap_npn_Q2N4384_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N4384, Package: TO-18, Key parameters: Is=5.911e-15 Bf=697.1 Tf=820.4e-12
ap_npn_Q2N4386_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N4386, Package: TO-18, Key parameters: Is=5.911e-15 Bf=502.9 Tf=819.3e-12
ap_npn_Q2N4400_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N4400, Package: TO-92, Key parameters: Is=26.03e-15 Bf=7.756K Tf=573.2e-12
ap_npn_Q2N4401_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N4401, Package: TO-92, Key parameters: Is=26.03e-15 Bf=4.292K Tf=466.5e-12
ap_npn_Q2N4409_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N4409, Package: TO-92, Key parameters: Is=5.911e-15 Bf=413.6 Tf=818.4e-12
ap_npn_Q2N4410_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N4410, Package: TO-92, Key parameters: Is=5.911e-15 Bf=413.6 Tf=818.4e-12
ap_npn_Q2N4424_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N4424, Package: TO-92, Key parameters: Is=12.03e-15 Bf=377.5 Tf=385.4e-12
ap_npn_Q2N4966_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N4966, Package: TO-92, Key parameters: Is=5.911e-15 Bf=413.6 Tf=818.4e-12
ap_npn_Q2N4967_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N4967, Package: TO-92, Key parameters: Is=5.911e-15 Bf=750.9 Tf=820.7e-12
ap_npn_Q2N4968_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N4968, Package: TO-92, Key parameters: Is=5.911e-15 Bf=413.6 Tf=818.4e-12
ap_npn_Q2N4969_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N4969, Package: TO-92, Key parameters: Is=14.34e-15 Bf=118.6 Tf=410.3e-12
ap_npn_Q2N4970_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N4970, Package: TO-92, Key parameters: Is=14.34e-15 Bf=273.4 Tf=411.1e-12
ap_npn_Q2N5030_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5030, Package: TO-92, Key parameters: Is=44.14e-15 Bf=67.62 Tf=227.7e-12
ap_npn_Q2N5058_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N5058, Package: TO-39, Key parameters: Is=1.988e-12 Bf=212 Tf=423.6e-12
ap_npn_Q2N5059_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N5059, Package: TO-39, Key parameters: Is=1.988e-12 Bf=212 Tf=423.6e-12
ap_npn_Q2N5088_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5088, Package: TO-92, Key parameters: Is=5.911e-15 Bf=1.122K Tf=821.7e-12
ap_npn_Q2N5089_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5089, Package: TO-92, Key parameters: Is=5.911e-15 Bf=1.434K Tf=822.3e-12
ap_npn_Q2N5109_19930601	Manufacturer: TI, Basic Description: NPN Transistor, Part number: Q2N5109, Package: TO-39, Key parameters: Is=5e-15 Bf=90 Tf=.1e-9



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ap_npn_Q2N5127_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5127, Package: TO-92, Key parameters: Is=61.01e-15 Bf=110.3 Tf=316.3e-12
ap_npn_Q2N5128_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5128, Package: TO-92, Key parameters: Is=14.34e-15 Bf=158.3 Tf=409.5e-12
ap_npn_Q2N5129_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5129, Package: TO-92, Key parameters: Is=14.34e-15 Bf=158.3 Tf=409.5e-12
ap_npn_Q2N5131_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5131, Package: TO-92, Key parameters: Is=61.01e-15 Bf=184.7 Tf=316.3e-12
ap_npn_Q2N5132_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5132, Package: TO-92, Key parameters: Is=61.01e-15 Bf=162.7 Tf=316.3e-12
ap_npn_Q2N5133_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5133, Package: TO-92, Key parameters: Is=5.911e-15 Bf=529.8 Tf=819.5e-12
ap_npn_Q2N5134_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5134, Package: TO-92, Key parameters: Is=44.14e-15 Bf=61.88 Tf=227.6e-12
ap_npn_Q2N5135_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5135, Package: TO-92, Key parameters: Is=14.34e-15 Bf=92.53 Tf=408.9e-12
ap_npn_Q2N5136_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5136, Package: TO-92, Key parameters: Is=14.34e-15 Bf=134.2 Tf=409.4e-12
ap_npn_Q2N5137_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5137, Package: TO-92, Key parameters: Is=14.34e-15 Bf=134.2 Tf=409.4e-12
ap_npn_Q2N5172_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5172, Package: TO-92, Key parameters: Is=12.03e-15 Bf=308.3 Tf=385.4e-12
ap_npn_Q2N5179_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5179, Package: TO-72, Key parameters: Is=69.28E-18 Bf=282.1 Tf=141.1e-12
ap_npn_Q2N5180_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5180, Package: TO-72, Key parameters: Is=69.28E-18 Bf=294.4 Tf=141e-12
ap_npn_Q2N5189_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5189, Package: TO-39, Key parameters: Is=1.608e-12 Bf=118.4 Tf=300.5e-12
ap_npn_Q2N5209_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5209, Package: TO-92, Key parameters: Is=5.911e-15 Bf=486.8 Tf=819.2e-12
ap_npn_Q2N5210_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5210, Package: TO-92, Key parameters: Is=5.911e-15 Bf=809.9 Tf=820.9e-12
ap_npn_Q2N5219_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5219, Package: TO-92, Key parameters: Is=61.01e-15 Bf=215 Tf=316.3e-12
ap_npn_Q2N5223_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number:

	Q2N5223, Package: TO-92, Key parameters: Is=61.01e-15 Bf=309.5 Tf=316.4e-12
ap_npn_Q2N5224_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5224, Package: TO-92, Key parameters: Is=44.14e-15 Bf=78.32 Tf=227.6e-12
ap_npn_Q2N5232A_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5232A, Package: TO-92, Key parameters: Is=5.911e-15 Bf=675.5 Tf=820.3e-12
ap_npn_Q2N5232_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5232, Package: TO-92, Key parameters: Is=5.911e-15 Bf=675.5 Tf=820.3e-12
ap_npn_Q2N5550_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5550, Package: TO-92, Key parameters: Is=2.511e-15 Bf=213.4 Tf=560.1e-12
ap_npn_Q2N5551_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5551, Package: TO-92, Key parameters: Is=2.511e-15 Bf=242.6 Tf=560e-12
ap_npn_Q2N5581_19930601	Manufacturer: TI, Basic Description: NPN Transistor, Part number: Q2N5581, Package: TO-46, Key parameters: Is=3.108e-15 Bf=90.37 Tf=449.4e-12
ap_npn_Q2N5681_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N5681, Package: TO-39, Key parameters: Is=56.24e-15 Bf=239.8 Tf=2.594e-9
ap_npn_Q2N5682_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N5682, Package: TO-39, Key parameters: Is=56.24e-15 Bf=239.8 Tf=2.594e-9
ap_npn_Q2N5769_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5769, Package: TO-92, Key parameters: Is=44.14e-15 Bf=78.32 Tf=227.6e-12
ap_npn_Q2N5772_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5772, Package: TO-92, Key parameters: Is=44.14e-15 Bf=75.97 Tf=227.6e-12
ap_npn_Q2N5830_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N5830, Package: TO-92, Key parameters: Is=2.511e-15 Bf=325.3 Tf=560.3e-12
ap_npn_Q2N5861_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N5861, Package: TO-39, Key parameters: Is=3.426e-12 Bf=106.7 Tf=422.9e-12
ap_npn_Q2N6515_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N6515, Package: TO-92, Key parameters: Is=37.71e-15 Bf=1.841K Tf=2.05e-9
ap_npn_Q2N6516_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N6516, Package: TO-92, Key parameters: Is=37.71e-15 Bf=1.573K Tf=2.052e-9
ap_npn_Q2N6517_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N6517, Package: TO-92, Key parameters: Is=37.71e-15 Bf=943.2 Tf=2.056e-9
ap_npn_Q2N6737_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N6737, Package: TO-237, Key parameters: Is=1.608e-12 Bf=172.7 Tf=300.5e-12
ap_npn_Q2N696_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N696, Package: TO-5, Key parameters: Is=14.34e-15 Bf=65.62 Tf=408.8e-12

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ap_npn_Q2N697_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N697, Package: TO-5, Key parameters: Is=14.34e-15 Bf=118.6 Tf=409.2e-12
ap_npn_Q2N706_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N706, Package: TO-18, Key parameters: Is=44.14e-15 Bf=48.71 Tf=227.6e-12
ap_npn_Q2N708_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N708, Package: TO-52, Key parameters: Is=1.017e-15 Bf=93.51 Tf=289.3e-12
ap_npn_Q2N718A_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N718A, Package: TO-18, Key parameters: Is=14.34e-15 Bf=118.6 Tf=409.2e-12
ap_npn_Q2N718_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N718, Package: TO-18, Key parameters: Is=14.34e-15 Bf=118.6 Tf=409.2e-12
ap_npn_Q2N743_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N743, Package: TO-52, Key parameters: Is=44.14e-15 Bf=39.16 Tf=227.6e-12
ap_npn_Q2N744_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N744, Package: TO-52, Key parameters: Is=44.14e-15 Bf=78.32 Tf=227.6e-12
ap_npn_Q2N753_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N753, Package: TO-52, Key parameters: Is=44.14e-15 Bf=78.32 Tf=227.6e-12
ap_npn_Q2N760A_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N760A, Package: TO-18, Key parameters: Is=5.911e-15 Bf=403.5 Tf=818.3e-12
ap_npn_Q2N760_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N760, Package: TO-18, Key parameters: Is=5.911e-15 Bf=393.6 Tf=818.2e-12
ap_npn_Q2N834_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N834, Package: TO-52, Key parameters: Is=44.14e-15 Bf=56.13 Tf=227.6e-12
ap_npn_Q2N914_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: Q2N914, Package: TO-18, Key parameters: Is=498.7e-15 Bf=97.11 Tf=385.5e-12
ap_npn_Q2N915_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N915, Package: TO-18, Key parameters: Is=6.734e-15 Bf=341.6 Tf=301.3e-12
ap_npn_Q2N916_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N916, Package: TO-18, Key parameters: Is=6.734e-15 Bf=336.4 Tf=300.9e-12
ap_npn_Q2N929A_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N929A, Package: TO-18, Key parameters: Is=5.911e-15 Bf=345.4 Tf=817.2e-12
ap_npn_Q2N929_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N929, Package: TO-18, Key parameters: Is=5.911e-15 Bf=345.4 Tf=817.2e-12
ap_npn_Q2N930_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: Q2N930, Package: TO-18, Key parameters: Is=5.911e-15 Bf=578.3 Tf=819.8e-12
ap_npn_Q2N956_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number:

	Q2N956, Package: TO-18, Key parameters: Is=14.34e-15 Bf=255.9 Tf=410e-12
ap_npn_ST3904_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: ST3904, Package: TO-92, Key parameters: Is=6.734e-15 Bf=416.4 Tf=301.2e-12
ap_npn_TIP122_19930601	Basic Description: NPN Transistor, Part number: TIP122, Key parameters: Is=1E-13 Bf=2500000 Tf=6E-09
ap_npn_TIP29A_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: TIP29A, Key parameters: Is=1.819782E-10 Bf=113.4263003 Tf=2.27659E-09
ap_npn_TIP29B_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: TIP29B, Key parameters: Is=9.874042E-12 Bf=126.1052409 Tf=7.72484E-09
ap_npn_TIP29C_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: TIP29C, Key parameters: Is=7.720655E-12 Bf=116.9479591 Tf=2.471555E-11
ap_npn_TIP29D_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: TIP29D, Key parameters: Is=1E-14 Bf=100 Tf=2.274E-08
ap_npn_TIP29E_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: TIP29E, Key parameters: Is=1E-14 Bf=100 Tf=2.274E-08
ap_npn_TIP29F_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: TIP29F, Key parameters: Is=1E-14 Bf=100 Tf=2.274E-08
ap_npn_TIP29_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: TIP29, Key parameters: Is=5.154357E-12 Bf=118.5345 Tf=1.53423E-08
ap_npn_TIP31A_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: TIP31A, Key parameters: Is=1.7573E-11 Bf=195 Tf=1.989E-08
ap_npn_TIP31B_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: TIP31B, Key parameters: Is=1.7573E-11 Bf=195 Tf=1.989E-08
ap_npn_TIP31C_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: TIP31C, Key parameters: Is=1.7573E-11 Bf=195 Tf=1.989E-08
ap_npn_TIP31_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: TIP31, Key parameters: Is=1.7573E-11 Bf=195 Tf=1.989E-08
ap_npn_TIP35_19930601	Basic Description: NPN Transistor, Part number: TIP35, Key parameters: Is=1E-10 Bf=210 Tf=3.17E-08
ap_npn_TIP41A_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: TIP41A, Key parameters: Is=1.3478E-11 Bf=145 Tf=1.989E-08
ap_npn_TIP41B_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: TIP41B, Key parameters: Is=1.3478E-11 Bf=145 Tf=1.989E-08
ap_npn_TIP41C_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: TIP41C, Key parameters: Is=1.3478E-11 Bf=145 Tf=1.989E-08
ap_npn_TIP41_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: TIP41, Key parameters: Is=1.3478E-11 Bf=145 Tf=1.989E-08
ap_npn_TIP47_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: TIP47, Key parameters: Is=2.92E-13 Bf=35 Tf=5.3E-09
ap_npn_TIP48_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: TIP48, Key parameters: Is=2.92E-13 Bf=35 Tf=5.3E-09
ap_npn_TIP49_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: TIP49, Key parameters: Is=2.92E-13 Bf=35 Tf=5.3E-09
ap_npn_TIP50_19930601	Manufacturer: Motorola, Basic Description: NPN Transistor, Part number: TIP50, Key parameters: Is=2.92E-13 Bf=35 Tf=5.3E-09

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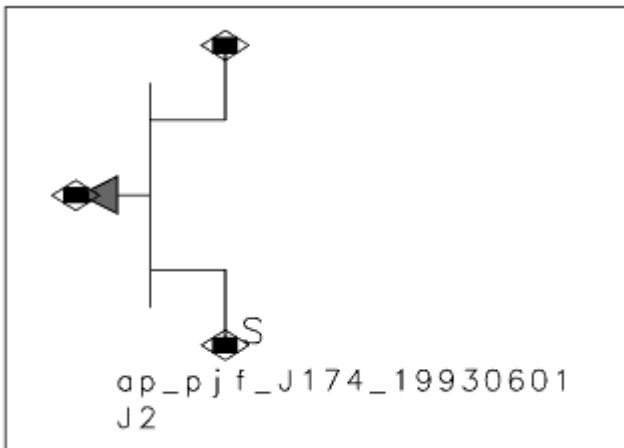
ap_npn_TIPL752A_19930601	Manufacturer: TI, Basic Description: NPN Transistor, Part number: TIPL752A, Key parameters: Is=1.213E-12 Bf=31 Tf=5E-09
ap_npn_TIPL752_19930601	Manufacturer: TI, Basic Description: NPN Transistor, Part number: TIPL752, Key parameters: Is=1.213E-12 Bf=31 Tf=5E-09
ap_npn_TIPL755A_19930601	Manufacturer: TI, Basic Description: NPN Transistor, Part number: TIPL755A, Key parameters: Is=1.213E-12 Bf=35 Tf=5E-09
ap_npn_TIPL755_19930601	Manufacturer: TI, Basic Description: NPN Transistor, Part number: TIPL755, Key parameters: Is=1.213E-12 Bf=35 Tf=5E-09
ap_npn_TIPL762A_19930601	Manufacturer: TI, Basic Description: NPN Transistor, Part number: TIPL762A, Key parameters: Is=1E-14 Bf=48 Tf=5E-09
ap_npn_TIPL762_19930601	Manufacturer: TI, Basic Description: NPN Transistor, Part number: TIPL762, Key parameters: Is=1E-14 Bf=48 Tf=5E-09
ap_npn_TIS90_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: TIS90, Package: TO-92, Key parameters: Is=14.34e-15 Bf=216.7 Tf=409.9e-12
ap_npn_TIS92_19930601	Basic Description: NPN Transistor, Part number: TIS92, Key parameters: Is=7.1972989E-14 Bf=240 Tf=1.24E-09
ap_npn_TIS92_19930602	Manufacturer: National, Basic Description: NPN Transistor, Part number: TIS92, Package: TO-92, Key parameters: Is=14.34e-15 Bf=216.7 Tf=409.9e-12
ap_npn_TIS97_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: TIS97, Package: TO-92, Key parameters: Is=12.03e-15 Bf=877.7 Tf=390e-12
ap_npn_TIS98_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: TIS98, Package: TO-92, Key parameters: Is=4.872e-15 Bf=9.599K Tf=405.1e-12
ap_npn_TIS99_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: TIS99, Package: TO-92, Key parameters: Is=4.872e-15 Bf=3.767K Tf=405e-12
ap_npn_TN2218A_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: TN2218A, Package: TO-237, Key parameters: Is=14.34e-15 Bf=118.6 Tf=410.3e-12
ap_npn_TN2219A_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: TN2219A, Package: TO-237, Key parameters: Is=14.34e-15 Bf=255.9 Tf=411.1e-12
ap_npn_TN2219_19930601	Manufacturer: National, Basic Description: NPN Transistor, Part number: TN2219, Package: TO-237, Key parameters: Is=14.34e-15 Bf=255.9 Tf=411.1e-12



# P-Channel JFET Models

## Schematic Design

The [P-Channel JFET Schematic Component Example](#) shown below illustrates how components representing P-Channel JFETs appear when placed into the Schematic design window. The schematic symbol is derived from the standard SYM\_JFET\_PFET symbol in the `$HPPEESOF_DIR/circuit/symbols` directory. The annotation consists of the component name and the default component ID prefix (in this case, J). No component parameters are displayed.



**P-Channel JFET Schematic Component Example**

The user may scale any of the model parameter values used by the model by displaying the *Component Parameters* dialog box. The dialog box displays the component label, a table of scale factors, and other controls. You can display the dialog box by double-clicking a component symbol after it has been placed in the drawing area or by clicking the **Edit Component Parameters** button.

**Note**  
For details on using the Component Parameters dialog box, click the Help button in the dialog box.

The analog parts model library P-Channel JFET models are suitable for placement in any Analog/RF circuit schematic.

## Data

The P-Channel JFETs include 52 components, each representing an individual part. The naming convention for these components is `ap_pjf_<part number>_<extraction date>`.

These JFETs are simulated using the native JFET model component.

