TM 11-6625-539-14-4

TECHNICAL MANUAL

OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL

TEST SET, TRANSISTOR

TS-1836D/U

(NSN 6625-00-138-7320) (EIC: KMA)

HEADQUARTERS, DEPARTMENT OF THE ARMY

29 AUGUST 1975

WARNING
HIGH VOLTAGE

Circuits may exist in the equipment being checked by this test set.
Accidental contact with these circuits can cause DEATH.
Reenergize equipment under test before starting checkout. Checking of energized equipment will also damage the circuits of the test set.

WARNING
TOXIC FUMES

Degreasing solvent, MIL-PRF-680 is combustible and toxic to eyes, skin, and respiratory tract. Wear protective gloves and goggles/face shield. Avoid repeated or prolonged contact. Use only in well ventilated areas (or use approved respirator as determined by local safety/industrial hygiene personnel). Keep away from open flames or other sources of ignition.

CHANGE)
)
No. 2)

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, D.C., 28 April 2006

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HAZARDOUS MATERIAL INFORMATION – This document has been reviewed for the presence of solvents containing hazardous materials as defined by the EPCRA 302 and 313 lists by the AMCOM G-4 (Logistics) Environmental Division. As of the base document through Change 01, dated 29 August 1975, all references to solvents containing hazardous materials have been removed from this document by substitution with non-hazardous or less hazardous materials where possible.

OZONE DEPLETING CHEMICAL INFORMATION – This document has been reviewed for the presence of Class I ozone depleting chemicals by AMCOM G-4 (Logistics) Environmental Division. As of the base document through Change 01, dated 29 August 1975, all references to Class I ozone depleting chemicals have been removed from this document by substitution with chemicals that do not cause atmospheric ozone depletion.

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1. Remove old pages and insert new pages as indicated below. New or changed material is indicated by a vertical bar in the outer margin of the page. Illustration changes are indicated by a pointing hand. New or changed part numbers are indicated by an asterisk (*). Completely revised sections or chapters are indicated by a vertical bar next to the title only.

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Dates of issue for original and changed pages are:

Original	0	29 AUG 1975
Change	1	14 MAY 1980
Change	2	28 APR 2006

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3-2	1
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Technical Manual)
)
No. 11-6625-539-14-4)

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, D.C., 29 August 1975

OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT GENERAL SUPPORT MAINTENANCE MANUAL FOR TEST SET, TRANSISTOR TS-1836D/U (NSN 6625-00-138-7320) (EIC: KMA)

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to: Commander, U.S. Army Aviation and Missile Command, AMSAM-MMC-MA-NP, Redstone Arsenal, AL 35898-5000. A reply will be furnished to you. You may also provide DA Form 2028 information to AMCOM via email, fax or the World Wide Web. Our fax number is DSN 788-6546 or Commercial 256-842-6546. Our email address is: 2028@redstone.army.mil. Instructions for sending an electronic 2028 may be found at the back of this manual immediately preceding the hardcopy 2028. For the World Wide Web use:https://amcom2028.redstone.army.mil.