**Analog\_Parts\_Library - P-Channel JFETs**

Component Name	Description
ap_pjf_2N2609_19930601	Basic Description: PJFET Device, Part number: 2N2609, Key parameters: Beta=0.000574386 Vto=-3.3016508 Cgs=7.52098E-12 Cgd=7.55229E-12
ap_pjf_2N3909A_19930601	Basic Description: PJFET Device, Part number: 2N3909A, Key parameters: Beta=0.000664097 Vto=-2.3558912 Cgs=6.07982E-12 Cgd=6.10652E-12
ap_pjf_2N5114_19930601	Manufacturer: Siliconix, Basic Description: PJFET Device, Part number: 2N5114, Key parameters: Beta=0.00177843 Vto=-5.0804865 Cgs=6.23253E-11 Cgd=4.03995E-11
ap_pjf_2N5265_19930601	Manufacturer: Motorola, Basic Description: PJFET Device, Part number: 2N5265, Key parameters: Beta=0.00013 Vto=-2 Cgs=3E-12 Cgd=3E-12
ap_pjf_2N5460_19930601	Manufacturer: Motorola, Basic Description: PJFET Device, Part number: 2N5460, Key parameters: Beta=0.000646903 Vto=-1.5192 Cgs=6.58257E-12 Cgd=6.91907E-12
ap_pjf_2N5461_19930601	Manufacturer: Motorola, Basic Description: PJFET Device, Part number: 2N5461, Key parameters: Beta=0.000688594 Vto=-1.7004958 Cgs=5.33733E-12 Cgd=5.23331E-12
ap_pjf_2N5462_19930601	Manufacturer: Motorola, Basic Description: PJFET Device, Part number: 2N5462, Key parameters: Beta=0.000468524 Vto=-3.2670203 Cgs=7.36863E-12 Cgd=7.3036E-12
ap_pjf_2N5463_19930601	Manufacturer: Motorola, Basic Description: PJFET Device, Part number: 2N5463, Key parameters: Beta=0.000625 Vto=-2 Cgs=4E-12 Cgd=3.4E-12
ap_pjf_2N5464_19930601	Manufacturer: Motorola, Basic Description: PJFET Device, Part number: 2N5464, Key parameters: Beta=0.000375 Vto=-4 Cgs=4E-12 Cgd=3.4E-12
ap_pjf_2N5465_19930601	Manufacturer: Motorola, Basic Description: PJFET Device, Part number: 2N5465, Key parameters: Beta=0.000560134 Vto=-5.14093435 Cgs=6.39209E-12 Cgd=6.44233E-12
ap_pjf_2SJ84_19930601	Basic Description: PJFET Device, Part number: 2SJ84, Key parameters: Beta=0.00508 Vto=-1.054 Cgs=2.2E-11 Cgd=2.2E-11
ap_pjf_IDEALPCH_19930601	Basic Description: PJFET Device, Part number: IDEALPCH, Key parameters: Vto=-2
ap_pjf_J174_19930601	Manufacturer: Motorola, Basic Description: PJFET Device, Part number: J174, Key parameters: Beta=0.00309345 Vto=-5.00923623 Cgs=2.53556E-11 Cgd=2.49343E-11
ap_pjf_J174_19930602	Manufacturer: National, Basic Description: PJFET Device, Part number: J174, Package: TO-92, Key parameters: Beta=813e-6 Vto=-6.552 Cgs=9e-12 Cgd=6.5e-12
ap_pjf_J175_19930601	Manufacturer: Motorola, Basic Description: PJFET Device, Part number: J175, Key parameters: Beta=0.00393645 Vto=-3.92324535 Cgs=1.39345E-11 Cgd=1.33537E-11
ap_pjf_J175_19930602	Manufacturer: National, Basic Description: PJFET Device, Part number: J175, Package: TO-92, Key parameters: Beta=1.031e-3 Vto=-3.762 Cgs=9e-12 Cgd=6.5e-12
ap_pjf_J176_19930601	Manufacturer: Motorola, Basic Description: PJFET Device, Part number: J176, Key parameters: Beta=0.00563422 Vto=-1.33453642 Cgs=1.89345E-11 Cgd=1.82342E-11
ap_pjf_J176_19930602	Manufacturer: National, Basic Description: PJFET Device, Part number: J176, Package: TO-92, Key parameters: Beta=2.3e-3 Vto=-1.82 Cgs=9e-12 Cgd=6.5e-12
ap_pjf_J177_19930601	Manufacturer: Motorola, Basic Description: PJFET Device, Part number: J177, Key parameters: Beta=0.00446322 Vto=-2.0012623 Cgs=2.12303E-11 Cgd=2.01344E-11

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ap_pjf_J177_19930602	Manufacturer: National, Basic Description: PJFET Device, Part number: J177, Package: TO-92, Key parameters: Beta=3.3e-3 Vto=-1.386 Cgs=9e-12 Cgd=6.5e-12
ap_pjf_J270_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: J270, Package: TO-92, Key parameters: Beta=4.187e-3 Vto=-1.03 Cgs=15e-12 Cgd=10.83e-12
ap_pjf_J271_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: J271, Package: TO-92, Key parameters: Beta=1.6e-3 Vto=-2.519 Cgs=15e-12 Cgd=10.83e-12
ap_pjf_J2N2608_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: J2N2608, Package: TO-18, Key parameters: Beta=423.6e-6 Vto=-2.45 Cgs=8.37e-12 Cgd=6.7e-12
ap_pjf_J2N2609_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: J2N2609, Package: TO-18, Key parameters: Beta=3.2e-3 Vto=-1.408 Cgs=9e-12 Cgd=6.5e-12
ap_pjf_J2N3329_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: J2N3329, Package: TO-72, Key parameters: Beta=456.9e-6 Vto=-2.114 Cgs=9.94e-12 Cgd=7.96e-12
ap_pjf_J2N3330_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: J2N3330, Package: TO-72, Key parameters: Beta=502e-6 Vto=-2.686 Cgs=9.94e-12 Cgd=7.96e-12
ap_pjf_J2N3331_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: J2N3331, Package: TO-72, Key parameters: Beta=380.2e-6 Vto=-4.449 Cgs=9.94e-12 Cgd=7.96e-12
ap_pjf_J2N3332_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: J2N3332, Package: TO-72, Key parameters: Beta=527.2e-6 Vto=-2.636 Cgs=9.94e-12 Cgd=7.96e-12
ap_pjf_J2N3820_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: J2N3820, Package: TO-92, Key parameters: Beta=1.271e-3 Vto=-2.5 Cgs=16.58e-12 Cgd=13.27e-12
ap_pjf_J2N4381_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: J2N4381, Package: TO-18, Key parameters: Beta=2.658e-3 Vto=-1.8 Cgs=8.26e-12 Cgd=6.61e-12
ap_pjf_J2N5018_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: J2N5018, Package: TO-18, Key parameters: Beta=772.5e-6 Vto=-4.15 Cgs=9e-12 Cgd=6.5e-12
ap_pjf_J2N5019_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: J2N5019, Package: TO-18, Key parameters: Beta=1.775e-3 Vto=-2.229 Cgs=9e-12 Cgd=6.5e-12
ap_pjf_J2N5020_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: J2N5020, Package: TO-18, Key parameters: Beta=1.004e-3 Vto=-.8406 Cgs=10.68e-12 Cgd=8.55e-12
ap_pjf_J2N5021_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: J2N5021, Package: TO-18, Key parameters: Beta=2.658e-3 Vto=-.9996 Cgs=10.68e-12 Cgd=8.55e-12
ap_pjf_J2N5114_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: J2N5114, Package: TO-18, Key parameters: Beta=510.2e-6 Vto=-8.095 Cgs=9e-12 Cgd=6.5e-12
ap_pjf_J2N5115_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: J2N5115, Package: TO-18, Key parameters: Beta=1.031e-3 Vto=-4.896 Cgs=9e-12 Cgd=6.5e-12
ap_pjf_J2N5116_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: J2N5116, Package: TO-18, Key parameters: Beta=1.71e-3 Vto=-2.373

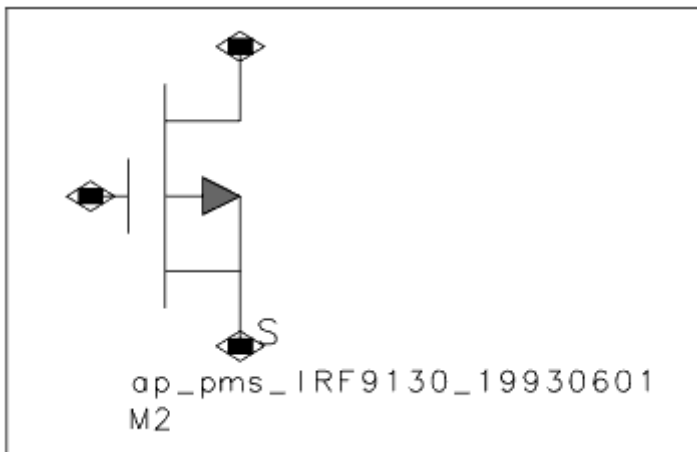
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	Cgs=9e-12 Cgd=6.5e-12
ap_pjf_J2N5460_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: J2N5460, Package: TO-92, Key parameters: Beta=1.107e-3 Vto=-1.75 Cgs=2.92e-12 Cgd=2.34e-12
ap_pjf_J2N5461_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: J2N5461, Package: TO-92, Key parameters: Beta=1.699e-3 Vto=-1.883 Cgs=2.92e-12 Cgd=2.34e-12
ap_pjf_J2N5462_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: J2N5462, Package: TO-92, Key parameters: Beta=2.006e-3 Vto=-2.271 Cgs=2.92e-12 Cgd=2.34e-12
ap_pjf_MPF2608_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: MPF2608, Package: TO-18, Key parameters: Beta=423.6e-6 Vto=-2.45 Cgs=8.37e-12 Cgd=6.7e-12
ap_pjf_MPF3330_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: MPF3330, Package: TO-72, Key parameters: Beta=502e-6 Vto=-2.686 Cgs=9.94e-12 Cgd=7.96e-12
ap_pjf_MPF970_19930601	Manufacturer: Motorola, Basic Description: PJFET Device, Part number: MPF970, Key parameters: Beta=0.000857 Vto=-7 Cgs=1.4E-11 Cgd=1.4E-11
ap_pjf_P1086_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: P1086, Package: TO-92, Key parameters: Beta=772.5e-6 Vto=-4.15 Cgs=9e-12 Cgd=6.5e-12
ap_pjf_P1087_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: P1087, Package: TO-92, Key parameters: Beta=1.775e-3 Vto=-2.229 Cgs=9e-12 Cgd=6.5e-12
ap_pjf_PN4342_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: PN4342, Package: TO-92, Key parameters: Beta=2.006e-3 Vto=-1.988 Cgs=7.91e-12 Cgd=6.33e-12
ap_pjf_PN4360_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: PN4360, Package: TO-92, Key parameters: Beta=4.032e-3 Vto=-2.057 Cgs=7.91e-12 Cgd=6.33e-12
ap_pjf_PN5033_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: PN5033, Package: TO-92, Key parameters: Beta=1.57e-3 Vto=-1.105 Cgs=10.19e-12 Cgd=8.16e-12
ap_pjf_SST174_19930601	Basic Description: PJFET Device, Part number: SST174, Key parameters: Beta=0.001 Vto=-7 Cgs=3.6E-11 Cgd=3.6E-11
ap_pjf_U304_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: U304, Package: TO-18, Key parameters: Beta=1.5e-3 Vto=-5.81 Cgs=16.5e-12 Cgd=16.15e-12
ap_pjf_U305_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: U305, Package: TO-18, Key parameters: Beta=1.8e-3 Vto=-4.014 Cgs=16.5e-12 Cgd=16.15e-12
ap_pjf_U306_19930601	Manufacturer: National, Basic Description: PJFET Device, Part number: U306, Package: TO-18, Key parameters: Beta=2.5e-3 Vto=-2.062 Cgs=16.5e-12 Cgd=16.15e-12

# P-Channel MOSFET Models

## Schematic Design

The [P-Channel MOSFET Schematic Component Example](#) shown below illustrates how components representing P-Channel MOSFETs appear when placed into the Schematic design window. The schematic symbol is derived from the standard LIBSYM\_EE\_MOS1\_P MOS symbol in the  $\$HPEESOF\_DIR/ComponentLibs/symbols$  directory. The annotation consists of the component name and the default component ID prefix (in this case, M). No component parameters are displayed.



**P-Channel MOSFET Schematic Component Example**

The user may scale any of the model parameter values used by the model by displaying the *Component Parameters* dialog box. The dialog box displays the component label, a table of scale factors, and other controls. You can display the dialog box by double-clicking a component symbol after it has been placed in the drawing area or by clicking the **Edit Component Parameters** button.

**Note**  
For details on using the Component Parameters dialog box, click the Help button in the dialog box.

The analog parts model library P-Channel MOSFET models are suitable for placement in any Analog/RF circuit schematic.

## Data

P-Channel MOSFETs include 122 components, each representing an individual part. The naming convention for these components is *ap\_pms\_<part number>\_<extraction date>*.

MOSFETs are simulated using the native MOSFET model component.

**Analog Parts Library - P-Channel MOSFETs**



<b>Component Name</b>	<b>Description</b>
ap_pms_2SJ130_19930601	Manufacturer: Hitachi, Basic Description: PMOS Transistor, Part number: 2SJ130, Key parameters: Vto=-3.045 Kp=0.46
ap_pms_IDEALPMOS_19930601	Basic Description: PMOS Transistor, Part number: IDEALPMOS, Key parameters: Vto=-1 Kp=1E-05
ap_pms_IFP5P12_19930601	Basic Description: PMOS Transistor, Part number: IFP5P12, Key parameters: Vto=-4.484 Kp=1.27
ap_pms_IRF9130_19930601	Manufacturer: International_Rectifier, Basic Description: PMOS Transistor, Part number: IRF9130, Key parameters: Vto=-3.485 Kp=5.02
ap_pms_IRF9130_19930602	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9130, Package: Rectifier, Key parameters: Vto=-3.698 Kp=10.21e-6
ap_pms_IRF9131_19930601	Manufacturer: International_Rectifier, Basic Description: PMOS Transistor, Part number: IRF9131, Key parameters: Vto=-3.485 Kp=5.02
ap_pms_IRF9131_19930602	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9131, Package: Rectifier, Key parameters: Vto=-3.698 Kp=10.21e-6
ap_pms_IRF9132_19930601	Basic Description: PMOS Transistor, Part number: IRF9132, Key parameters: Vto=-3.485 Kp=5.02
ap_pms_IRF9132_19930602	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9132, Package: Rectifier, Key parameters: Vto=-3.698 Kp=10.21e-6
ap_pms_IRF9133_19930601	Manufacturer: International_Rectifier, Basic Description: PMOS Transistor, Part number: IRF9133, Key parameters: Vto=-3.485 Kp=5.02
ap_pms_IRF9133_19930602	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9133, Package: Rectifier, Key parameters: Vto=-3.698 Kp=10.21e-6
ap_pms_IRF9140_19930601	Basic Description: PMOS Transistor, Part number: IRF9140, Key parameters: Vto=-3.2 Kp=3.51
ap_pms_IRF9140_19930602	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9140, Package: Rectifier, Key parameters: Vto=-3.67 Kp=10.15e-6
ap_pms_IRF9141_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9141, Package: Rectifier, Key parameters: Vto=-3.67 Kp=10.15e-6
ap_pms_IRF9142_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9142, Package: Rectifier, Key parameters: Vto=-3.67 Kp=10.15e-6
ap_pms_IRF9143_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9143, Package: Rectifier, Key parameters: Vto=-3.67 Kp=10.15e-6
ap_pms_IRF9214_19930601	Basic Description: PMOS Transistor, Part number: IRF9214, Key parameters: Vto=-3.549 Kp=3.168
ap_pms_IRF9230_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9230, Package: Rectifier, Key parameters: Vto=-3.323 Kp=10.39e-6
ap_pms_IRF9231_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9231, Package: Rectifier, Key parameters: Vto=-3.323 Kp=10.39e-6
ap_pms_IRF9232_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9232, Package: Rectifier, Key parameters: Vto=-3.323

	Kp=10.39e-6
ap_pms_IRF9233_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9233, Package: Rectifier, Key parameters: Vto=-3.323 Kp=10.39e-6
ap_pms_IRF9240_19930601	Manufacturer: International_Rectifier, Basic Description: PMOS Transistor, Part number: IRF9240, Key parameters: Vto=-3.549 Kp=3.168
ap_pms_IRF9240_19930602	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9240, Package: Rectifier, Key parameters: Vto=-3.807 Kp=10.53e-6
ap_pms_IRF9241_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9241, Package: Rectifier, Key parameters: Vto=-3.807 Kp=10.53e-6
ap_pms_IRF9242_19930601	Basic Description: PMOS Transistor, Part number: IRF9242, Key parameters: Vto=-3.549 Kp=3.168
ap_pms_IRF9242_19930602	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9242, Package: Rectifier, Key parameters: Vto=-3.807 Kp=10.53e-6
ap_pms_IRF9243_19930601	Basic Description: PMOS Transistor, Part number: IRF9243, Key parameters: Vto=-3.549 Kp=3.168
ap_pms_IRF9243_19930602	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9243, Package: Rectifier, Key parameters: Vto=-3.807 Kp=10.53e-6
ap_pms_IRF9510_19930601	Basic Description: PMOS Transistor, Part number: IRF9510, Key parameters: Vto=-3.961 Kp=0.613
ap_pms_IRF9510_19930602	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9510, Package: Rectifier, Key parameters: Vto=-3.923 Kp=10.54e-6
ap_pms_IRF9511_19930601	Basic Description: PMOS Transistor, Part number: IRF9511, Key parameters: Vto=-3.961 Kp=0.613
ap_pms_IRF9511_19930602	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9511, Package: Rectifier, Key parameters: Vto=-3.923 Kp=10.54e-6
ap_pms_IRF9512_19930601	Basic Description: PMOS Transistor, Part number: IRF9512, Key parameters: Vto=-3.961 Kp=0.613
ap_pms_IRF9512_19930602	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9512, Package: Rectifier, Key parameters: Vto=-3.923 Kp=10.54e-6
ap_pms_IRF9513_19930601	Basic Description: PMOS Transistor, Part number: IRF9513, Key parameters: Vto=-3.961 Kp=0.613
ap_pms_IRF9513_19930602	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9513, Package: Rectifier, Key parameters: Vto=-3.923 Kp=10.54e-6
ap_pms_IRF9520_19930601	Basic Description: PMOS Transistor, Part number: IRF9520, Key parameters: Vto=-4.095 Kp=11.779
ap_pms_IRF9520_19930602	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9520, Package: Rectifier, Key parameters: Vto=-3.571 Kp=10.42e-6
ap_pms_IRF9521_19930601	Basic Description: PMOS Transistor, Part number: IRF9521, Key parameters: Vto=-4.095 Kp=11.779
ap_pms_IRF9521_19930602	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9521, Package: Rectifier, Key parameters: Vto=-3.571

	Kp=10.42e-6
ap_pms_IRF9522_19930601	Basic Description: PMOS Transistor, Part number: IRF9522, Key parameters: Vto=-4.095 Kp=11.779
ap_pms_IRF9522_19930602	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9522, Package: Rectifier, Key parameters: Vto=-3.571 Kp=10.42e-6
ap_pms_IRF9523_19930601	Basic Description: PMOS Transistor, Part number: IRF9523, Key parameters: Vto=-4.095 Kp=11.779
ap_pms_IRF9523_19930602	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9523, Package: Rectifier, Key parameters: Vto=-3.571 Kp=10.42e-6
ap_pms_IRF9530_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9530, Package: Rectifier, Key parameters: Vto=-3.745 Kp=10.57e-6
ap_pms_IRF9531_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9531, Package: Rectifier, Key parameters: Vto=-3.745 Kp=10.57e-6
ap_pms_IRF9532_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9532, Package: Rectifier, Key parameters: Vto=-3.745 Kp=10.57e-6
ap_pms_IRF9533_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9533, Package: Rectifier, Key parameters: Vto=-3.745 Kp=10.57e-6
ap_pms_IRF9540_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9540, Package: Rectifier, Key parameters: Vto=-3.646 Kp=10.18e-6
ap_pms_IRF9541_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9541, Package: Rectifier, Key parameters: Vto=-3.646 Kp=10.18e-6
ap_pms_IRF9542_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9542, Package: Rectifier, Key parameters: Vto=-3.646 Kp=10.18e-6
ap_pms_IRF9543_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9543, Package: Rectifier, Key parameters: Vto=-3.646 Kp=10.18e-6
ap_pms_IRF9610_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9610, Package: Rectifier, Key parameters: Vto=-3.814 Kp=10.37e-6
ap_pms_IRF9611_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9611, Package: Rectifier, Key parameters: Vto=-3.814 Kp=10.37e-6
ap_pms_IRF9612_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9612, Package: Rectifier, Key parameters: Vto=-3.814 Kp=10.37e-6
ap_pms_IRF9613_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9613, Package: Rectifier, Key parameters: Vto=-3.814 Kp=10.37e-6
ap_pms_IRF9620_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9620, Package: Rectifier, Key parameters: Vto=-3.735 Kp=10.15e-6
ap_pms_IRF9621_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9621, Package: Rectifier, Key parameters: Vto=-3.735

	Kp=10.15e-6
ap_pms_IRF9622_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9622, Package: Rectifier, Key parameters: Vto=-3.735 Kp=10.15e-6
ap_pms_IRF9623_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9623, Package: Rectifier, Key parameters: Vto=-3.735 Kp=10.15e-6
ap_pms_IRF9630_19930601	Basic Description: PMOS Transistor, Part number: IRF9630, Key parameters: Vto=-3.597 Kp=3.35
ap_pms_IRF9630_19930602	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9630, Package: Rectifier, Key parameters: Vto=-3.523 Kp=10.29e-6
ap_pms_IRF9631_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9631, Package: Rectifier, Key parameters: Vto=-3.523 Kp=10.29e-6
ap_pms_IRF9632_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9632, Package: Rectifier, Key parameters: Vto=-3.523 Kp=10.29e-6
ap_pms_IRF9633_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9633, Package: Rectifier, Key parameters: Vto=-3.523 Kp=10.29e-6
ap_pms_IRF9640_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9640, Package: Rectifier, Key parameters: Vto=-3.813 Kp=10.38e-6
ap_pms_IRF9641_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9641, Package: Rectifier, Key parameters: Vto=-3.813 Kp=10.38e-6
ap_pms_IRF9642_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9642, Package: Rectifier, Key parameters: Vto=-3.813 Kp=10.38e-6
ap_pms_IRF9643_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9643, Package: Rectifier, Key parameters: Vto=-3.813 Kp=10.38e-6
ap_pms_IRF9Z10_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9Z10, Package: Rectifier, Key parameters: Vto=-3.356 Kp=10.42e-6
ap_pms_IRF9Z12_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9Z12, Package: Rectifier, Key parameters: Vto=-3.356 Kp=10.42e-6
ap_pms_IRF9Z20_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9Z20, Package: Rectifier, Key parameters: Vto=-3.362 Kp=10.4e-6
ap_pms_IRF9Z22_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9Z22, Package: Rectifier, Key parameters: Vto=-3.362 Kp=10.4e-6
ap_pms_IRF9Z30_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9Z30, Package: Rectifier, Key parameters: Vto=-3.587 Kp=10.36e-6
ap_pms_IRF9Z32_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRF9Z32, Package: Rectifier, Key parameters: Vto=-3.587 Kp=10.36e-6
ap_pms_IRFD9010_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part

	number: IRFD9010, Package: Rectifier, Key parameters: Vto=-3.328 Kp=10.25e-6
ap_pms_IRFD9012_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRFD9012, Package: Rectifier, Key parameters: Vto=-3.328 Kp=10.25e-6
ap_pms_IRFD9020_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRFD9020, Package: Rectifier, Key parameters: Vto=-3.298 Kp=10.34e-6
ap_pms_IRFD9022_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRFD9022, Package: Rectifier, Key parameters: Vto=-3.298 Kp=10.34e-6
ap_pms_IRFD9110_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRFD9110, Package: Rectifier, Key parameters: Vto=-3.909 Kp=10.29e-6
ap_pms_IRFD9113_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRFD9113, Package: Rectifier, Key parameters: Vto=-3.909 Kp=10.29e-6
ap_pms_IRFD9120_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRFD9120, Package: Rectifier, Key parameters: Vto=-3.386 Kp=10.35e-6
ap_pms_IRFD9123_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRFD9123, Package: Rectifier, Key parameters: Vto=-3.386 Kp=10.35e-6
ap_pms_IRFD9210_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRFD9210, Package: Rectifier, Key parameters: Vto=-3.685 Kp=10.15e-6
ap_pms_IRFD9213_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRFD9213, Package: Rectifier, Key parameters: Vto=-3.685 Kp=10.15e-6
ap_pms_IRFD9220_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRFD9220, Package: Rectifier, Key parameters: Vto=-3.476 Kp=10.18e-6
ap_pms_IRFD9223_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: IRFD9223, Package: Rectifier, Key parameters: Vto=-3.476 Kp=10.18e-6
ap_pms_IRFF9110_19930601	Manufacturer: International_Rectifier, Basic Description: PMOS Transistor, Part number: IRFF9110, Key parameters: Vto=-3.961 Kp=0.613
ap_pms_IRFF9111_19930601	Manufacturer: International_Rectifier, Basic Description: PMOS Transistor, Part number: IRFF9111, Key parameters: Vto=-3.961 Kp=0.613
ap_pms_IRFF9112_19930601	Manufacturer: International_Rectifier, Basic Description: PMOS Transistor, Part number: IRFF9112, Key parameters: Vto=-3.961 Kp=0.613
ap_pms_IRFF9113_19930601	Manufacturer: International_Rectifier, Basic Description: PMOS Transistor, Part number: IRFF9113, Key parameters: Vto=-3.961 Kp=0.613
ap_pms_IRFF9120_19930601	Manufacturer: International_Rectifier, Basic Description: PMOS Transistor, Part number: IRFF9120, Key parameters: Vto=-4.095 Kp=11.779
ap_pms_IRFF9121_19930601	Manufacturer: International_Rectifier, Basic Description: PMOS Transistor, Part number: IRFF9121, Key parameters: Vto=-4.095 Kp=11.779
ap_pms_IRFF9122_19930601	Manufacturer: International_Rectifier, Basic Description: PMOS Transistor, Part number: IRFF9122, Key parameters: Vto=-4.095 Kp=11.779
ap_pms_IRFF9123_19930601	Manufacturer: International_Rectifier, Basic Description: PMOS Transistor, Part number: IRFF9123, Key parameters: Vto=-4.095 Kp=11.779
ap_pms_IRFF9220_19930601	Manufacturer: International_Rectifier, Basic Description: PMOS Transistor,



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	Part number: IRFF9220, Key parameters: Vto=-3.18 Kp=0.81799994
ap_pms_IRFF9221_19930601	Basic Description: PMOS Transistor, Part number: IRFF9221, Key parameters: Vto=-3.18 Kp=0.81799994
ap_pms_IRFF9222_19930601	Basic Description: PMOS Transistor, Part number: IRFF9222, Key parameters: Vto=-3.18 Kp=0.81799994
ap_pms_IRFF9223_19930601	Basic Description: PMOS Transistor, Part number: IRFF9223, Key parameters: Vto=-3.18 Kp=0.81799994
ap_pms_IRFF9230_19930601	Manufacturer: International Rectifier, Basic Description: PMOS Transistor, Part number: IRFF9230, Key parameters: Vto=-3.21 Kp=2.08
ap_pms_IRFF9231_19930601	Basic Description: PMOS Transistor, Part number: IRFF9231, Key parameters: Vto=-3.21 Kp=2.08
ap_pms_IRFF9232_19930601	Basic Description: PMOS Transistor, Part number: IRFF9232, Key parameters: Vto=-3.21 Kp=2.08
ap_pms_IRFF9233_19930601	Basic Description: PMOS Transistor, Part number: IRFF9233, Key parameters: Vto=-3.21 Kp=2.08
ap_pms_IRFP9140_19930601	Basic Description: PMOS Transistor, Part number: IRFP9140, Key parameters: Vto=-3.314575 Kp=11.431406
ap_pms_M2N6804_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: M2N6804, Package: Rectifier, Key parameters: Vto=-3.68 Kp=10.46e-6
ap_pms_M2N6806_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: M2N6806, Package: Rectifier, Key parameters: Vto=-3.345 Kp=10.45e-6
ap_pms_M2N6845_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: M2N6845, Package: Rectifier, Key parameters: Vto=-3.533 Kp=10.43e-6
ap_pms_M2N6847_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: M2N6847, Package: Rectifier, Key parameters: Vto=-3.661 Kp=10.37e-6
ap_pms_M2N6849_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: M2N6849, Package: Rectifier, Key parameters: Vto=-3.64 Kp=10.08e-6
ap_pms_M2N6851_19930601	Manufacturer: International, Basic Description: PMOS Transistor, Part number: M2N6851, Package: Rectifier, Key parameters: Vto=-3.252 Kp=10.32e-6
ap_pms_MPM3002P_19930601	Basic Description: PMOS Transistor, Part number: MPM3002P, Key parameters: Vto=-3.795571 Kp=2.146904
ap_pms_RFM5P12_19930601	Manufacturer: RCA, Basic Description: PMOS Transistor, Part number: RFM5P12, Key parameters: Vto=-4.484 Kp=1.27
ap_pms_RFM5P15_19930601	Basic Description: PMOS Transistor, Part number: RFM5P15, Key parameters: Vto=-4.484 Kp=1.27
ap_pms_RFM6P08_19930601	Basic Description: PMOS Transistor, Part number: RFM6P08, Key parameters: Vto=-2.971 Kp=2.798
ap_pms_RFM6P10_19930601	Basic Description: PMOS Transistor, Part number: RFM6P10, Key parameters: Vto=-2.971 Kp=2.798
ap_pms_RFP5P15_19930601	Basic Description: PMOS Transistor, Part number: RFP5P15, Key parameters: Vto=-4.484 Kp=1.27
ap_pms_RFP6P08_19930601	Manufacturer: RCA, Basic Description: PMOS Transistor, Part number: RFP6P08, Key parameters: Vto=-2.971 Kp=2.798
ap_pms_VP0300M_19930601	Manufacturer: Siliconix, Basic Description: PMOS Transistor, Part number: VP0300M, Key parameters: Vto=-3.272 Kp=0.128

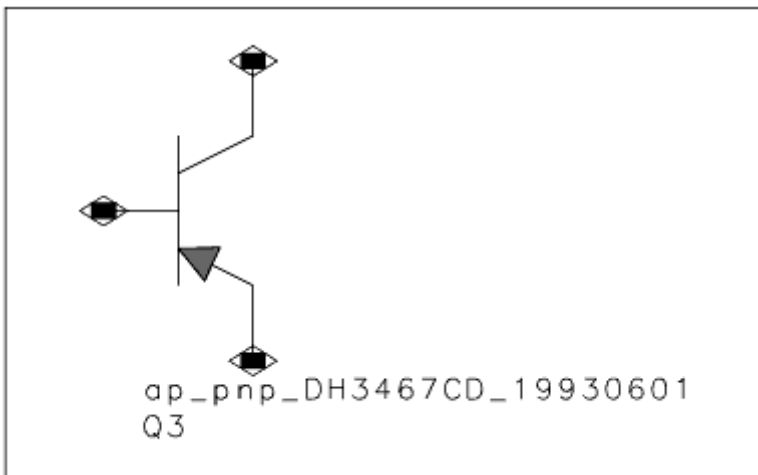
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ap_pms_VP0545_19930601	Manufacturer: Supertex, Basic Description: PMOS Transistor, Part number: VP0545, Key parameters: Vto=-3.72961 Kp=1
ap_pms_VP0645_19930601	Manufacturer: Supertex, Basic Description: PMOS Transistor, Part number: VP0645, Key parameters: Vto=-2.99062 Kp=2.86797
ap_pms_VPO3D_19930601	Basic Description: PMOS Transistor, Part number: VPO3D, Key parameters: Vto=-3.466509 Kp=1.795962
ap_pms_VPO3E_19930601	Basic Description: PMOS Transistor, Part number: VPO3E, Key parameters: Vto=-3.27921 Kp=2.25

# PNP BJT Models

## Schematic Design

The [PNP BJT Schematic Component Example](#) shown below illustrates how components representing PNP BJTs appear when placed into the Schematic design window. The schematic symbol is derived from the standard SYM\_BJT\_PNP symbol in the `$HPEESOF_DIR/circuit/symbols` directory. The annotation consists of the component name and the default component ID prefix (in this case, Q). No component parameters are displayed.



**PNP BJT Schematic Component Example**

The user may scale any of the model parameter values used by the model by displaying the Component Parameters dialog box. The dialog box displays the component label, a table of scale factors, and other controls. You can display the dialog box by double-clicking a component symbol after it has been placed in the drawing area or by clicking the **Edit Component Parameters** button.



Edit Component Parameters button

**Note**  
For details on using the Component Parameters dialog box, click the Help button in the dialog box.

The analog parts model library PNP BJT models are suitable for placement in any Analog/RF circuit schematic.

## Data

PNP BJTs include 540 components, each representing an individual part. The naming convention for these components is *ap\_pnp\_<part number>\_<extraction date>*.

PNP BJTs are simulated using the native BJT model component.

### Analog Parts Library - PNP BJTs

Component Name	Description
ap_pnp_2N2605_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N2605, Key parameters: Is=1E-14 Bf=220 Tf=5.3E-09
ap_pnp_2N2894_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N2894, Key parameters: Is=1.35492E-15 Bf=119.7473666 Tf=2.03804E-10
ap_pnp_2N2904_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N2904, Key parameters: Is=6.19608E-15 Bf=92.7897541 Tf=6.2917E-10
ap_pnp_2N2904A_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N2904A, Key parameters: Is=7.47555E-15 Bf=173.6500125 Tf=2.54817E-10
ap_pnp_2N2905_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N2905, Key parameters: Is=2.21842E-14 Bf=274.0574468 Tf=4.43872E-10
ap_pnp_2N2905A_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N2905A, Key parameters: Is=1.2057E-14 Bf=199.527 Tf=4.55218E-10
ap_pnp_2N2906_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N2906, Key parameters: Is=1.75027E-14 Bf=148.5627949 Tf=5.85292E-10
ap_pnp_2N2906A_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N2906A, Key parameters: Is=5.42245E-15 Bf=88.7299743 Tf=2.84634E-10
ap_pnp_2N2907_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N2907, Key parameters: Is=1.2539E-14 Bf=170.1982158 Tf=6.8346E-10
ap_pnp_2N2907A_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N2907A, Key parameters: Is=1.2446E-14 Bf=145.3917939 Tf=4.8845E-10
ap_pnp_2N2944A_19930601	Basic Description: PNP Transistor, Part number: 2N2944A, Key parameters: Is=1.4831E-13 Bf=400 Tf=1.6E-09
ap_pnp_2N2945A_19930601	Basic Description: PNP Transistor, Part number: 2N2945A, Key parameters: Is=1.4831E-13 Bf=400 Tf=1.6E-09
ap_pnp_2N2946A_19930601	Basic Description: PNP Transistor, Part number: 2N2946A, Key parameters: Is=1.4831E-13 Bf=400 Tf=1.6E-09
ap_pnp_2N3244_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3244, Key parameters: Is=1E-08 Bf=100 Tf=7.9577E-10
ap_pnp_2N3245_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3245, Key parameters: Is=1E-08 Bf=60 Tf=9.0946E-10
ap_pnp_2N3249_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3249, Key parameters: Is=7.2774E-13 Bf=150 Tf=1.7684E-10
ap_pnp_2N3250_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3250, Key parameters: Is=3.08375E-15 Bf=211.1059546 Tf=2.89017E-10
ap_pnp_2N3250A_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3250A, Key parameters: Is=2.63E-14 Bf=80 Tf=6.36E-10

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ap_pnp_2N3251_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3251, Key parameters: Is=2.53365E-15 Bf=208.297 Tf=2.52522E-10
ap_pnp_2N3251A_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3251A, Key parameters: Is=2.85125E-15 Bf=334.8081941 Tf=3.97E-10
ap_pnp_2N3485_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3485, Key parameters: Is=1.4081E-13 Bf=80 Tf=6.3662E-10
ap_pnp_2N3485A_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3485A, Key parameters: Is=1.4081E-13 Bf=100 Tf=6.3662E-10
ap_pnp_2N3486_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3486, Key parameters: Is=8.15071E-15 Bf=171.05 Tf=4.95336E-10
ap_pnp_2N3486A_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3486A, Key parameters: Is=1.4081E-13 Bf=160 Tf=6.3662E-10
ap_pnp_2N3494_19930601	Basic Description: PNP Transistor, Part number: 2N3494, Key parameters: Is=7.313E-15 Bf=92 Tf=3.87E-10
ap_pnp_2N3495_19930601	Basic Description: PNP Transistor, Part number: 2N3495, Key parameters: Is=7.313E-15 Bf=92 Tf=3.87E-10
ap_pnp_2N3496_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3496, Key parameters: Is=7.313E-15 Bf=92 Tf=3.87E-10
ap_pnp_2N3497_19930601	Basic Description: PNP Transistor, Part number: 2N3497, Key parameters: Is=8.09551E-15 Bf=146.0765374 Tf=5.11343E-10
ap_pnp_2N3546_19930601	Basic Description: PNP Transistor, Part number: 2N3546, Key parameters: Is=9.92156E-16 Bf=78.1530626 Tf=7.06969E-11
ap_pnp_2N3634_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3634, Key parameters: Is=2.25588E-14 Bf=165.612 Tf=5.06025E-10
ap_pnp_2N3635_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3635, Key parameters: Is=1.4E-13 Bf=200 Tf=5.3052E-10
ap_pnp_2N3636_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3636, Key parameters: Is=1.07014E-14 Bf=102.456 Tf=2.499E-10
ap_pnp_2N3637_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3637, Key parameters: Is=1.22573E-14 Bf=172.6629943 Tf=2.91548E-10
ap_pnp_2N3645_19930601	Manufacturer: National_Semiconductor, Basic Description: PNP Transistor, Part number: 2N3645, Key parameters: Is=1.4081E-13 Bf=150 Tf=6.3662E-10
ap_pnp_2N3720_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3720, Key parameters: Is=1.34E-12 Bf=67 Tf=1.414E-09
ap_pnp_2N3740_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3740, Key parameters: Is=4.44456E-14 Bf=100 Tf=1.04247E-08
ap_pnp_2N3740A_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3740A, Key parameters: Is=3.316E-13 Bf=241.7 Tf=3.98E-08
ap_pnp_2N3741_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3741, Key parameters: Is=4.55746E-14 Bf=100 Tf=9.88674E-09
ap_pnp_2N3741A_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3741A, Key parameters: Is=3.316E-13 Bf=241.7 Tf=3.98E-08
ap_pnp_2N3743_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3743, Key parameters: Is=4.433E-12 Bf=50 Tf=1E-09
ap_pnp_2N3762_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3762, Key parameters: Is=1.06452E-14 Bf=93.3141 Tf=3.6518E-10
ap_pnp_2N3763_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3763, Key parameters: Is=2.432E-13 Bf=72 Tf=7.96E-10