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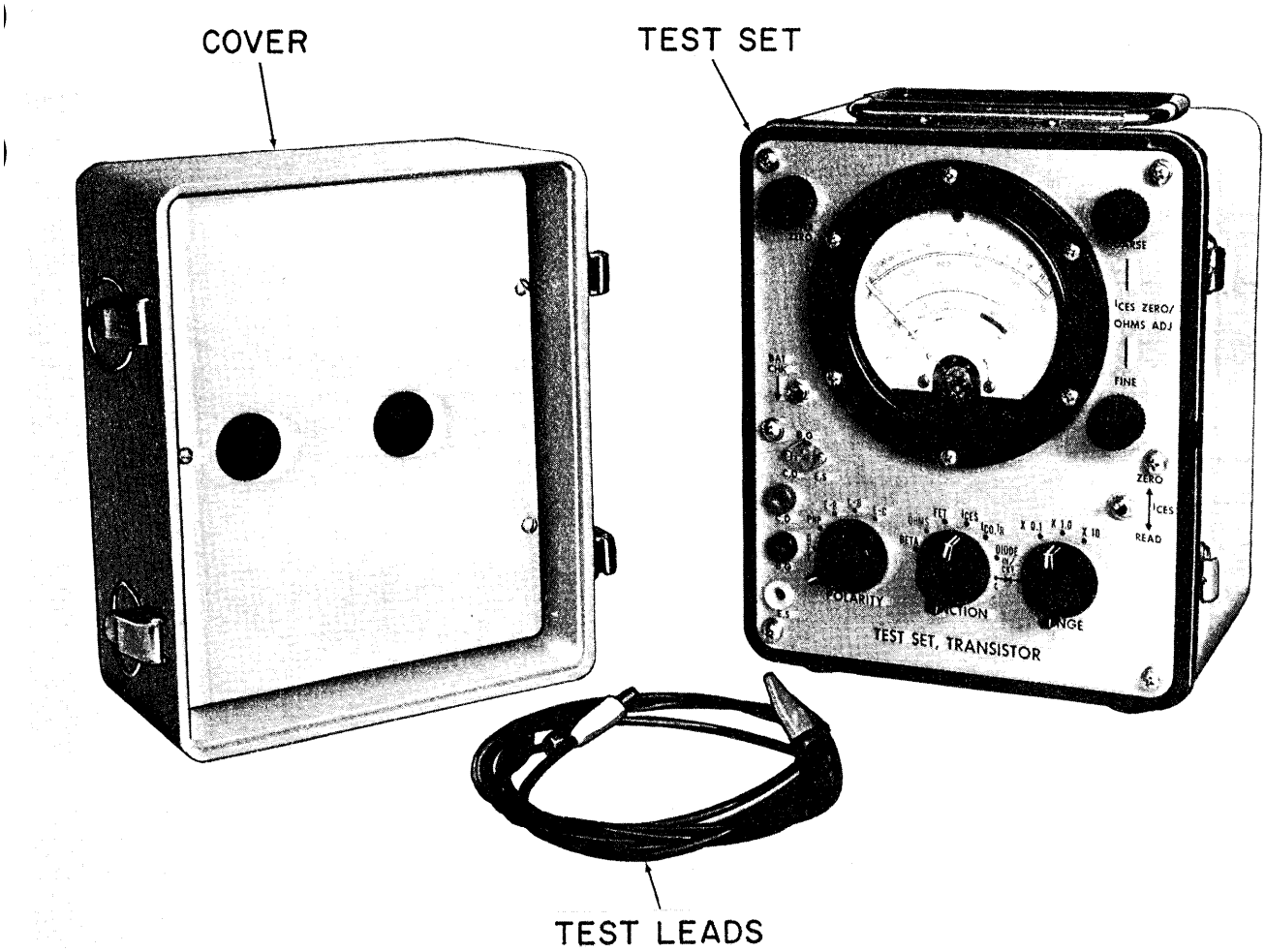

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Figure 1-1. Test Set, Transistor TS-1836D/U.

CHAPTER 1
INTRODUCTION

Section I. GENERAL

1-1. Scope

a. This manual describes Test Set, Transistor TS-1836D/U (test set) (fig. I–I) and provides instructions for operation, cleaning, troubleshooting, testing, aligning, and repairing the equipment. It also lists tools, materials, and test equipment required for organizational and general sup-port maintenance. No direct support maintenance is authorized for the equipment.

b. A list of references is contained in appendix A.

c. The maintenance allocation chart (MAC) appears in appendix C.

d. Appendix D contains test data for transistors and diodes, the testing of which is within the capability of this test set. Refer to this appendix to determine whether test indications are within the listed requirements for the device under test. The appendix is divided into separate sections for bipolar transistors, field effect transistors, and diodes and rectifiers. A separate section contains transistors basing data which helps to identify the terminals of devices to be tested.

1-2. Indexes of Publications

a. *DA PAM 25-30.* Refer to the latest issue of DA Pam 25-30 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

b. *DA Pam 25-30.* Refer to DA Pam 25-30 to determine whether there are modification work orders (MWO's) pertaining to the equipment.