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ap_pnp_2N3764_19930601	Basic Description: PNP Transistor, Part number: 2N3764, Key parameters: Is=2.4318E-13 Bf=120 Tf=7.9577E-10
ap_pnp_2N3765_19930601	Basic Description: PNP Transistor, Part number: 2N3765, Key parameters: Is=2.432E-13 Bf=72 Tf=7.96E-10
ap_pnp_2N3789_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3789, Key parameters: Is=6.233E-12 Bf=249 Tf=4E-09
ap_pnp_2N3790_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3790, Key parameters: Is=5E-12 Bf=44.9648548 Tf=9.27052E-09
ap_pnp_2N3791_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3791, Key parameters: Is=5E-12 Bf=167.7843565 Tf=9.94627E-09
ap_pnp_2N3792_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3792, Key parameters: Is=1.20948E-12 Bf=221.8738437 Tf=9.27308E-09
ap_pnp_2N3798_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3798, Key parameters: Is=1E-14 Bf=220 Tf=5.3E-09
ap_pnp_2N3799_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3799, Key parameters: Is=1E-14 Bf=480 Tf=5.3E-09
ap_pnp_2N3806_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3806, Key parameters: Is=2.72E-14 Bf=250 Tf=3.1E-10
ap_pnp_2N3807_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3807, Key parameters: Is=2.72E-14 Bf=380 Tf=3.1E-10
ap_pnp_2N3808_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3808, Key parameters: Is=2.72E-14 Bf=250 Tf=3.1E-10
ap_pnp_2N3809_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3809, Key parameters: Is=2.72E-14 Bf=380 Tf=3.1E-10
ap_pnp_2N3810_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3810, Key parameters: Is=8.50496E-15 Bf=328.274 Tf=9.22749E-12
ap_pnp_2N3810A_19930601	Basic Description: PNP Transistor, Part number: 2N3810A, Key parameters: Is=2.72E-14 Bf=250 Tf=3.1E-10
ap_pnp_2N3811_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3811, Key parameters: Is=1.33646E-14 Bf=497.4636543 Tf=8.3424625E-10
ap_pnp_2N3811A_19930601	Basic Description: PNP Transistor, Part number: 2N3811A, Key parameters: Is=2.72E-14 Bf=380 Tf=3.1E-10
ap_pnp_2N3812_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3812, Key parameters: Is=2.72E-14 Bf=250 Tf=3.1E-10
ap_pnp_2N3813_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3813, Key parameters: Is=2.72E-14 Bf=380 Tf=3.1E-10
ap_pnp_2N3814_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3814, Key parameters: Is=2.72E-14 Bf=250 Tf=3.1E-10
ap_pnp_2N3815_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3815, Key parameters: Is=2.72E-14 Bf=380 Tf=3.1E-10
ap_pnp_2N3816_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3816, Key parameters: Is=2.72E-14 Bf=250 Tf=3.1E-10
ap_pnp_2N3816A_19930601	Basic Description: PNP Transistor, Part number: 2N3816A, Key parameters: Is=2.72E-14 Bf=250 Tf=3.1E-10
ap_pnp_2N3817_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3817, Key parameters: Is=2.72E-14 Bf=380 Tf=3.1E-10
ap_pnp_2N3868_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3868, Key parameters: Is=6.119E-12 Bf=60 Tf=1.592E-09

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ap_pnp_2N3905_19930601	Basic Description: PNP Transistor, Part number: 2N3905, Key parameters: Is=2.15951E-14 Bf=152.503 Tf=2.30011E-10
ap_pnp_2N3906_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3906, Key parameters: Is=5.76815E-15 Bf=393.021154 Tf=4.73711E-11
ap_pnp_2N3962_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3962, Key parameters: Is=1E-14 Bf=220 Tf=5.3E-09
ap_pnp_2N3963_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3963, Key parameters: Is=5.53586E-15 Bf=255.26
ap_pnp_2N3964_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3964, Key parameters: Is=1.80768E-14 Bf=429.07 Tf=2.20399E-10
ap_pnp_2N3965_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N3965, Key parameters: Is=1E-14 Bf=480 Tf=5.3E-09
ap_pnp_2N4026_19930601	Basic Description: PNP Transistor, Part number: 2N4026, Key parameters: Is=1E-14 Bf=230 Tf=4.5E-10
ap_pnp_2N4032_19930601	Basic Description: PNP Transistor, Part number: 2N4032, Key parameters: Is=1E-14 Bf=230 Tf=4.5E-10
ap_pnp_2N4033_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N4033, Key parameters: Is=1E-14 Bf=230 Tf=4.5E-10
ap_pnp_2N4036_19930601	Basic Description: PNP Transistor, Part number: 2N4036, Key parameters: Is=3.40476E-14 Bf=159.868 Tf=6.32333E-10
ap_pnp_2N4037_19930601	Basic Description: PNP Transistor, Part number: 2N4037, Key parameters: Is=5.70767E-14 Bf=147.1304373 Tf=8.9087E-10
ap_pnp_2N4125_19930601	Basic Description: PNP Transistor, Part number: 2N4125, Key parameters: Is=2.61651E-15 Bf=101.481617 Tf=4.15951E-10
ap_pnp_2N4126_19930601	Basic Description: PNP Transistor, Part number: 2N4126, Key parameters: Is=5.52332E-15 Bf=352.114 Tf=2.49696E-10
ap_pnp_2N4208_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N4208, Key parameters: Is=6.09525E-16 Bf=105.0503034 Tf=1.43504E-10
ap_pnp_2N4209_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N4209, Key parameters: Is=1.31388E-15 Bf=154.0972202 Tf=1.21694E-10
ap_pnp_2N4260_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N4260, Key parameters: Is=2.42138E-16 Bf=74.6097 Tf=3.22999E-11
ap_pnp_2N4261_19930601	Basic Description: PNP Transistor, Part number: 2N4261, Key parameters: Is=4.384E-15 Bf=100 Tf=3E-12
ap_pnp_2N4402_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N4402, Key parameters: Is=2.02968E-14 Bf=190.2535019 Tf=3.3298E-10
ap_pnp_2N4403_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N4403, Key parameters: Is=1.46655E-14 Bf=203.911472 Tf=3.08932E-10
ap_pnp_2N4404_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N4404, Key parameters: Is=2.1107E-13 Bf=80 Tf=6.366E-10
ap_pnp_2N4405_19930601	Basic Description: PNP Transistor, Part number: 2N4405, Key parameters: Is=2.1107E-13 Bf=80 Tf=6.366E-10
ap_pnp_2N4453_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N4453, Key parameters: Is=7.92E-15 Bf=170 Tf=3.98E-10
ap_pnp_2N4918_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N4918, Key parameters: Is=5.31238E-14 Bf=100 Tf=1.01474E-08
ap_pnp_2N4919_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N4919, Key parameters: Is=1.323E-13 Bf=235 Tf=5.3E-09

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ap_pnp_2N4920_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N4920, Key parameters: Is=1.70924E-14 Bf=160 Tf=2.85834E-08
ap_pnp_2N4957_19930601	Basic Description: PNP Transistor, Part number: 2N4957, Key parameters: Is=2.5729E-16 Bf=102.8368714 Tf=1.99051E-11
ap_pnp_2N4959_19930601	Basic Description: PNP Transistor, Part number: 2N4959, Key parameters: Is=6.124E-11 Bf=45 Tf=6.63E-11
ap_pnp_2N5086_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N5086, Key parameters: Is=9.46847E-15 Bf=320.177 Tf=6.33153E-10
ap_pnp_2N5087_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N5087, Key parameters: Is=1.21621E-14 Bf=406.7528175 Tf=3.26412E-10
ap_pnp_2N5160_19930601	Basic Description: PNP Transistor, Part number: 2N5160, Key parameters: Is=6.60154E-15 Bf=121.5369133 Tf=1.18641E-10
ap_pnp_2N5193_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N5193, Key parameters: Is=6.387E-12 Bf=230 Tf=8E-09
ap_pnp_2N5194_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N5194, Key parameters: Is=6E-13 Bf=100 Tf=1.05301E-08
ap_pnp_2N5195_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N5195, Key parameters: Is=6.387E-12 Bf=230 Tf=8E-09
ap_pnp_2N5323_19930601	Basic Description: PNP Transistor, Part number: 2N5323, Key parameters: Is=6.34601E-13 Bf=170.46 Tf=5.96803E-10
ap_pnp_2N5400_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N5400, Key parameters: Is=1.88073E-14 Bf=133.485 Tf=5.4921E-10
ap_pnp_2N5401_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N5401, Key parameters: Is=2.60433E-14 Bf=157.033 Tf=1.23161E-10
ap_pnp_2N5415_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N5415, Key parameters: Is=3.80964E-14 Bf=128.795 Tf=1.17659E-09
ap_pnp_2N5416_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N5416, Key parameters: Is=3.79027E-14 Bf=118.4840589 Tf=1.81407E-09
ap_pnp_2N5583_19930601	Basic Description: PNP Transistor, Part number: 2N5583, Key parameters: Is=8.61613E-15 Bf=99.27 Tf=9.30165E-11
ap_pnp_2N5679_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N5679, Key parameters: Is=2.9568E-14 Bf=70.1784 Tf=1.0568E-09
ap_pnp_2N5680_19930601	Basic Description: PNP Transistor, Part number: 2N5680, Key parameters: Is=6.50403E-14 Bf=61.1581561 Tf=1.3093425E-09
ap_pnp_2N5683_19930601	Basic Description: PNP Transistor, Part number: 2N5683, Key parameters: Is=3.917E-11 Bf=125 Tf=4.5473E-08
ap_pnp_2N5684_19930601	Basic Description: PNP Transistor, Part number: 2N5684, Key parameters: Is=3.917E-11 Bf=125 Tf=4.5473E-08
ap_pnp_2N5879_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N5879, Key parameters: Is=2.09535E-13 Bf=100 Tf=1.01704E-08
ap_pnp_2N5880_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N5880, Key parameters: Is=2.03E-11 Bf=170 Tf=1E-08
ap_pnp_2N5883_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N5883, Key parameters: Is=1.908E-11 Bf=518.9 Tf=3.98E-09
ap_pnp_2N5884_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N5884, Key parameters: Is=1.908E-11 Bf=518.9 Tf=3.98E-09
ap_pnp_2N6040_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N6040, Key parameters: Is=1.011E-15 Bf=35000 Tf=1.5E-09

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ap_pnp_2N6041_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N6041, Key parameters: Is=1.011E-15 Bf=35000 Tf=1.5E-09
ap_pnp_2N6042_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N6042, Key parameters: Is=1.011E-15 Bf=35000 Tf=1.5E-09
ap_pnp_2N6052_19930601	Basic Description: PNP Transistor, Part number: 2N6052, Key parameters: Is=1E-13 Bf=4500000 Tf=4E-09
ap_pnp_2N6109_19930601	Basic Description: PNP Transistor, Part number: 2N6109, Key parameters: Is=7E-13 Bf=120 Tf=8.57047E-09
ap_pnp_2N6186_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N6186, Key parameters: Is=3.929E-12 Bf=80 Tf=5.3E-09
ap_pnp_2N6187_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N6187, Key parameters: Is=3.929E-12 Bf=150 Tf=5.3E-09
ap_pnp_2N6188_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N6188, Key parameters: Is=3.929E-12 Bf=80 Tf=5.3E-09
ap_pnp_2N6189_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N6189, Key parameters: Is=3.929E-12 Bf=150 Tf=5.3E-09
ap_pnp_2N6190_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N6190, Key parameters: Is=3.673E-12 Bf=85 Tf=1.06E-09
ap_pnp_2N6191_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N6191, Key parameters: Is=3.673E-12 Bf=150 Tf=1.06E-09
ap_pnp_2N6192_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N6192, Key parameters: Is=3.673E-12 Bf=85 Tf=1.06E-09
ap_pnp_2N6193_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N6193, Key parameters: Is=3.673E-12 Bf=150 Tf=1.06E-09
ap_pnp_2N6226_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N6226, Key parameters: Is=5.31E-15 Bf=129 Tf=5E-09
ap_pnp_2N6227_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N6227, Key parameters: Is=5.31E-15 Bf=129 Tf=5E-09
ap_pnp_2N6228_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N6228, Key parameters: Is=5.31E-15 Bf=129 Tf=5E-09
ap_pnp_2N6229_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N6229, Key parameters: Is=7.97E-12 Bf=170 Tf=1.59E-08
ap_pnp_2N6230_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N6230, Key parameters: Is=7.97E-12 Bf=170 Tf=1.59E-08
ap_pnp_2N6231_19930601	Basic Description: PNP Transistor, Part number: 2N6231, Key parameters: Is=7.97E-12 Bf=170 Tf=1.59E-08
ap_pnp_2N6287_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N6287, Key parameters: Is=1.439E-08 Bf=16000 Tf=1.592E-09
ap_pnp_2N6378_19930601	Basic Description: PNP Transistor, Part number: 2N6378, Key parameters: Is=1.67E-11 Bf=100 Tf=2.153E-09
ap_pnp_2N6436_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N6436, Key parameters: Is=5.0336E-11 Bf=70 Tf=3.98E-09
ap_pnp_2N6437_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N6437, Key parameters: Is=1.30964E-13 Bf=100 Tf=2.99425E-09
ap_pnp_2N6438_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N6438, Key parameters: Is=5.0336E-11 Bf=70 Tf=3.98E-09
ap_pnp_2N6609_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N6609, Key parameters: Is=1.21097E-13 Bf=80 Tf=1.0357E-08
ap_pnp_2N6728_19930601	Manufacturer: National_Semiconductor, Basic Description: PNP Transistor, Part number: 2N6728, Key parameters: Is=3E-14 Bf=130 Tf=8.6E-10

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ap_pnp_2N6729_19930601	Manufacturer: National_Semiconductor, Basic Description: PNP Transistor, Part number: 2N6729, Key parameters: Is=1.38015E-13 Bf=110.873 Tf=1.98511E-09
ap_pnp_2N6730_19930601	Manufacturer: National_Semiconductor, Basic Description: PNP Transistor, Part number: 2N6730, Key parameters: Is=3E-14 Bf=130 Tf=8.6E-10
ap_pnp_2N6732_19930601	Manufacturer: National_Semiconductor, Basic Description: PNP Transistor, Part number: 2N6732, Key parameters: Is=3E-14 Bf=130 Tf=8.6E-10
ap_pnp_2N869A_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2N869A, Key parameters: Is=7.92E-15 Bf=170 Tf=3.98E-10
ap_pnp_2SA1005_19930601	Basic Description: PNP Transistor, Part number: 2SA1005, Key parameters: Is=3.06E-19 Bf=94 Tf=2.013E-10
ap_pnp_2SA1011_19930601	Basic Description: PNP Transistor, Part number: 2SA1011, Key parameters: Is=1E-14 Bf=100 Tf=2.274E-08
ap_pnp_2SA1015_19930601	Basic Description: PNP Transistor, Part number: 2SA1015, Key parameters: Is=2.432E-14 Bf=167.3 Tf=3.5E-10
ap_pnp_2SA1037KS_19930601	Basic Description: PNP Transistor, Part number: 2SA1037KS, Key parameters: Is=4.374E-13 Bf=225.2 Tf=3.1E-10
ap_pnp_2SA1052_19930601	Manufacturer: Hitachi, Basic Description: PNP Transistor, Part number: 2SA1052, Key parameters: Is=9.783E-15 Bf=200 Tf=2E-10
ap_pnp_2SA1077_19930601	Basic Description: PNP Transistor, Part number: 2SA1077, Key parameters: Is=8.47675E-17 Bf=120 Tf=2.4E-09
ap_pnp_2SA1083_19930601	Manufacturer: Hitachi, Basic Description: PNP Transistor, Part number: 2SA1083, Key parameters: Is=9.801E-14 Bf=517 Tf=1.176E-09
ap_pnp_2SA1084_19930601	Basic Description: PNP Transistor, Part number: 2SA1084, Key parameters: Is=4.5625423E-14 Bf=610 Tf=8.95E-10
ap_pnp_2SA1085_19930601	Basic Description: PNP Transistor, Part number: 2SA1085, Key parameters: Is=4.5625423E-14 Bf=610 Tf=8.95E-10
ap_pnp_2SA1121_19930601	Manufacturer: Hitachi, Basic Description: PNP Transistor, Part number: 2SA1121, Key parameters: Is=6.198E-14 Bf=186 Tf=4E-10
ap_pnp_2SA1152_19930601	Basic Description: PNP Transistor, Part number: 2SA1152, Key parameters: Is=8.8456E-13 Bf=202 Tf=1.3E-09
ap_pnp_2SA1153_19930601	Basic Description: PNP Transistor, Part number: 2SA1153, Key parameters: Is=2.42E-14 Bf=171 Tf=2.8E-10
ap_pnp_2SA1154_19930601	Basic Description: PNP Transistor, Part number: 2SA1154, Key parameters: Is=4.71802E-16 Bf=210 Tf=1.082E-09
ap_pnp_2SA1161_19930601	Basic Description: PNP Transistor, Part number: 2SA1161, Key parameters: Is=1.716E-16 Bf=76.47 Tf=4.55E-18
ap_pnp_2SA1162_19930601	Basic Description: PNP Transistor, Part number: 2SA1162, Key parameters: Is=2.432E-14 Bf=167.3 Tf=3.5E-10
ap_pnp_2SA1175_19930601	Basic Description: PNP Transistor, Part number: 2SA1175, Key parameters: Is=6.884E-14 Bf=220 Tf=6.8E-10
ap_pnp_2SA1190_19930601	Manufacturer: Hitachi, Basic Description: PNP Transistor, Part number: 2SA1190, Key parameters: Is=5.744E-14 Bf=534 Tf=1.171E-09
ap_pnp_2SA1206_19930601	Basic Description: PNP Transistor, Part number: 2SA1206, Key parameters: Is=1.4929919E-13 Bf=125 Tf=5.5E-11
ap_pnp_2SA1225_19930601	Manufacturer: Toshiba, Basic Description: PNP Transistor, Part number: 2SA1225, Key parameters: Is=1E-14 Bf=135 Tf=1.307E-09
ap_pnp_2SA1226_19930601	Manufacturer: Hitachi, Basic Description: PNP Transistor, Part number: 2SA1226, Key parameters: Is=5.716E-16 Bf=128 Tf=1E-10
ap_pnp_2SA1302_19930601	Basic Description: PNP Transistor, Part number: 2SA1302, Key parameters:



	Is=5.276561E-08 Bf=140 Tf=4.667E-09
ap_pnp_2SA1330_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: 2SA1330, Key parameters: Is=4.902E-14 Bf=221 Tf=4E-10
ap_pnp_2SA1384_19930601	Manufacturer: Toshiba, Basic Description: PNP Transistor, Part number: 2SA1384, Key parameters: Is=1.642E-14 Bf=70.9 Tf=2E-09
ap_pnp_2SA1385_19930601	Basic Description: PNP Transistor, Part number: 2SA1385, Key parameters: Is=2.36E-15 Bf=275 Tf=2.27E-09
ap_pnp_2SA1402_19930601	Basic Description: PNP Transistor, Part number: 2SA1402, Key parameters: Is=2.345E-14 Bf=110 Tf=1.6E-10
ap_pnp_2SA1403_19930601	Basic Description: PNP Transistor, Part number: 2SA1403, Key parameters: Is=1.416E-14 Bf=100 Tf=1.6E-10
ap_pnp_2SA1404_19930601	Basic Description: PNP Transistor, Part number: 2SA1404, Key parameters: Is=2.454E-14 Bf=100 Tf=2.9E-10
ap_pnp_2SA1405_19930601	Basic Description: PNP Transistor, Part number: 2SA1405, Key parameters: Is=4.666E-14 Bf=95 Tf=2.9E-10
ap_pnp_2SA1406_19930601	Basic Description: PNP Transistor, Part number: 2SA1406, Key parameters: Is=2.09E-14 Bf=95 Tf=3.4E-10
ap_pnp_2SA1407_19930601	Basic Description: PNP Transistor, Part number: 2SA1407, Key parameters: Is=2.09E-14 Bf=95 Tf=3.4E-10
ap_pnp_2SA1412_19930601	Basic Description: PNP Transistor, Part number: 2SA1412, Key parameters: Is=6.4633E-13 Bf=63 Tf=5.685E-09
ap_pnp_2SA1424_19930601	Basic Description: PNP Transistor, Part number: 2SA1424, Key parameters: Is=8.594669E-15 Bf=120 Tf=2.419E-11
ap_pnp_2SA1460_19930601	Basic Description: PNP Transistor, Part number: 2SA1460, Key parameters: Is=1.69179E-11 Bf=130 Tf=3E-10
ap_pnp_2SA1464_19930601	Basic Description: PNP Transistor, Part number: 2SA1464, Key parameters: Is=3.0642E-13 Bf=180 Tf=300.0P
ap_pnp_2SA1494_19930601	Basic Description: PNP Transistor, Part number: 2SA1494, Key parameters: Is=2.9938914E-09 Bf=148 Tf=6E-09
ap_pnp_2SA1598_19930601	Basic Description: PNP Transistor, Part number: 2SA1598, Key parameters: Is=1E-14 Bf=290 Tf=2E-09
ap_pnp_2SA490_19930601	Basic Description: PNP Transistor, Part number: 2SA490, Key parameters: Is=1.34E-12 Bf=67 Tf=1.414E-09
ap_pnp_2SA495_19930601	Manufacturer: Toshiba, Basic Description: PNP Transistor, Part number: 2SA495, Key parameters: Is=1.921E-14 Bf=208 Tf=3.343E-11
ap_pnp_2SA496_19930601	Basic Description: PNP Transistor, Part number: 2SA496, Key parameters: Is=1E-14 Bf=220 Tf=5.3E-09
ap_pnp_2SA503_19930601	Basic Description: PNP Transistor, Part number: 2SA503, Key parameters: Is=2.1888E-13 Bf=200 Tf=3.6172E-10
ap_pnp_2SA504_19930601	Basic Description: PNP Transistor, Part number: 2SA504, Key parameters: Is=2.1888E-13 Bf=200 Tf=3.6172E-10
ap_pnp_2SA505_19930601	Basic Description: PNP Transistor, Part number: 2SA505, Key parameters: Is=1E-14 Bf=220 Tf=5.3E-09
ap_pnp_2SA562_19930601	Manufacturer: Toshiba, Basic Description: PNP Transistor, Part number: 2SA562, Key parameters: Is=1E-14 Bf=195 Tf=1.307E-09
ap_pnp_2SA673_19930601	Basic Description: PNP Transistor, Part number: 2SA673, Key parameters: Is=9.486E-11 Bf=115 Tf=5.75E-07
ap_pnp_2SA673A_19930601	Basic Description: PNP Transistor, Part number: 2SA673A, Key parameters: Is=9.486E-11 Bf=115 Tf=5.75E-07
ap_pnp_2SA733_19930601	Basic Description: PNP Transistor, Part number: 2SA733, Key parameters:

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	Is=5.59E-14 Bf=205 Tf=7E-10
ap_pnp_2SA739_19930601	Basic Description: PNP Transistor, Part number: 2SA739, Key parameters: Is=1.402E-12 Bf=110 Tf=1.061E-08
ap_pnp_2SA812_19930601	Basic Description: PNP Transistor, Part number: 2SA812, Key parameters: Is=3.752E-14 Bf=328 Tf=6E-10
ap_pnp_2SA915_19930601	Basic Description: PNP Transistor, Part number: 2SA915, Key parameters: Is=2.5E-16 Bf=143 Tf=1.75E-09
ap_pnp_2SA933_19930601	Basic Description: PNP Transistor, Part number: 2SA933, Key parameters: Is=5.66431E-13 Bf=270 Tf=2.8E-10
ap_pnp_2SA958_19930601	Basic Description: PNP Transistor, Part number: 2SA958, Key parameters: Is=3.678E-09 Bf=190 Tf=7.958E-09
ap_pnp_2SA965_19930601	Basic Description: PNP Transistor, Part number: 2SA965, Key parameters: Is=1.6202846E-10 Bf=185 Tf=7.26E-10
ap_pnp_2SA968_19930601	Basic Description: PNP Transistor, Part number: 2SA968, Key parameters: Is=7.23823E-13 Bf=149 Tf=1.184E-09
ap_pnp_2SA968A_19930601	Basic Description: PNP Transistor, Part number: 2SA968A, Key parameters: Is=7.23823E-13 Bf=149 Tf=1.184E-09
ap_pnp_2SA968B_19930601	Basic Description: PNP Transistor, Part number: 2SA968B, Key parameters: Is=7.23823E-13 Bf=149 Tf=1.184E-09
ap_pnp_2SB502A_19930601	Basic Description: PNP Transistor, Part number: 2SB502A, Key parameters: Is=9.8797998E-09 Bf=110 Tf=2.3E-09
ap_pnp_2SB503A_19930601	Basic Description: PNP Transistor, Part number: 2SB503A, Key parameters: Is=9.8797998E-09 Bf=110 Tf=2.3E-09
ap_pnp_2SB508_19930601	Basic Description: PNP Transistor, Part number: 2SB508, Key parameters: Is=9.8797998E-09 Bf=110 Tf=2.3E-09
ap_pnp_2SB546A_19930601	Basic Description: PNP Transistor, Part number: 2SB546A, Key parameters: Is=1E-14 Bf=100 Tf=2.274E-08
ap_pnp_2SB605_19930601	Basic Description: PNP Transistor, Part number: 2SB605, Key parameters: Is=4.70802E-16 Bf=210 Tf=1.082E-09
ap_pnp_2SB633_19930601	Basic Description: PNP Transistor, Part number: 2SB633, Key parameters: Is=1.3478E-11 Bf=145 Tf=1.989E-08
ap_pnp_2SB641_19930601	Manufacturer: National_Semiconductor, Basic Description: PNP Transistor, Part number: 2SB641, Key parameters: Is=1.093E-14 Bf=174 Tf=9.7E-10
ap_pnp_2SB649_19930601	Basic Description: PNP Transistor, Part number: 2SB649, Key parameters: Is=2.935E-13 Bf=216 Tf=8.569E-10
ap_pnp_2SB736_19930601	Basic Description: PNP Transistor, Part number: 2SB736, Key parameters: Is=3.3113E-13 Bf=235 Tf=1.199E-09
ap_pnp_2SB745_19930601	Manufacturer: National_Semiconductor, Basic Description: PNP Transistor, Part number: 2SB745, Key parameters: Is=4.138E-14 Bf=430 Tf=1.217E-09
ap_pnp_2SB804_19930601	Basic Description: PNP Transistor, Part number: 2SB804, Key parameters: Is=4.642E-14 Bf=142.5 Tf=1.099E-09
ap_pnp_2SB819_19930601	Manufacturer: National_Semiconductor, Basic Description: PNP Transistor, Part number: 2SB819, Key parameters: Is=2.276E-13 Bf=289 Tf=4.58E-10
ap_pnp_2SB857_19930601	Basic Description: PNP Transistor, Part number: 2SB857, Key parameters: Is=1.258E-12 Bf=116 Tf=3.43E-11
ap_pnp_2SB953_19930601	Manufacturer: National_Semiconductor, Basic Description: PNP Transistor, Part number: 2SB953, Key parameters: Is=8.215E-13 Bf=250 Tf=8E-10
ap_pnp_2SB976_19930601	Manufacturer: National_Semiconductor, Basic Description: PNP Transistor, Part number: 2SB976, Key parameters: Is=6.59E-13 Bf=502 Tf=3.43E-11
ap_pnp_AT802_19930601	Basic Description: PNP Transistor, Part number: AT802, Key parameters:

	Is=8.752E-16 Bf=75.2 Tf=1.7684E-10
ap_pnp_BC327_19930601	Basic Description: PNP Transistor, Part number: BC327, Key parameters: Is=4.14952E-14 Bf=222.462528 Tf=1.8167E-10
ap_pnp_BC556_19930601	Basic Description: PNP Transistor, Part number: BC556, Key parameters: Is=2.12687E-14 Bf=255.4867 Tf=7.64117E-10
ap_pnp_BC557A_19930601	Basic Description: PNP Transistor, Part number: BC557A, Key parameters: Is=1.72533E-14 Bf=349.8457293 Tf=3.6491E-10
ap_pnp_BC640_19930601	Basic Description: PNP Transistor, Part number: BC640, Key parameters: Is=6.93724E-14 Bf=183.6625677 Tf=9.93472345E-12
ap_pnp_BCX17_19930601	Basic Description: PNP Transistor, Part number: BCX17, Key parameters: Is=9.96378E-15 Bf=301.8299468
ap_pnp_BCY79_19930601	Basic Description: PNP Transistor, Part number: BCY79, Key parameters: Is=8.65065E-15 Bf=213.9245626 Tf=7.99892E-10
ap_pnp_BD244_19930601	Basic Description: PNP Transistor, Part number: BD244, Key parameters: Is=5E-13 Bf=70 Tf=9.98932E-09
ap_pnp_CA3096P_19930601	Basic Description: PNP Transistor, Part number: CA3096P, Key parameters: Is=5.03463E-15 Bf=83.4128364 Tf=4.343453E-09
ap_pnp_D45H10_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: D45H10, Key parameters: Is=6.31E-13 Bf=115 Tf=2.158E-09
ap_pnp_D45H11_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: D45H11, Key parameters: Is=6E-13 Bf=100 Tf=8.99901E-10
ap_pnp_D45H1_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: D45H1, Key parameters: Is=6.31E-13 Bf=115 Tf=2.158E-09
ap_pnp_D45H2_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: D45H2, Key parameters: Is=6.31E-13 Bf=115 Tf=2.158E-09
ap_pnp_D45H4_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: D45H4, Key parameters: Is=6.31E-13 Bf=115 Tf=2.158E-09
ap_pnp_D45H5_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: D45H5, Key parameters: Is=6.31E-13 Bf=115 Tf=2.158E-09
ap_pnp_D45H7_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: D45H7, Key parameters: Is=6.31E-13 Bf=115 Tf=2.158E-09
ap_pnp_D45H8_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: D45H8, Key parameters: Is=6.31E-13 Bf=115 Tf=2.158E-09
ap_pnp_IDEALPNP_19930601	Basic Description: PNP Transistor, Part number: IDEALPNP, Key parameters: Bf=75
ap_pnp_LT5839_19930601	Basic Description: PNP Transistor, Part number: LT5839, Key parameters: Is=5.036433E-15 Bf=101.9374365 Tf=1.84323E-10
ap_pnp_MD3250_19930601	Basic Description: PNP Transistor, Part number: MD3250, Key parameters: Is=1E-13 Bf=77 Tf=9E-11
ap_pnp_MJ11017_19930601	Basic Description: PNP Transistor, Part number: MJ11017, Key parameters: Is=1.931E-09 Bf=69 Tf=6E-09
ap_pnp_MJ15016_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MJ15016, Key parameters: Is=1.002E-11 Bf=200 Tf=2.27E-08
ap_pnp_MJ15023_19930601	Basic Description: PNP Transistor, Part number: MJ15023, Key parameters: Is=1.754E-13 Bf=82 Tf=1.99E-08
ap_pnp_MJ15025_19930601	Basic Description: PNP Transistor, Part number: MJ15025, Key parameters: Is=2E-13 Bf=50 Tf=7.34343E-09
ap_pnp_MJ15051_19930601	Basic Description: PNP Transistor, Part number: MJ15051, Key parameters: Is=7.404E-12 Bf=130 Tf=1.65E-08

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ap_pnp_MJ2955_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MJ2955, Key parameters: Is=3.00963E-13 Bf=100 Tf=9.63384E-09
ap_pnp_MJ2955A_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MJ2955A, Key parameters: Is=1.002E-11 Bf=200 Tf=2.27E-08
ap_pnp_MJ6502_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MJ6502, Key parameters: Is=1.2284E-11 Bf=68 Tf=2.4E-09
ap_pnp_MJ6503_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MJ6503, Key parameters: Is=1.2284E-11 Bf=68 Tf=2.4E-09
ap_pnp_MJE15029_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MJE15029, Key parameters: Is=2E-13 Bf=100 Tf=1.50765E-09
ap_pnp_MJE15031_19930601	Basic Description: PNP Transistor, Part number: MJE15031, Key parameters: Is=1.3717E-10 Bf=150 Tf=1.872E-09
ap_pnp_MJE170_19930601	Basic Description: PNP Transistor, Part number: MJE170, Key parameters: Is=9.8797998E-09 Bf=110 Tf=2.3E-09
ap_pnp_MJE171_19930601	Basic Description: PNP Transistor, Part number: MJE171, Key parameters: Is=9.8797998E-09 Bf=110 Tf=2.3E-09
ap_pnp_MJE172_19930601	Basic Description: PNP Transistor, Part number: MJE172, Key parameters: Is=9.8797998E-09 Bf=110 Tf=2.3E-09
ap_pnp_MJE350_19930601	Basic Description: PNP Transistor, Part number: MJE350, Key parameters: Is=1.402E-12 Bf=110 Tf=1.061E-08
ap_pnp_MJE6040_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MJE6040, Key parameters: Is=1.011E-15 Bf=35000 Tf=1.5E-09
ap_pnp_MJE6041_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MJE6041, Key parameters: Is=1.011E-15 Bf=35000 Tf=1.5E-09
ap_pnp_MJE6042_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MJE6042, Key parameters: Is=1.011E-15 Bf=35000 Tf=1.5E-09
ap_pnp_MM2907_19930601	Basic Description: PNP Transistor, Part number: MM2907, Key parameters: Is=1.57469E-14 Bf=171.7934545 Tf=5.01063E-10
ap_pnp_MM4049_19930601	Basic Description: PNP Transistor, Part number: MM4049, Key parameters: Is=2.69428E-16 Bf=44.1701654 Tf=1.393246E-11
ap_pnp_MMBR4957_19930601	Basic Description: PNP Transistor, Part number: MMBR4957, Key parameters: Is=9.52924E-17 Bf=139.7570565 Tf=2.57295E-11
ap_pnp_MMBT3906_19930601	Basic Description: PNP Transistor, Part number: MMBT3906, Key parameters: Is=1.11065E-14 Bf=308.3276581 Tf=5.324257E-10
ap_pnp_MPQ2907_19930601	Basic Description: PNP Transistor, Part number: MPQ2907, Key parameters: Is=2.43636E-11 Bf=196.2536248 Tf=4.38364E-10
ap_pnp_MPS3640_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MPS3640, Key parameters: Is=1.79969E-15 Bf=347.216 Tf=1.1E-10
ap_pnp_MPS4126_19930601	Basic Description: PNP Transistor, Part number: MPS4126, Key parameters: Is=1.0141E-14 Bf=219.7897252
ap_pnp_MPS6651_19930601	Basic Description: PNP Transistor, Part number: MPS6651, Key parameters: Is=8.16163E-14 Bf=264.8822966 Tf=2.58777E-10
ap_pnp_MPS8598_19930601	Basic Description: PNP Transistor, Part number: MPS8598, Key parameters: Is=2.05509E-14 Bf=215.3209385 Tf=5.80551E-10
ap_pnp_MPS8599_19930601	Basic Description: PNP Transistor, Part number: MPS8599, Key parameters: Is=1.53E-14 Bf=234.8234
ap_pnp_MPSA55_19930601	Basic Description: PNP Transistor, Part number: MPSA55, Key parameters: Is=5.15913E-14 Bf=144.796 Tf=2.82212E-10
ap_pnp_MPSA56_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MPSA56, Key parameters: Is=5.7789E-14 Bf=184.1202394 Tf=1.17579E-09

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ap_pnp_MPSA92_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MPSA92, Key parameters: Is=2.32842E-14 Bf=164.78 Tf=7.3537E-10
ap_pnp_MPSA93_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MPSA93, Key parameters: Is=1E-14 Bf=105 Tf=1.25E-09
ap_pnp_MPSH81_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MPSH81, Key parameters: Is=3.66396E-16 Bf=194.407 Tf=1.69575E-10
ap_pnp_MPSU60_19930601	Basic Description: PNP Transistor, Part number: MPSU60, Key parameters: Is=2.154435E-14 Bf=97 Tf=1E-09
ap_pnp_MRF521_19930601	Basic Description: PNP Transistor, Part number: MRF521, Key parameters: Is=5.73491E-16 Bf=67.087485
ap_pnp_MRF524_19930601	Basic Description: PNP Transistor, Part number: MRF524, Key parameters: Is=1.22527E-15 Bf=73.6647327 Tf=3.43254E-11
ap_pnp_MRF536_19930601	Basic Description: PNP Transistor, Part number: MRF536, Key parameters: Is=1.54393E-15 Bf=81.3763478 Tf=2.89896E-11
ap_pnp_MRF543_19930601	Basic Description: PNP Transistor, Part number: MRF543, Key parameters: Is=1.35658E-15 Bf=34.7346345
ap_pnp_MRF545_19930601	Basic Description: PNP Transistor, Part number: MRF545, Key parameters: Is=1.69968E-14 Bf=87.7309848
ap_pnp_MRF547_19930601	Basic Description: PNP Transistor, Part number: MRF547, Key parameters: Is=8.43592E-15 Bf=61.6907296
ap_pnp_MRF549_19930601	Basic Description: PNP Transistor, Part number: MRF549, Key parameters: Is=7.03849E-15 Bf=146.4734383
ap_pnp_TIP127_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: TIP127, Key parameters: Is=7.716E-09 Bf=12000 Tf=1.592E-09
ap_pnp_TIP30_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: TIP30, Key parameters: Is=2.54635E-13 Bf=101.5634637 Tf=1.71198E-08
ap_pnp_TIP30A_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: TIP30A, Key parameters: Is=1.08365E-12 Bf=77.7386466 Tf=6.87237E-09
ap_pnp_TIP30B_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: TIP30B, Key parameters: Is=1E-14 Bf=100 Tf=2.274E-08
ap_pnp_TIP30C_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: TIP30C, Key parameters: Is=1.55237E-13 Bf=268.9436563 Tf=7.93583E-09
ap_pnp_TIP30D_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: TIP30D, Key parameters: Is=7.63464E-13 Bf=254.8343645 Tf=1.10852E-08
ap_pnp_TIP30E_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: TIP30E, Key parameters: Is=1E-14 Bf=100 Tf=2.274E-08
ap_pnp_TIP30F_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: TIP30F, Key parameters: Is=1E-14 Bf=100 Tf=2.274E-08
ap_pnp_TIP32_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: TIP32, Key parameters: Is=1.7573E-11 Bf=195 Tf=1.989E-08
ap_pnp_TIP32A_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: TIP32A, Key parameters: Is=1.7573E-11 Bf=195 Tf=1.989E-08
ap_pnp_TIP32B_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: TIP32B, Key parameters: Is=1.7573E-11 Bf=195 Tf=1.989E-08
ap_pnp_TIP32C_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: TIP32C, Key parameters: Is=1.7573E-11 Bf=195 Tf=1.989E-08
ap_pnp_TIP42_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: TIP42, Key parameters: Is=1.3478E-11 Bf=145 Tf=1.989E-08
ap_pnp_TIP42A_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: TIP42A, Key parameters: Is=1.3478E-11 Bf=145 Tf=1.989E-08