1-3. Forms and Records

a. Reports of Maintenance and Unsatisfactory Equipment. Maintenance forms, records, and re-ports which are to be used by maintenance personnel at all maintenance levels are listed in and prescribed by DA Pam 750-8.

b. *Report of Packaging and Handling Deficiencies.* Fill out and forward DD Form 6 (Packaging Improvement Report) as prescribed in AR 735-11-2/NAVSUP PUB 378/AFR 71-4/MCO P4030.29, and DSAR 4145.8.

c. *Discrepancy in Shipment Report (DISREP) (SF 361).* Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in DA Pam 25-30/NAVSUPINST 4610.33/AFM 75–18/ MCO P4610.19A, and DSAR 4500.15.

1-4. Reporting of Errors

Report of errors, omissions, and recommendations for improving this publication is authorized and encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications and Blank Forms) and forwarded direct to Commander, US Army Aviation and Missile Command, ATTN: AMSAM-MMC-MA-NM, Redstone Arsenal, AL. 35898-5000.

1-5. Administrative Storage

For procedures, forms, and records, and inspections required during administrative storage of this equipment, refer to chapter 2.

1-6. Destruction of Army Materiel

Demolition and destruction of electronic equipment will be under the direction of the commander and in accordance with TM 750-244-2.

Section II. DESCRIPTION AND DATA

1-7. Purpose and Use

Test Set, Transistor TS-1836D/U is a portable test set powered by a self-contained battery power supply. It is designed to test transistors and diodes either in circuit or out of circuit. The required type of test is selected by a function

selector switch on the front panel. A panel-mounted socket is provided to facilitate out-of-circuit checking. Electrical test leads are provided to make in-circuit tests. Color-coded jacks are provided on the panel to facilitate connection of the color-coded test leads.

1-8. Description

a. The test is installed in a gray molded-plastic carrying case which is supplied with a handle at the top. When the cover is removed, the control panel is accessible at the front of the unit. Mounted on the control panel are the meter, three rotary switches, three variable resistors, two toggle switches, a transistor socket and three jacks to facilitate connection to the test leads.

b. The test set cover has four pull down catches that secure the cover to the unit. Space is provided in the cover to store the test leads.

1-9. Differences Between Models

This manual covers only the TS-1836D/U. No known differences exist in models manufactured under this number.

1-10. Tabulated Data

Dimensions and weight:

Height	8 7/8 in.
Width	7 3/8 in.
Depth	9 7/8 in.
Weight	9 lb 12 oz

Test indications:

Bi-polar transistors	Beta, I_{CES}, I_{CO}
Field effect transistors	Transconductance
Diodes and rectifiers (in circuit) _____ Shorts and opens (qualitative)	I_R
Diodes and rectifiers (out of circuit)	I_R
Related circuit tests	Resistances

Ranges and accuracies:

Function switch setting	Range switch setting			Out of circuit accuracy
	X 0.1	X 1.0	10	
FET G_M		0 to lk µmhos	0 to 10k µmhos	X 0. 1—25% full scale X 1.0 and X 10-5% full scale
DIODE IN/CKT		Qualitative		Meter indication
BETA	1 to 100	10 to 1000	100 to 10,000	3% of arc
E-B OHMS C-B OHMS C-E OHMS	10Ω center scale	lkΩ center scale	10kΩ center scale	±5% of indication
I_{CES} I_R I_{CO} i_R	0 to 10 µA 0 to 10 µA	0 to 100 µA 0 to 100 µA	0 to l mA 0 to l mA	10% of full scale 3% of full scale

Power requirements, dc only _____ 9 volts(6 size D dry cells)

1-11. Items Comprising an Operable TS-1836D/U

Quantity	*Nomenclature*	*National stock number*
1	Test Set, Transistor TS-1836D/U	6625-00-138-7320
1	Technical manual	
1	Lead, test (black), 12450-433 (28569)	
1	Lead, test (red), 12450434 (28569)	
1	Lead, test (yellow), 12450435 (28569)	
1	Cover, test set, 3825-631 (28569)	

CHAPTER 2

OPERATING INSTRUCTIONS

Section I. SERVICE UPON RECEIPT AND INSTALLATION

2-1. Site and Shelter Requirements

The test set is a small, portable device which is normally used in an electronics repair shop. It is powered by a self-contained battery power supply, and needs no other source of power. It is normally placed on a workbench when it is in use. As a result, siting and shelter of the unit present no problems.