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ap_pnp_TIP42B_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: TIP42B, Key parameters: Is=1.3478E-11 Bf=145 Tf=1.989E-08
ap_pnp_TIP42C_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: TIP42C, Key parameters: Is=6.64115E-13 Bf=100 Tf=6.1234E-09
ap_pnp_TIS93_19930601	Basic Description: PNP Transistor, Part number: TIS93, Key parameters: Is=5.12864E-14 Bf=150 Tf=2.4E-09
ap_pnp_DH3467CD_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: DH3467CD, Package: Ceramic, Key parameters: Is=336.7e-15 Bf=118.1 Tf=800e-12
ap_pnp_DH3467CN_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: DH3467CN, Package: Molded, Key parameters: Is=336.7e-15 Bf=118.1 Tf=800e-12
ap_pnp_DH3468CD_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: DH3468CD, Package: Ceramic, Key parameters: Is=336.7e-15 Bf=73.94 Tf=800e-12
ap_pnp_DH3468CN_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: DH3468CN, Package: Molded, Key parameters: Is=336.7e-15 Bf=73.94 Tf=800e-12
ap_pnp_MM3905_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MM3905, Package: TO-52, Key parameters: Is=62.33e-15 Bf=100.2 Tf=553.5e-12
ap_pnp_MM3906_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MM3906, Package: TO-52, Key parameters: Is=62.33e-15 Bf=195.8 Tf=438.1e-12
ap_pnp_MM4001_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MM4001, Package: TO-39, Key parameters: Is=1.224e-12 Bf=80.26 Tf=526.3e-12
ap_pnp_MM4258_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MM4258, Package: TO-18, Key parameters: Is=704.9E-18 Bf=2.268e3 Tf=100.6e-12
ap_pnp_MPS2907_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MPS2907, Package: TO-92, Key parameters: Is=4.661e-15 Bf=402.8 Tf=417.6e-12
ap_pnp_MPS3638_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: MPS3638, Package: TO-92, Key parameters: Is=650.6E-18 Bf=63.49 Tf=761.3e-12
ap_pnp_MPS3638A_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: MPS3638A, Package: TO-92, Key parameters: Is=650.6E-18 Bf=164.7 Tf=761.3e-12
ap_pnp_MPS3639_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: MPS3639, Package: TO-92, Key parameters: Is=545.6E-18 Bf=59.22 Tf=118.5e-12
ap_pnp_MPS3640_19930602	Manufacturer: National, Basic Description: PNP Transistor, Part number: MPS3640, Package: TO-92, Key parameters: Is=545.6E-18 Bf=59.22 Tf=118.5e-12
ap_pnp_MPS3644_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: MPS3644, Package: TO-92, Key parameters: Is=650.6E-18 Bf=231.7 Tf=603.7e-12
ap_pnp_MPS3645_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: MPS3645, Package: TO-92, Key parameters: Is=650.6E-18 Bf=231.7 Tf=603.7e-12
ap_pnp_MPS3702_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number:

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	MPS3702, Package: TO-92, Key parameters: Is=650.6E-18 Bf=133.8 Tf=761.3e-12
ap_pnp_MPS3703_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: MPS3703, Package: TO-92, Key parameters: Is=650.6E-18 Bf=66.92 Tf=761.3e-12
ap_pnp_MPS3905_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: MPS3905, Package: TO-92, Key parameters: Is=1.41e-15 Bf=90.35 Tf=179.3e-12
ap_pnp_MPS3906_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: MPS3906, Package: TO-92, Key parameters: Is=1.41e-15 Bf=180.7 Tf=179.3e-12
ap_pnp_MPS4258_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MPS4258, Package: TO-92, Key parameters: Is=150.1E-18 Bf=218.5 Tf=111.1e-12
ap_pnp_MPS4354_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: MPS4354, Package: TO-92, Key parameters: Is=12.27e-12 Bf=154.9 Tf=866.6e-12
ap_pnp_MPS4355_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: MPS4355, Package: TO-92, Key parameters: Is=12.27e-12 Bf=194.8 Tf=867e-12
ap_pnp_MPS4356_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: MPS4356, Package: TO-92, Key parameters: Is=12.27e-12 Bf=110.2 Tf=866.1e-12
ap_pnp_MPS6516_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: MPS6516, Package: TO-92, Key parameters: Is=1.41e-15 Bf=97.44 Tf=179.3e-12
ap_pnp_MPS6517_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: MPS6517, Package: TO-92, Key parameters: Is=1.41e-15 Bf=175.4 Tf=179.3e-12
ap_pnp_MPS6518_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: MPS6518, Package: TO-92, Key parameters: Is=1.41e-15 Bf=292.3 Tf=179.3e-12
ap_pnp_MPS6519_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MPS6519, Package: TO-92, Key parameters: Is=6.277e-15 Bf=549.9 Tf=228.3e-12
ap_pnp_MPS6522_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MPS6522, Package: TO-92, Key parameters: Is=3.983e-15 Bf=479.5 Tf=344e-12
ap_pnp_MPS6523_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: MPS6523, Package: TO-92, Key parameters: Is=6.734e-15 Bf=446.6 Tf=468e-12
ap_pnp_MPS6533_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: MPS6533, Package: TO-92, Key parameters: Is=650.6E-18 Bf=77.22 Tf=761.3e-12
ap_pnp_MPS6534_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: MPS6534, Package: TO-92, Key parameters: Is=650.6E-18 Bf=173.2 Tf=761.3e-12
ap_pnp_MPS6535_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: MPS6535, Package: TO-92, Key parameters: Is=650.6E-18 Bf=70.35 Tf=761.3e-12
ap_pnp_MPS6562_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: MPS6562, Package: TO-92, Key parameters: Is=12.27e-12 Bf=121 Tf=866.3e-12

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ap_pnp_MPS6563_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: MPS6563, Package: TO-92, Key parameters: Is=3.771e-15 Bf=146.6 Tf=449e-12
ap_pnp_MPS6651_19930602	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MPS6651, Package: TO-92, Key parameters: Is=53.11e-15 Bf=152.5 Tf=671.7e-12
ap_pnp_MPS6726_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MPS6726, Package: TO-92, Key parameters: Is=24.64e-15 Bf=154.5 Tf=645.4e-12
ap_pnp_MPS6727_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MPS6727, Package: TO-92, Key parameters: Is=24.64e-15 Bf=154.5 Tf=645.4e-12
ap_pnp_MPS6728_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MPS6728, Package: TO-92, Key parameters: Is=9.348e-15 Bf=166.8 Tf=685.2e-12
ap_pnp_MPS6729_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MPS6729, Package: TO-92, Key parameters: Is=9.348e-15 Bf=166.8 Tf=685.2e-12
ap_pnp_MPS8598_19930602	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MPS8598, Package: TO-92, Key parameters: Is=10.68e-15 Bf=187.7 Tf=591.1e-12
ap_pnp_MPS8599_19930602	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MPS8599, Package: TO-92, Key parameters: Is=10.68e-15 Bf=187.7 Tf=591.1e-12
ap_pnp_MPSA55_19930602	Manufacturer: National, Basic Description: PNP Transistor, Part number: MPSA55, Package: TO-92, Key parameters: Is=12.27e-12 Bf=91.63 Tf=865.8e-12
ap_pnp_MPSA56_19930602	Manufacturer: National, Basic Description: PNP Transistor, Part number: MPSA56, Package: TO-92, Key parameters: Is=12.27e-12 Bf=91.63 Tf=865.8e-12
ap_pnp_MPSA70_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: MPSA70, Package: TO-92, Key parameters: Is=6.734e-15 Bf=144.4 Tf=467.3e-12
ap_pnp_MPSA92_19930602	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MPSA92, Package: TO-92, Key parameters: Is=218.9e-15 Bf=99 Tf=1.395e-9
ap_pnp_MPSA93_19930602	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MPSA93, Package: TO-92, Key parameters: Is=218.9e-15 Bf=99 Tf=1.395e-9
ap_pnp_MP5L51_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: MP5L51, Package: TO-92, Key parameters: Is=21.48e-15 Bf=116.7 Tf=639.1e-12
ap_pnp_MPSW51_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MPSW51, Package: TO-92, Key parameters: Is=24.64e-15 Bf=154.5 Tf=645.4e-12
ap_pnp_MPSW51A_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MPSW51A, Package: TO-92, Key parameters: Is=24.64e-15 Bf=154.5 Tf=645.4e-12
ap_pnp_MPSW55_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MPSW55, Package: TO-92, Key parameters: Is=9.348e-15 Bf=166.8 Tf=685.2e-12
ap_pnp_MPSW56_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number:

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	MPSW56, Package: TO-92, Key parameters: Is=9.348e-15 Bf=166.8 Tf=685.2e-12
ap_pnp_MPSW60_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MPSW60, Package: TO-92, Key parameters: Is=40.74e-15 Bf=105 Tf=1.654e-9
ap_pnp_MPSW92_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MPSW92, Package: TO-92, Key parameters: Is=40.74e-15 Bf=105 Tf=1.654e-9
ap_pnp_MPSW93_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: MPSW93, Package: TO-92, Key parameters: Is=40.74e-15 Bf=105 Tf=1.654e-9
ap_pnp_NS3762_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: NS3762, Package: TO-39, Key parameters: Is=336.7e-15 Bf=102.7 Tf=800e-12
ap_pnp_NS3763_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: NS3763, Package: TO-39, Key parameters: Is=336.7e-15 Bf=88.32 Tf=800e-12
ap_pnp_NS3905_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: NS3905, Package: TO-18, Key parameters: Is=1.41e-15 Bf=90.35 Tf=179.3e-12
ap_pnp_NS3906_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: NS3906, Package: TO-18, Key parameters: Is=1.41e-15 Bf=180.7 Tf=179.3e-12
ap_pnp_NS4234_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: NS4234, Package: TO-39, Key parameters: Is=12.27e-12 Bf=71.49 Tf=285.2e-12
ap_pnp_PN2906_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN2906, Package: TO-92, Key parameters: Is=650.6E-18 Bf=94.38 Tf=603.7e-12
ap_pnp_PN2906A_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN2906A, Package: TO-92, Key parameters: Is=650.6E-18 Bf=94.38 Tf=603.7e-12
ap_pnp_PN2907_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN2907, Package: TO-92, Key parameters: Is=650.6E-18 Bf=231.7 Tf=603.7e-12
ap_pnp_PN2907A_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN2907A, Package: TO-92, Key parameters: Is=650.6E-18 Bf=231.7 Tf=603.7e-12
ap_pnp_PN3638_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN3638, Package: TO-92, Key parameters: Is=650.6E-18 Bf=63.49 Tf=761.3e-12
ap_pnp_PN3638A_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN3638A, Package: TO-92, Key parameters: Is=650.6E-18 Bf=164.7 Tf=761.3e-12
ap_pnp_PN3639_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN3639, Package: TO-92, Key parameters: Is=545.6E-18 Bf=59.22 Tf=118.5e-12
ap_pnp_PN3640_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN3640, Package: TO-92, Key parameters: Is=545.6E-18 Bf=59.22 Tf=118.5e-12
ap_pnp_PN3644_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN3644, Package: TO-92, Key parameters: Is=650.6E-18 Bf=231.7 Tf=603.7e-12

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ap_pnp_PN3645_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN3645, Package: TO-92, Key parameters: Is=650.6E-18 Bf=231.7 Tf=603.7e-12
ap_pnp_PN4121_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN4121, Package: TO-92, Key parameters: Is=1.41e-15 Bf=122.2 Tf=179.3e-12
ap_pnp_PN4122_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN4122, Package: TO-92, Key parameters: Is=1.41e-15 Bf=219.7 Tf=179.3e-12
ap_pnp_PN4142_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN4142, Package: TO-92, Key parameters: Is=650.6E-18 Bf=94.38 Tf=603.7e-12
ap_pnp_PN4143_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN4143, Package: TO-92, Key parameters: Is=650.6E-18 Bf=231.7 Tf=603.7e-12
ap_pnp_PN4248_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN4248, Package: TO-92, Key parameters: Is=6.734e-15 Bf=122.3 Tf=467.3e-12
ap_pnp_PN4249_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN4249, Package: TO-92, Key parameters: Is=6.734e-15 Bf=161.4 Tf=467.4e-12
ap_pnp_PN4250_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN4250, Package: TO-92, Key parameters: Is=6.734e-15 Bf=388.2 Tf=467.9e-12
ap_pnp_PN4250A_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN4250A, Package: TO-92, Key parameters: Is=6.734e-15 Bf=388.2 Tf=467.9e-12
ap_pnp_PN4258_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN4258, Package: TO-92, Key parameters: Is=545.6E-18 Bf=61.42 Tf=118.5e-12
ap_pnp_PN4258A_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN4258A, Package: TO-92, Key parameters: Is=545.6E-18 Bf=61.42 Tf=118.5e-12
ap_pnp_PN4354_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN4354, Package: TO-92, Key parameters: Is=12.27e-12 Bf=154.9 Tf=866.6e-12
ap_pnp_PN4355_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN4355, Package: TO-92, Key parameters: Is=12.27e-12 Bf=194.8 Tf=867e-12
ap_pnp_PN4356_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN4356, Package: TO-92, Key parameters: Is=12.27e-12 Bf=110.2 Tf=866.1e-12
ap_pnp_PN4916_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN4916, Package: TO-92, Key parameters: Is=1.41e-15 Bf=77.95 Tf=179.3e-12
ap_pnp_PN4917_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN4917, Package: TO-92, Key parameters: Is=1.41e-15 Bf=219.7 Tf=179.3e-12
ap_pnp_PN5138_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN5138, Package: TO-92, Key parameters: Is=1.41e-15 Bf=274.6 Tf=179.3e-12
ap_pnp_PN5139_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number:



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	PN5139, Package: TO-92, Key parameters: Is=1.41e-15 Bf=235.6 Tf=179.3e-12
ap_pnp_PN5140_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN5140, Package: TO-92, Key parameters: Is=545.6E-18 Bf=27.42 Tf=118.5e-12
ap_pnp_PN5142_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN5142, Package: TO-92, Key parameters: Is=650.6E-18 Bf=65.21 Tf=761.3e-12
ap_pnp_PN5143_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN5143, Package: TO-92, Key parameters: Is=650.6E-18 Bf=65.21 Tf=761.3e-12
ap_pnp_PN5447_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN5447, Package: TO-92, Key parameters: Is=12.27e-12 Bf=128.7 Tf=872.7e-12
ap_pnp_PN5910_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: PN5910, Package: TO-92, Key parameters: Is=545.6E-18 Bf=59.22 Tf=118.5e-12
ap_pnp_Q2N1132_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N1132, Package: TO-5, Key parameters: Is=650.6E-18 Bf=70.35 Tf=757.7e-12
ap_pnp_Q2N1132A_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N1132A, Package: TO-39, Key parameters: Is=3.919e-15 Bf=65.87 Tf=1.124e-9
ap_pnp_Q2N2604_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N2604, Package: TO-46, Key parameters: Is=6.734e-15 Bf=66.17 Tf=466.9e-12
ap_pnp_Q2N2605_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N2605, Package: TO-46, Key parameters: Is=6.734e-15 Bf=163.8 Tf=467.5e-12
ap_pnp_Q2N2696_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N2696, Package: TO-18, Key parameters: Is=650.6E-18 Bf=60.06 Tf=761.3e-12
ap_pnp_Q2N2894_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N2894, Package: TO-52, Key parameters: Is=867.6E-18 Bf=90.02 Tf=160.8e-12
ap_pnp_Q2N2894A_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N2894A, Package: TO-52, Key parameters: Is=867.6E-18 Bf=81.33 Tf=161.2e-12
ap_pnp_Q2N2904_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N2904, Package: TO-5, Key parameters: Is=650.6E-18 Bf=94.38 Tf=603.7e-12
ap_pnp_Q2N2904A_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N2904A, Package: TO-5, Key parameters: Is=650.6E-18 Bf=68.64 Tf=603.7e-12
ap_pnp_Q2N2905_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N2905, Package: TO-5, Key parameters: Is=650.6E-18 Bf=231.7 Tf=603.7e-12
ap_pnp_Q2N2905A_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N2905A, Package: TO-5, Key parameters: Is=650.6E-18 Bf=231.7 Tf=603.7e-12
ap_pnp_Q2N2906_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N2906, Package: TO-18, Key parameters: Is=650.6E-18 Bf=94.38 Tf=603.7e-12

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ap_pnp_Q2N2906A_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N2906A, Package: TO-18, Key parameters: Is=650.6E-18 Bf=94.38 Tf=603.7e-12
ap_pnp_Q2N2907_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N2907, Package: TO-18, Key parameters: Is=650.6E-18 Bf=231.7 Tf=603.7e-12
ap_pnp_Q2N2907A_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N2907A, Package: TO-18, Key parameters: Is=650.6E-18 Bf=231.7 Tf=603.7e-12
ap_pnp_Q2N3012_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3012, Package: TO-52, Key parameters: Is=867.6E-18 Bf=70.34 Tf=160.8e-12
ap_pnp_Q2N3072_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3072, Package: TO-5, Key parameters: Is=650.6E-18 Bf=60.06 Tf=761.3e-12
ap_pnp_Q2N3073_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3073, Package: TO-18, Key parameters: Is=650.6E-18 Bf=60.06 Tf=761.3e-12
ap_pnp_Q2N3120_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3120, Package: TO-5, Key parameters: Is=650.6E-18 Bf=60.06 Tf=761.3e-12
ap_pnp_Q2N3121_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3121, Package: TO-18, Key parameters: Is=650.6E-18 Bf=60.06 Tf=761.3e-12
ap_pnp_Q2N3133_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3133, Package: TO-5, Key parameters: Is=650.6E-18 Bf=94.38 Tf=603.7e-12
ap_pnp_Q2N3134_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3134, Package: TO-5, Key parameters: Is=650.6E-18 Bf=231.7 Tf=603.7e-12
ap_pnp_Q2N3135_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3135, Package: TO-18, Key parameters: Is=650.6E-18 Bf=94.38 Tf=603.7e-12
ap_pnp_Q2N3136_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3136, Package: TO-18, Key parameters: Is=650.6E-18 Bf=231.7 Tf=603.7e-12
ap_pnp_Q2N3209_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3209, Package: TO-52, Key parameters: Is=867.6E-18 Bf=70.34 Tf=160.8e-12
ap_pnp_Q2N3244_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3244, Package: TO-39, Key parameters: Is=336.7e-15 Bf=149 Tf=800e-12
ap_pnp_Q2N3245_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3245, Package: TO-39, Key parameters: Is=336.7e-15 Bf=89.34 Tf=800e-12
ap_pnp_Q2N3248_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3248, Package: TO-52, Key parameters: Is=867.6E-18 Bf=90.02 Tf=160.8e-12
ap_pnp_Q2N3249_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3249, Package: TO-52, Key parameters: Is=867.6E-18 Bf=181.4 Tf=160.8e-12
ap_pnp_Q2N3250_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number:

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	Q2N3250, Package: TO-18, Key parameters: Is=1.41e-15 Bf=90.35 Tf=179.3e-12
ap_pnp_Q2N3250A_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N3250A, Package: TO-18, Key parameters: Is=62.33e-15 Bf=100.2 Tf=438e-12
ap_pnp_Q2N3251_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3251, Package: TO-18, Key parameters: Is=1.41e-15 Bf=180.7 Tf=179.3e-12
ap_pnp_Q2N3251A_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N3251A, Package: TO-18, Key parameters: Is=62.33e-15 Bf=195.8 Tf=364.9e-12
ap_pnp_Q2N3304_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3304, Package: TO-52, Key parameters: Is=545.6E-18 Bf=59.22 Tf=118.5e-12
ap_pnp_Q2N3451_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3451, Package: TO-52, Key parameters: Is=545.6E-18 Bf=59.22 Tf=118.5e-12
ap_pnp_Q2N3467_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3467, Package: TO-39, Key parameters: Is=336.7e-15 Bf=118.1 Tf=800e-12
ap_pnp_Q2N3468_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3468, Package: TO-39, Key parameters: Is=336.7e-15 Bf=73.94 Tf=800e-12
ap_pnp_Q2N3485_19930601	Manufacturer: TI, Basic Description: PNP Transistor, Part number: Q2N3485, Package: TO-46, Key parameters: Is=9.913e-15 Bf=81.67 Tf=404.3e-12
ap_pnp_Q2N3485A_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N3485A, Package: TO-46, Key parameters: Is=3.919e-15 Bf=88.75 Tf=533e-12
ap_pnp_Q2N3486_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N3486, Package: TO-46, Key parameters: Is=3.919e-15 Bf=151 Tf=533e-12
ap_pnp_Q2N3486A_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N3486A, Package: TO-46, Key parameters: Is=3.919e-15 Bf=222.3 Tf=533e-12
ap_pnp_Q2N3502_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3502, Package: TO-5, Key parameters: Is=650.6E-18 Bf=231.7 Tf=603.7e-12
ap_pnp_Q2N3503_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3503, Package: TO-5, Key parameters: Is=650.6E-18 Bf=231.7 Tf=603.7e-12
ap_pnp_Q2N3504_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3504, Package: TO-18, Key parameters: Is=650.6E-18 Bf=231.7 Tf=603.7e-12
ap_pnp_Q2N3505_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3505, Package: TO-18, Key parameters: Is=650.6E-18 Bf=231.7 Tf=603.7e-12
ap_pnp_Q2N3545_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3545, Package: TO-52, Key parameters: Is=867.6E-18 Bf=74.77 Tf=160.7e-12
ap_pnp_Q2N3546_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3546, Package: TO-52, Key parameters: Is=867.6E-18 Bf=64.79 Tf=160.9e-12

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ap_pnp_Q2N3547_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3547, Package: TO-18, Key parameters: Is=6.734e-15 Bf=207.8 Tf=467.6e-12
ap_pnp_Q2N3548_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3548, Package: TO-18, Key parameters: Is=6.734e-15 Bf=163.8 Tf=568.9e-12
ap_pnp_Q2N3549_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3549, Package: TO-18, Key parameters: Is=6.734e-15 Bf=207.8 Tf=569.1e-12
ap_pnp_Q2N3550_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3550, Package: TO-18, Key parameters: Is=6.734e-15 Bf=324.8 Tf=569.3e-12
ap_pnp_Q2N3576_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3576, Package: TO-52, Key parameters: Is=867.6E-18 Bf=74.77 Tf=161.1e-12
ap_pnp_Q2N3634_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N3634, Package: TO-39, Key parameters: Is=1.224e-12 Bf=89.45 Tf=520e-12
ap_pnp_Q2N3635_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N3635, Package: TO-39, Key parameters: Is=1.224e-12 Bf=207.9 Tf=526.9e-12
ap_pnp_Q2N3636_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N3636, Package: TO-39, Key parameters: Is=1.224e-12 Bf=97.09 Tf=524.7e-12
ap_pnp_Q2N3637_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N3637, Package: TO-39, Key parameters: Is=1.224e-12 Bf=176.6 Tf=526.8e-12
ap_pnp_Q2N3638_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3638, Package: TO-92, Key parameters: Is=650.6E-18 Bf=63.49 Tf=761.3e-12
ap_pnp_Q2N3638A_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3638A, Package: TO-92, Key parameters: Is=650.6E-18 Bf=164.7 Tf=761.3e-12
ap_pnp_Q2N3639_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3639, Package: TO-92, Key parameters: Is=545.6E-18 Bf=59.22 Tf=118.5e-12
ap_pnp_Q2N3640_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3640, Package: TO-92, Key parameters: Is=545.6E-18 Bf=59.22 Tf=118.5e-12
ap_pnp_Q2N3644_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3644, Package: TO-92, Key parameters: Is=650.6E-18 Bf=231.7 Tf=603.7e-12
ap_pnp_Q2N3645_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3645, Package: TO-92, Key parameters: Is=650.6E-18 Bf=231.7 Tf=603.7e-12
ap_pnp_Q2N3702_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3702, Package: TO-92, Key parameters: Is=650.6E-18 Bf=133.8 Tf=761.3e-12
ap_pnp_Q2N3703_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3703, Package: TO-92, Key parameters: Is=650.6E-18 Bf=66.92 Tf=761.3e-12
ap_pnp_Q2N3762_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N3762, Package: TO-39, Key parameters: Is=7.894e-15 Bf=4.2K

	Tf=556.3e-12
ap_pnp_Q2N3763_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N3763, Package: TO-39, Key parameters: Is=7.894e-15 Bf=2.8K Tf=556.3e-12
ap_pnp_Q2N3799_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3799, Package: TO-18, Key parameters: Is=6.734e-15 Bf=478.3 Tf=569.5e-12
ap_pnp_Q2N3905_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3905, Package: TO-92, Key parameters: Is=1.41e-15 Bf=90.35 Tf=179.3e-12
ap_pnp_Q2N3906_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N3906, Package: TO-92, Key parameters: Is=1.41e-15 Bf=180.7 Tf=179.3e-12
ap_pnp_Q2N4058_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4058, Package: TO-92, Key parameters: Is=6.734e-15 Bf=185.8 Tf=568.9e-12
ap_pnp_Q2N4059_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4059, Package: TO-92, Key parameters: Is=6.734e-15 Bf=161.4 Tf=467.4e-12
ap_pnp_Q2N4061_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4061, Package: TO-92, Key parameters: Is=6.734e-15 Bf=161.4 Tf=467.4e-12
ap_pnp_Q2N4062_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4062, Package: TO-92, Key parameters: Is=6.734e-15 Bf=319.9 Tf=467.9e-12
ap_pnp_Q2N4121_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4121, Package: TO-92, Key parameters: Is=1.41e-15 Bf=122.2 Tf=179.3e-12
ap_pnp_Q2N4122_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4122, Package: TO-92, Key parameters: Is=1.41e-15 Bf=219.7 Tf=179.3e-12
ap_pnp_Q2N4125_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4125, Package: TO-92, Key parameters: Is=1.41e-15 Bf=85.04 Tf=179.3e-12
ap_pnp_Q2N4126_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4126, Package: TO-92, Key parameters: Is=1.41e-15 Bf=203.7 Tf=179.3e-12
ap_pnp_Q2N4142_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4142, Package: TO-92, Key parameters: Is=650.6E-18 Bf=94.38 Tf=603.7e-12
ap_pnp_Q2N4143_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4143, Package: TO-92, Key parameters: Is=650.6E-18 Bf=231.7 Tf=603.7e-12
ap_pnp_Q2N4208_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4208, Package: TO-52, Key parameters: Is=545.6E-18 Bf=59.22 Tf=118.5e-12
ap_pnp_Q2N4209_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4209, Package: TO-52, Key parameters: Is=545.6E-18 Bf=76.77 Tf=118.5e-12
ap_pnp_Q2N4234_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N4234, Package: TO-39, Key parameters: Is=8.528e-15 Bf=128.3 Tf=26.44e-9



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ap_pnp_Q2N4235_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N4235, Package: TO-39, Key parameters: Is=8.528e-15 Bf=128.3 Tf=26.44e-9
ap_pnp_Q2N4236_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N4236, Package: TO-39, Key parameters: Is=8.528e-15 Bf=128.3 Tf=26.44e-9
ap_pnp_Q2N4248_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4248, Package: TO-92, Key parameters: Is=6.734e-15 Bf=122.3 Tf=467.3e-12
ap_pnp_Q2N4249_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4249, Package: TO-92, Key parameters: Is=6.734e-15 Bf=161.4 Tf=467.4e-12
ap_pnp_Q2N4250_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4250, Package: TO-92, Key parameters: Is=6.734e-15 Bf=388.2 Tf=467.9e-12
ap_pnp_Q2N4250A_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4250A, Package: TO-92, Key parameters: Is=6.734e-15 Bf=388.2 Tf=467.9e-12
ap_pnp_Q2N4258_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4258, Package: TO-92, Key parameters: Is=545.6E-18 Bf=61.42 Tf=118.5e-12
ap_pnp_Q2N4258A_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4258A, Package: TO-92, Key parameters: Is=545.6E-18 Bf=61.42 Tf=118.5e-12
ap_pnp_Q2N4260_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N4260, Package: TO-72, Key parameters: Is=22.2e-15 Bf=71.78 Tf=28.97e-12
ap_pnp_Q2N4261_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N4261, Package: TO-72, Key parameters: Is=22.2e-15 Bf=71.78 Tf=27.59e-12
ap_pnp_Q2N4288_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4288, Package: TO-92, Key parameters: Is=6.734e-15 Bf=278.4 Tf=467.8e-12
ap_pnp_Q2N4289_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4289, Package: TO-92, Key parameters: Is=6.734e-15 Bf=278.4 Tf=467.8e-12
ap_pnp_Q2N4290_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4290, Package: TO-92, Key parameters: Is=650.6E-18 Bf=145.9 Tf=761.3e-12
ap_pnp_Q2N4291_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4291, Package: TO-92, Key parameters: Is=650.6E-18 Bf=207.6 Tf=761.3e-12
ap_pnp_Q2N4354_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4354, Package: TO-92, Key parameters: Is=12.27e-12 Bf=154.9 Tf=866.6e-12
ap_pnp_Q2N4355_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4355, Package: TO-92, Key parameters: Is=12.27e-12 Bf=194.8 Tf=867e-12
ap_pnp_Q2N4356_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4356, Package: TO-92, Key parameters: Is=12.27e-12 Bf=110.2 Tf=866.1e-12
ap_pnp_Q2N4402_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4402, Package: TO-92, Key parameters: Is=650.6E-18 Bf=108

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	Tf=761.3e-12
ap_pnp_Q2N4403_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4403, Package: TO-92, Key parameters: Is=650.6E-18 Bf=216.2 Tf=603.7e-12
ap_pnp_Q2N4404_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N4404, Package: TO-39, Key parameters: Is=163.9e-15 Bf=74.25 Tf=387.8e-12
ap_pnp_Q2N4405_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N4405, Package: TO-39, Key parameters: Is=163.9e-15 Bf=185.4 Tf=388e-12
ap_pnp_Q2N4406_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N4406, Package: TO-39, Key parameters: Is=25.18e-15 Bf=70.06 Tf=342.7e-12
ap_pnp_Q2N4407_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N4407, Package: TO-39, Key parameters: Is=25.18e-15 Bf=161.8 Tf=342.7e-12
ap_pnp_Q2N4916_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4916, Package: TO-92, Key parameters: Is=1.41e-15 Bf=77.95 Tf=179.3e-12
ap_pnp_Q2N4917_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4917, Package: TO-92, Key parameters: Is=1.41e-15 Bf=219.7 Tf=179.3e-12
ap_pnp_Q2N4964_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4964, Package: TO-92, Key parameters: Is=6.734e-15 Bf=144.4 Tf=467.3e-12
ap_pnp_Q2N4965_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4965, Package: TO-92, Key parameters: Is=6.734e-15 Bf=254.1 Tf=467.8e-12
ap_pnp_Q2N4971_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4971, Package: TO-92, Key parameters: Is=650.6E-18 Bf=94.38 Tf=603.7e-12
ap_pnp_Q2N4972_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N4972, Package: TO-92, Key parameters: Is=650.6E-18 Bf=231.7 Tf=603.7e-12
ap_pnp_Q2N5022_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N5022, Package: TO-39, Key parameters: Is=336.7e-15 Bf=86.26 Tf=800e-12
ap_pnp_Q2N5023_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N5023, Package: TO-39, Key parameters: Is=336.7e-15 Bf=108.9 Tf=800e-12
ap_pnp_Q2N5056_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N5056, Package: TO-52, Key parameters: Is=867.6E-18 Bf=64.79 Tf=161.3e-12
ap_pnp_Q2N5057_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N5057, Package: TO-52, Key parameters: Is=867.6E-18 Bf=74.77 Tf=161.1e-12
ap_pnp_Q2N5086_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N5086, Package: TO-92, Key parameters: Is=6.734e-15 Bf=254.1 Tf=467.8e-12
ap_pnp_Q2N5087_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N5087, Package: TO-92, Key parameters: Is=6.734e-15 Bf=254.1 Tf=467.8e-12

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ap_pnp_Q2N5138_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N5138, Package: TO-92, Key parameters: Is=1.41e-15 Bf=274.6 Tf=179.3e-12
ap_pnp_Q2N5139_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N5139, Package: TO-92, Key parameters: Is=1.41e-15 Bf=235.6 Tf=179.3e-12
ap_pnp_Q2N5140_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N5140, Package: TO-92, Key parameters: Is=545.6E-18 Bf=27.42 Tf=118.5e-12
ap_pnp_Q2N5142_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N5142, Package: TO-92, Key parameters: Is=650.6E-18 Bf=65.21 Tf=761.3e-12
ap_pnp_Q2N5143_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N5143, Package: TO-92, Key parameters: Is=650.6E-18 Bf=65.21 Tf=761.3e-12
ap_pnp_Q2N5221_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N5221, Package: TO-92, Key parameters: Is=650.6E-18 Bf=138.8 Tf=761.3e-12
ap_pnp_Q2N5226_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N5226, Package: TO-92, Key parameters: Is=650.6E-18 Bf=138.8 Tf=761.3e-12
ap_pnp_Q2N5227_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N5227, Package: TO-92, Key parameters: Is=6.734e-15 Bf=198 Tf=467.5e-12
ap_pnp_Q2N5354_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N5354, Package: TO-92, Key parameters: Is=650.6E-18 Bf=66.92 Tf=761.3e-12
ap_pnp_Q2N5355_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N5355, Package: TO-92, Key parameters: Is=650.6E-18 Bf=166.3 Tf=761.3e-12
ap_pnp_Q2N5365_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N5365, Package: TO-92, Key parameters: Is=650.6E-18 Bf=66.92 Tf=761.3e-12
ap_pnp_Q2N5366_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N5366, Package: TO-92, Key parameters: Is=650.6E-18 Bf=166.3 Tf=761.3e-12
ap_pnp_Q2N5400_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N5400, Package: TO-92, Key parameters: Is=21.48e-15 Bf=93.44 Tf=641.5e-12
ap_pnp_Q2N5401_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N5401, Package: TO-92, Key parameters: Is=21.48e-15 Bf=132.1 Tf=641.9e-12
ap_pnp_Q2N5415_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N5415, Package: TO-39, Key parameters: Is=77.48e-15 Bf=60.15 Tf=3.386e-9
ap_pnp_Q2N5416_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N5416, Package: TO-39, Key parameters: Is=77.48e-15 Bf=53.77 Tf=3.386e-9
ap_pnp_Q2N5447_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N5447, Package: TO-92, Key parameters: Is=650.6E-18 Bf=133.8 Tf=761.3e-12
ap_pnp_Q2N5448_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N5448, Package: TO-92, Key parameters: Is=12.27e-12 Bf=65.28

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	Tf=871.6e-12
ap_pnp_Q2N5679_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N5679, Package: TO-39, Key parameters: Is=20.75e-15 Bf=87.7 Tf=1.191e-9
ap_pnp_Q2N5680_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N5680, Package: TO-39, Key parameters: Is=20.75e-15 Bf=87.7 Tf=1.191e-9
ap_pnp_Q2N5771_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N5771, Package: TO-92, Key parameters: Is=545.6E-18 Bf=76.77 Tf=118.5e-12
ap_pnp_Q2N5817_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N5817, Package: TO-92, Key parameters: Is=650.6E-18 Bf=127 Tf=761.3e-12
ap_pnp_Q2N5910_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N5910, Package: TO-92, Key parameters: Is=545.6E-18 Bf=59.22 Tf=118.5e-12
ap_pnp_Q2N6518_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N6518, Package: TO-92, Key parameters: Is=34.9e-15 Bf=139.5 Tf=1.648e-9
ap_pnp_Q2N6519_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N6519, Package: TO-92, Key parameters: Is=34.9e-15 Bf=125.7 Tf=1.649e-9
ap_pnp_Q2N6520_19930601	Manufacturer: Motorola, Basic Description: PNP Transistor, Part number: Q2N6520, Package: TO-92, Key parameters: Is=34.9e-15 Bf=90.34 Tf=1.648e-9
ap_pnp_Q2N722_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N722, Package: TO-18, Key parameters: Is=650.6E-18 Bf=70.35 Tf=757.7e-12
ap_pnp_Q2N869_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N869, Package: TO-52, Key parameters: Is=867.6E-18 Bf=54.93 Tf=160.8e-12
ap_pnp_Q2N869A_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N869A, Package: TO-52, Key parameters: Is=867.6E-18 Bf=81.33 Tf=160.8e-12
ap_pnp_Q2N995_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N995, Package: TO-52, Key parameters: Is=867.6E-18 Bf=80.2 Tf=160.8e-12
ap_pnp_Q2N995A_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: Q2N995A, Package: TO-52, Key parameters: Is=867.6E-18 Bf=71.34 Tf=160.8e-12
ap_pnp_ST3906_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: ST3906, Package: TO-92, Key parameters: Is=1.41e-15 Bf=180.7 Tf=179.3e-12
ap_pnp_ST5771_1_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: ST5771-1, Package: TO-92, Key parameters: Is=545.6E-18 Bf=66.9 Tf=118.5e-12
ap_pnp_ST5771_2_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: ST5771-2, Package: TO-92, Key parameters: Is=545.6E-18 Bf=76.77 Tf=118.5e-12
ap_pnp_TIS91_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: TIS91, Package: TO-92, Key parameters: Is=650.6E-18 Bf=168.2 Tf=761.3e-12

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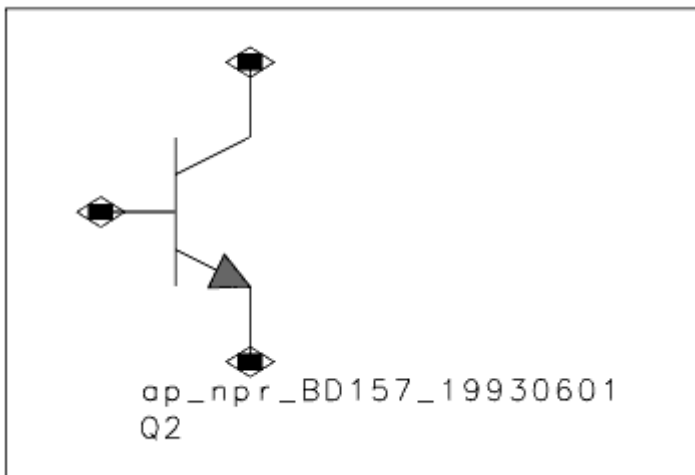
ap_pnp_TIS93_19930602	Manufacturer: National, Basic Description: PNP Transistor, Part number: TIS93, Package: TO-92, Key parameters: Is=650.6E-18 Bf=168.2 Tf=761.3e-12
ap_pnp_TN2904A_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: TN2904A, Package: TO-237, Key parameters: Is=650.6E-18 Bf=94.38 Tf=603.7e-12
ap_pnp_TN2905_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: TN2905, Package: TO-237, Key parameters: Is=650.6E-18 Bf=231.7 Tf=603.7e-12
ap_pnp_TN2905A_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: TN2905A, Package: TO-237, Key parameters: Is=650.6E-18 Bf=231.7 Tf=603.7e-12
ap_pnp_TN4036_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: TN4036, Package: TO-237, Key parameters: Is=12.27e-12 Bf=82.34 Tf=865.7e-12
ap_pnp_TN4037_19930601	Manufacturer: National, Basic Description: PNP Transistor, Part number: TN4037, Package: TO-237, Key parameters: Is=12.27e-12 Bf=121 Tf=866.3e-12



# Power NPN BJT Models

## Schematic Design

The [Power NPN BJT Schematic Component Example](#) shown below illustrates how components representing Power NPN BJTs appear when placed into the Schematic design window. The schematic symbol is derived from the standard SYM\_BJT\_NPN symbol in the `$HPEESOF_DIR/circuit/symbols` directory. The annotation consists of the component name and the default component ID prefix (in this case, Q). No component parameters are displayed.