2-2. Unpacking

The unit is packed with conventional packing precautions to minimize the danger of damage during shipment. When you unpack the unit, take care not to pierce the container with any sharp instruments.

2-3. Checking Unpacked Equipment

a. Inspect the equipment for damage incurred during shipment. If you notice any damage, report the damage on DD Form 6 (para 1-3).

b. Check the equipment against the list of items comprising operable equipment in paragraph 1–11 and against the packing slip to see if the shipment is complete. Report all discrepancies find in accordance with the instruction of TM 38–750. Place the equipment in service even though a minor assembly or part that does not affect proper functioning is missing.

c. Check to see whether the equipment has been modified. (Equipment which has been modified will have the MWO number near the nomenclature plate.) Check also to see whether all current applicable MWO have been applied. (Current MWO applicable to the equipment are listed in DA Pam 310-7.)

2-4 Installation

a. The unit is shipped assembled and requires no special maintenance, special tools, or procedures for installation. It requires neither external sources of power nor special mountings. Interconnections are mare with other equipment as part of the operating procedure. Equipment adjustment is also done as part of operation.

b. The unit is shipped without batteries installed. Before operating, install batteries (para 2–8).

Section II. CONTROLS AND INSTRUMENTS

2-5. Damage from Improper Settings

The equipment is designed to test all transistors and diodes using voltages and currents considerably less than the tolerances of the devices. You will not damage any device under test at any control setting. Similarly, you will not damage the test set because of any setting of its controls.

CAUTION

You must deenergize the equipment under test before you make any in-circuit tests.

2-6. Operation Controls

Test set controls are listed and their functions are described in table 2–1. The controls are shown in figure 2–1.

Table 2-1. Operator's Controls

NOTE

This table covers only items used by the operator; items used by higher category maintenance personnel are covered in instructions for the appropriate maintenance category.

Control, indicator, or connector	*Function*
METER ZERO (variable resistor)	Adjusts electronic zero of meter.
Meter zero adjusting screw	Adjusts mechanical zero of meter.
Meter	Indicates BETA, G_M, OHMS, I_{CES} I_{CO}, or I_R, condition of diode, and battery status, depending upon setting of test set controls.
I_{CES} ZERO/OHMS ADJ COARSE	Provides a coarse adjustment of the internal bridge circuits to zero meter during I_{CES} and OHMS functions.
I_{CES} ZERO/OHMS ADJ FINE	Same as above, except provides fine adjustment.
I_{CES} ZERO READ (momentary toggle switch).	ZERO position is used to make zero adjustment during- I_{CES} function. READ position is used to determine I_{CES}. of device under test.
RANGE (3-position rotary selector switch).	Selects a reading range which is compatible with meter deflection. X 0.1 position requires the meter reading to be multiplied by 0.1. X 1.0 position permits meter reading to be used as read. X 10 position requires that meter reading be multiplied by 10.
FUNCTION (6-position rotary selector switch).	Selects the test set function as follows: BETA position causes the meter to indicate beta during testing of hi-polar transistors. OHMS position causes the meter to indicate the resistance of the circuit selected by the POLARITY switch. FET position causes the meter to indicate transconductance during testing of field effect transistors. I_{CES} position causes meter to indicate leakage during in-circuit testing of hi-polar transistors or diodes. I_{CO},I_R position causes meter to indicate leakage during out-of-circuit testing of hi-polar transistors and diodes. DIODE lN/CKT position causes meter to indicate qualitatively the condition of diode during in-circuit test.
POLARITY (6-position rotary switch)	Selects the polarity required for the device under test or selects the portion of the circuit for which resistance check is to be made as follows: NPN position is used during testing of NPN hi-polar transistors. Also used for testing N-channel field effect transistor (FET) devices. OFF position is used when the test set is idle. This position should always be selected when the equipment is not in use. PNP position is used during testing of PNP hi-polar transistors and for checking diode leakage. Also used for testing P-channel FET devices. E-B position is used to check parallel resistance across E–B circuit of equipment under test prior to in-circuit testing of devices. C-B position is used to check parallel resistance across C–B circuit of equipment under test prior to in-circuit testing of devices. E-C position is used to check parallel resistance across E-C circuit of equipment under test, prior to in-circuit testing of devices.
Remote test jacks	Provide connection of leads for in-circuit testing of devices or where panel-mounted socket cannot be used. Jacks are identified as follows: E, S (yellow) jack provides a connection for the yellow lead that connects the E (emitter) or S (source) terminal to the test set. B, G (black) jack provides a connection for the black lead that connects the B (base) or G (gate) terminal to the test set. C, D (red) jack provides a connection for the red lead that connects the C (collector) or D (drain) terminal to the test set.
Transistor socket	Provides a connection for out-of-circuit testing of small devices with suitable base terminals.
BAT CHK (momentary toggle switch)	When operated and held in the direction of the arrow, it causes the meter to indicate the condition of the batteries. Meter pointer must register and remain in BAT CHK area when switch is held.