**Power NPN BJT Schematic Component Example**

The user may scale any of the model parameter values used by the model by displaying the Component Parameters dialog box. The dialog box displays the component label, a table of scale factors, and other controls. You can display the dialog box by double-clicking a component symbol after it has been placed in the drawing area or by clicking the **Edit Component Parameters** button.

**Note**  
For details on using the Component Parameters dialog box, click the Help button in the dialog box.

The Analog Parts Model Library Power NPN BJT models are suitable for placement in any Analog/RF circuit schematic.

## Data

Power NPN BJTs include 211 components, each representing an individual part. The naming convention for these components is `ap_npr_<part number>_<extraction date>`.

Power NPN BJTs are simulated using the native BJT model component.

### Analog Parts Library - Power NPN BJTs

Component Name	Description
ap_npr_BD157_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD157, Package: TO-126, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_BD158_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD158, Package: TO-126, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_BD159_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD159, Package: TO-126, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_BD185_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD185, Package: TO-126, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_BD187_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD187, Package: TO-126, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_BD189_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD189, Package: TO-126, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_BD201_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD201, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_BD203_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD203, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_BD220_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD220, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_BD221_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD221, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_BD222_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD222, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_BD233_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD233, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_BD235_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD235, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_BD237_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD237, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_BD239A_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD239A, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_BD239B_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD239B, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9

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	Tf=19.85e-9
ap_npr_BD239C_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD239C, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_BD239_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD239, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_BD241A_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD241A, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_BD241B_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD241B, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_BD241C_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD241C, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_BD241_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD241, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_BD243A_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD243A, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_BD243B_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD243B, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_BD243C_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD243C, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_BD243_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD243, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_BD347_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD347, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_BD433_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD433, Package: TO-126, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_BD435_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD435, Package: TO-126, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_BD437_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD437, Package: TO-126, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_BD439_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD439, Package: TO-126, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_BD441_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD441, Package: TO-126, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_BD533_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD533, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9

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ap_npr_BD535_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD535, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_BD537_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD537, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_BD633_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD633, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_BD635_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD635, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_BD637_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD637, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_BD733_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD733, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_BD735_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD735, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_BD737_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD737, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_BD795_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD795, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_BD797_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD797, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_BD799_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD799, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_BD801_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: BD801, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_MJE2480_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE2480, Package: MOT-199, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_MJE2482_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE2482, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_MJE2483_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE2483, Package: MOT-199, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_MJE2801T_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE2801T, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_MJE29A_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE29A, Package: MOT-199, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_MJE29B_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE29B, Package: MOT-199, Key parameters: Is=2.447e-12

	Bf=208.2 Tf=19.85e-9
ap_npr_MJE29C_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE29C, Package: MOT-199, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_MJE29_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE29, Package: MOT-199, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_MJE3055K_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE3055K, Package: MOT-199, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_MJE3055T_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE3055T, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_MJE3055_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE3055, Package: MOT-90, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_MJE33A_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE33A, Package: MOT-199, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_MJE33B_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE33B, Package: MOT-199, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_MJE33C_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE33C, Package: MOT-199, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_MJE33_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE33, Package: MOT-199, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_MJE340_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE340, Package: TO-126, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_MJE341_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE341, Package: TO-126, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_MJE3439_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE3439, Package: TO-126, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_MJE3440_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE3440, Package: TO-126, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_MJE344_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE344, Package: TO-126, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_MJE345_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE345, Package: TO-126, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_MJE3520_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE3520, Package: TO-126, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_MJE3521_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE3521, Package: TO-126, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9



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ap_npr_MJE41A_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE41A, Package: MOT-199, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_MJE41B_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE41B, Package: MOT-199, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_MJE41C_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE41C, Package: MOT-199, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_MJE41_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE41, Package: MOT-199, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_MJE482_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE482, Package: TO-126, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_MJE483_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE483, Package: TO-126, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_MJE484_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE484, Package: TO-126, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_MJE4921_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE4921, Package: GENERAL, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_MJE4922_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE4922, Package: GENERAL, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_MJE4923_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE4923, Package: GENERAL, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_MJE492_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE492, Package: TO-126, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_MJE5190J_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE5190J, Package: TO-126, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_MJE5190_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE5190, Package: GENERAL, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_MJE5191J_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE5191J, Package: TO-126, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_MJE5191_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE5191, Package: GENERAL, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_MJE5192J_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE5192J, Package: TO-126, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_MJE5192_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE5192, Package: GENERAL, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_MJE520K_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE520K, Package: TO-199, Key parameters: Is=2.447e-12

	Bf=208.2 Tf=19.85e-9
ap_npr_MJE520_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE520, Package: TO-126, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_MJE521K_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE521K, Package: MOT-199, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_MJE521_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: MJE521, Package: TO-126, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_Q2N3055_19930601	Manufacturer: TI, Basic Description: POWER-NPN Transistor, Part number: Q2N3055, Package: TO-3, Key parameters: Is=974.4e-15 Bf=99.49 Tf=39.11e-9
ap_npr_Q2N3440_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N3440, Package: TO-39, Key parameters: Is=2.644e-12 Bf=1.557K Tf=2.033e-9
ap_npr_Q2N4063_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N4063, Package: TO-37, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_Q2N4064_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N4064, Package: TO-37, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_Q2N4921_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N4921, Package: TO-126, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_Q2N4922_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N4922, Package: TO-126, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_Q2N4923_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N4923, Package: TO-126, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_Q2N5190_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N5190, Package: TO-126, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_Q2N5191_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N5191, Package: TO-126, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_Q2N5192_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N5192, Package: TO-126, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_Q2N5294_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N5294, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_Q2N5296_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N5296, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_Q2N5298_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N5298, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_Q2N5490_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N5490, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9

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ap_npr_Q2N5492_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N5492, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_Q2N5494_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N5494, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_Q2N5496_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N5496, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_Q2N5655_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N5655, Package: TO-220, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_Q2N5656_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N5656, Package: TO-126, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_Q2N5657_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N5657, Package: TO-126, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_Q2N5983_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N5983, Package: MOT-90, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_Q2N5984_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N5984, Package: MOT-90, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_Q2N5985_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N5985, Package: MOT-90, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_Q2N6098_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6098, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_Q2N6099_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6099, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_Q2N6100_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6100, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_Q2N6101_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6101, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_Q2N6102_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6102, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_Q2N6103_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6103, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_Q2N6121_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6121, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_Q2N6122_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6122, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_Q2N6123_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6123, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9

	Tf=23.64e-9
ap_npr_Q2N6129_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6129, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_Q2N6130_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6130, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_Q2N6131_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6131, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_Q2N6175_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6175, Package: TO-5, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_Q2N6176_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6176, Package: TO-5, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_Q2N6177_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6177, Package: TO-5, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_Q2N6288_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6288, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_Q2N6290_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6290, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_Q2N6292_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6292, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_Q2N6465_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6465, Package: TO-66, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_Q2N6473_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6473, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_Q2N6474_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6474, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_Q2N6486_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6486, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_Q2N6487_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6487, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_Q2N6488_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6488, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_Q2N6591_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6591, Package: TO-202, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_Q2N6592_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6592, Package: TO-202, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9

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ap_npr_Q2N6593_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6593, Package: TO-202, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_Q2N6720_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6720, Package: TO-237, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_Q2N6721_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6721, Package: TO-237, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_Q2N6722_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6722, Package: TO-237, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_Q2N6723_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q2N6723, Package: TO-237, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_Q40513_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q40513, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_Q40514_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q40514, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_Q40613_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q40613, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_Q40618_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q40618, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_Q40621_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q40621, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_Q40622_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q40622, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_Q40624_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q40624, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_Q40627_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q40627, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_Q40629_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q40629, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_Q40630_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q40630, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_Q40631_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q40631, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_Q40632_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q40632, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_Q40871_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q40871, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9



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	Tf=37.34e-9
ap_npr_Q40873_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q40873, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_Q40874_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q40874, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_Q40875_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q40875, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_Q40876_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q40876, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_Q41500_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q41500, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_Q41504_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: Q41504, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_RCA1C05_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: RCA1C05, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_RCA1C07_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: RCA1C07, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_RCA1C09_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: RCA1C09, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_RCA1C10_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: RCA1C10, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_RCA1C14_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: RCA1C14, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_RCA29A_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: RCA29A, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_RCA29B_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: RCA29B, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_RCA29C_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: RCA29C, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_RCA29_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: RCA29, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_RCA3054_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: RCA3054, Package: TO-220, Key parameters: Is=1.129e-12 Bf=161 Tf=23.64e-9
ap_npr_RCA3055_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: RCA3055, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9

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ap_npr_RCA31A_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: RCA31A, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_RCA31B_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: RCA31B, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_RCA31C_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: RCA31C, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_RCA31_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: RCA31, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_RCA41A_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: RCA41A, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_RCA41B_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: RCA41B, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_RCA41C_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: RCA41C, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_RCA41_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: RCA41, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_RCP115_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: RCP115, Package: TO-202, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_RCP117_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: RCP117, Package: TO-202, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_RCP131A_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: RCP131A, Package: TO-202, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_RCP131B_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: RCP131B, Package: TO-202, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_RCP133A_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: RCP133A, Package: TO-202, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_RCP133B_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: RCP133B, Package: TO-202, Key parameters: Is=321.7e-15 Bf=278.8 Tf=2.066e-9
ap_npr_TIP29A_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: TIP29A, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_TIP29B_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: TIP29B, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_TIP29C_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: TIP29C, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_TIP29_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: TIP29, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9

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	Tf=19.85e-9
ap_npr_TIP3055_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: TIP3055, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_TIP31A_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: TIP31A, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_TIP31B_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: TIP31B, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_TIP31C_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: TIP31C, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_TIP31_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: TIP31, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_TIP33A_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: TIP33A, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_TIP33B_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: TIP33B, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_TIP33C_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: TIP33C, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_TIP33_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: TIP33, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_TIP41A_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: TIP41A, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_TIP41B_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: TIP41B, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_TIP41C_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: TIP41C, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_TIP41_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: TIP41, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_TIP61A_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: TIP61A, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_TIP61B_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: TIP61B, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_TIP61C_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: TIP61C, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9
ap_npr_TIP61_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: TIP61, Package: TO-220, Key parameters: Is=2.447e-12 Bf=208.2 Tf=19.85e-9

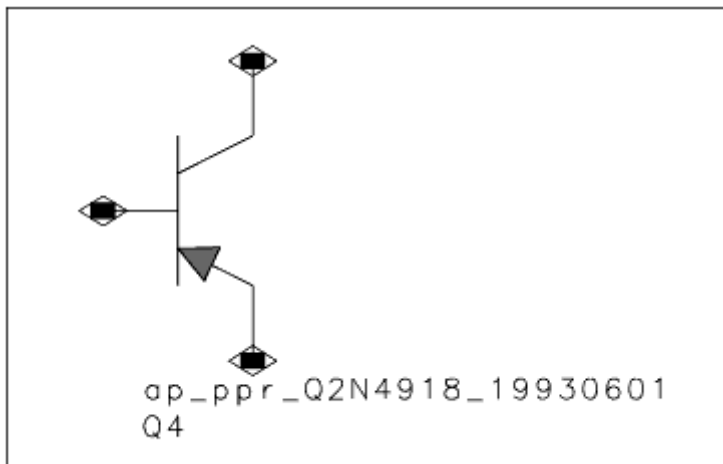
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ap_npr_TIP73A_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: TIP73A, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_TIP73B_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: TIP73B, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9
ap_npr_TIP73_19930601	Manufacturer: National, Basic Description: POWER-NPN Transistor, Part number: TIP73, Package: TO-220, Key parameters: Is=457.5e-15 Bf=156.7 Tf=37.34e-9

# Power PNP BJT Models

## Schematic Design

The [Power PNP BJT Schematic Component Example](#) shown below illustrates how components representing Power PNP BJTs appear when placed into the Schematic design window. The schematic symbol is derived from the standard SYM\_BJT\_PNP symbol in the `$HPEESOF_DIR/circuit/symbols` directory. The annotation consists of the component name and the default component ID prefix (in this case, Q). No component parameters are displayed.



**Power PNP BJT Schematic Component Example**

The user may scale any of the model parameter values used by the model by displaying the Component Parameters dialog box. The dialog box displays the component label, a table of scale factors, and other controls. You can display the dialog box by double-clicking a component symbol after it has been placed in the drawing area or by clicking the **Edit Component Parameters** button.

**Note**  
For details on using the Component Parameters dialog box, click the Help button in the dialog box.

The analog parts model library Power PNP BJT models are suitable for placement in any Analog/RF circuit schematic.

## Data

Power PNP BJTs include 147 components, each representing an individual part. The naming convention for these components is `ap_ppr_<part number>_<extraction date>`.



Power PNP BJTs are simulated using the native BJT model component.

### Analog Parts Library - POWER-PNP BJTs

Component Name	Description
ap_ppr_BD186_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD186, Package: TO-126, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_BD188_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD188, Package: TO-126, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_BD190_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD190, Package: TO-126, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_BD202_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD202, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_BD204_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD204, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_BD223_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD223, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_BD224_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD224, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_BD225_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD225, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_BD234_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD234, Package: TO-126, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_BD236_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD236, Package: TO-126, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_BD238_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD238, Package: TO-126, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_BD240A_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD240A, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_BD240B_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD240B, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_BD240C_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD240C, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_BD240_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD240, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_BD242A_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD242A, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1

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	Tf=17.41e-9
ap_ppr_BD242B_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD242B, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_BD242C_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD242C, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_BD242_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD242, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_BD244A_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD244A, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_BD244B_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD244B, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_BD244C_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD244C, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_BD244_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD244, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_BD346_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD346, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_BD434_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD434, Package: TO-126, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_BD436_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD436, Package: TO-126, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_BD438_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD438, Package: TO-126, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_BD440_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD440, Package: TO-126, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_BD442_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD442, Package: TO-126, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_BD534_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD534, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_BD536_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD536, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_BD538_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD538, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_BD634_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD634, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9

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ap_ppr_BD636_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD636, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_BD638_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD638, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_BD734_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD734, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_BD736_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD736, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_BD738_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD738, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_BD796_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD796, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_BD798_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD798, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_BD800_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD800, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_BD802_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: BD802, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_MJE2371_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE2371, Package: MOT-199, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_MJE2481_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE2481, Package: MOT-199, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_MJE2901K_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE2901K, Package: MOT-199, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_MJE2901T_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE2901T, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_MJE2955K_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE2955K, Package: MOT-199, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_MJE2955T_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE2955T, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_MJE2955_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE2955, Package: MOT-90, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_MJE30A_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE30A, Package: MOT-199, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_MJE30B_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE30B, Package: MOT-199, Key parameters: Is=51.23e-15

	Bf=434.1 Tf=13.05e-9
ap_ppr_MJE30C_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE30C, Package: MOT-199, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_MJE30_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE30, Package: MOT-199, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_MJE3370_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE3370, Package: TO-126, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_MJE3371_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE3371, Package: TO-126, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_MJE34A_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE34A, Package: MOT-199, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_MJE34B_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE34B, Package: MOT-199, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_MJE34C_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE34C, Package: MOT-199, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_MJE34_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE34, Package: MOT-199, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_MJE370_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE370, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_MJE371_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE371, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_MJE42A_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE42A, Package: MOT-199, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_MJE42B_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE42B, Package: MOT-199, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_MJE42C_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE42C, Package: MOT-199, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_MJE42_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE42, Package: MOT-199, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_MJE4918_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE4918, Package: GENERAL, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_MJE4919_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE4919, Package: GENERAL, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_MJE4920_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE4920, Package: GENERAL, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9

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ap_ppr_MJE493_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE493, Package: TO-126, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_MJE494_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE494, Package: TO-126, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_MJE5193_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE5193, Package: GENERAL, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_MJE5194_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE5194, Package: GENERAL, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_MJE5195_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: MJE5195, Package: GENERAL, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_Q2N4918_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N4918, Package: TO-126, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_Q2N4919_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N4919, Package: TO-126, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_Q2N4920_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N4920, Package: TO-126, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_Q2N5193_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N5193, Package: TO-126, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_Q2N5194_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N5194, Package: TO-126, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_Q2N5195_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N5195, Package: TO-126, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_Q2N5980_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N5980, Package: MOT-90, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_Q2N5981_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N5981, Package: MOT-90, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_Q2N5982_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N5982, Package: MOT-90, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_Q2N6021_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N6021, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_Q2N6022_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N6022, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_Q2N6023_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N6023, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_Q2N6024_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N6024, Package: TO-220, Key parameters: Is=632.4e-15



	Bf=112.1 Tf=17.41e-9
ap_ppr_Q2N6025_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N6025, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_Q2N6026_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N6026, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_Q2N6106_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N6106, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_Q2N6107_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N6107, Package: TO-126, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_Q2N6108_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N6108, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_Q2N6109_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N6109, Package: TO-126, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_Q2N6110_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N6110, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_Q2N6111_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N6111, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_Q2N6124_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N6124, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_Q2N6125_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N6125, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_Q2N6126_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N6126, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_Q2N6132_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N6132, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_Q2N6133_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N6133, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_Q2N6134_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N6134, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_Q2N6475_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N6475, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_Q2N6476_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N6476, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_Q2N6489_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N6489, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9

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ap_ppr_Q2N6490_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N6490, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_Q2N6491_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2N6491, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_Q2SA496_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2SA496, Package: TO-126, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_Q2SA505_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q2SA505, Package: TO-126, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_Q40872_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: Q40872, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_RCA1C06_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: RCA1C06, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_RCA1C08_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: RCA1C08, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_RCA1C11_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: RCA1C11, Package: TO-220, Key parameters: Is=632.4e-15 Bf=112.1 Tf=17.41e-9
ap_ppr_RCA30A_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: RCA30A, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_RCA30B_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: RCA30B, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_RCA30C_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: RCA30C, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_RCA30_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: RCA30, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_RCA32A_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: RCA32A, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_RCA32B_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: RCA32B, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_RCA32C_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: RCA32C, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_RCA32_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: RCA32, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_RCA42A_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: RCA42A, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_RCA42B_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: RCA42B, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9

	Tf=23.21e-9
ap_ppr_RCA42C_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: RCA42C, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_RCA42_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: RCA42, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_TIP2955_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: TIP2955, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_TIP30A_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: TIP30A, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_TIP30B_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: TIP30B, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_TIP30C_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: TIP30C, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_TIP30_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: TIP30, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_TIP32A_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: TIP32A, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_TIP32B_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: TIP32B, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_TIP32C_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: TIP32C, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_TIP32_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: TIP32, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_TIP34A_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: TIP34A, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_TIP34B_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: TIP34B, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_TIP34C_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: TIP34C, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_TIP34_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: TIP34, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_TIP42A_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: TIP42A, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_TIP42B_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: TIP42B, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9

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ap_ppr_TIP42C_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: TIP42C, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_TIP42_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: TIP42, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_TIP62A_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: TIP62A, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_TIP62B_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: TIP62B, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_TIP62C_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: TIP62C, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_TIP62_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: TIP62, Package: TO-220, Key parameters: Is=51.23e-15 Bf=434.1 Tf=13.05e-9
ap_ppr_TIP74A_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: TIP74A, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_TIP74B_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: TIP74B, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9
ap_ppr_TIP74_19930601	Manufacturer: National, Basic Description: POWER-PNP Transistor, Part number: TIP74, Package: TO-220, Key parameters: Is=66.19e-15 Bf=137.6 Tf=23.21e-9