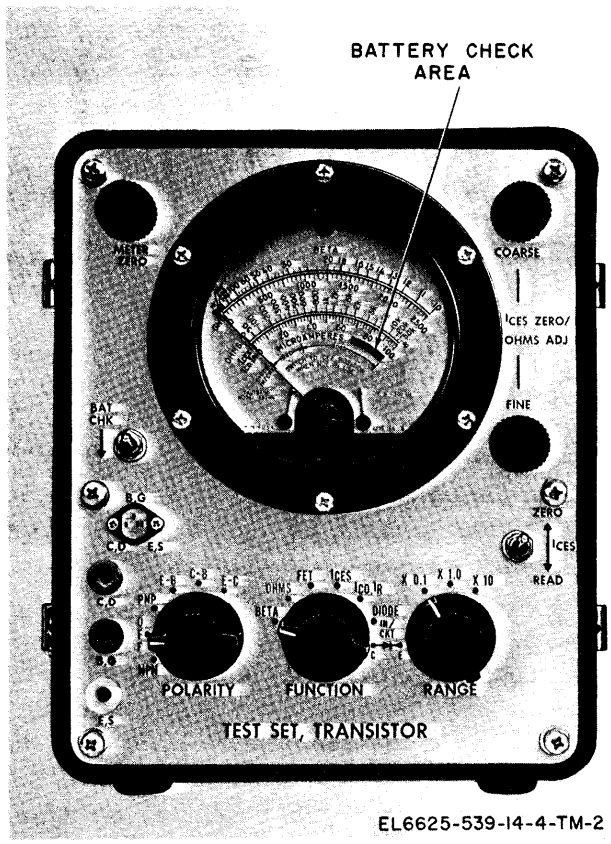


Figure 2-1. Operators control.

Section III. OPERATION UNDER USUAL CONDITIONS

2-7. Preliminary Starting Procedure

a. Unsnap the latches that secure the cover to the test set (fig. l-l); remove the cover.

NOTE

Batteries must be installed before initial operation. Refer to paragraph 2-8.

b. With the polarity switch in the OFF position, check the zero adjustment of the meter pointer. If it is not zeroed, use a screwdriver to turn the meter zero adjusting screw as required to zero the meter mechanically.

c. Operate the BAT CHK switch in the direction of the arrow and hold it while checking the indication of the meter. It should read in the BAT CHK area. If it fails to indicate in this area, the batteries are defective and must be replaced. Refer to paragraph 2-8. If the battery check indication is marginal, check batteries while circuits are loaded to assure that sufficient power is available.

d. Remove the three electrical test leads from the cover. These are used for in-circuit testing of devices.

2-8. Battery Replacement

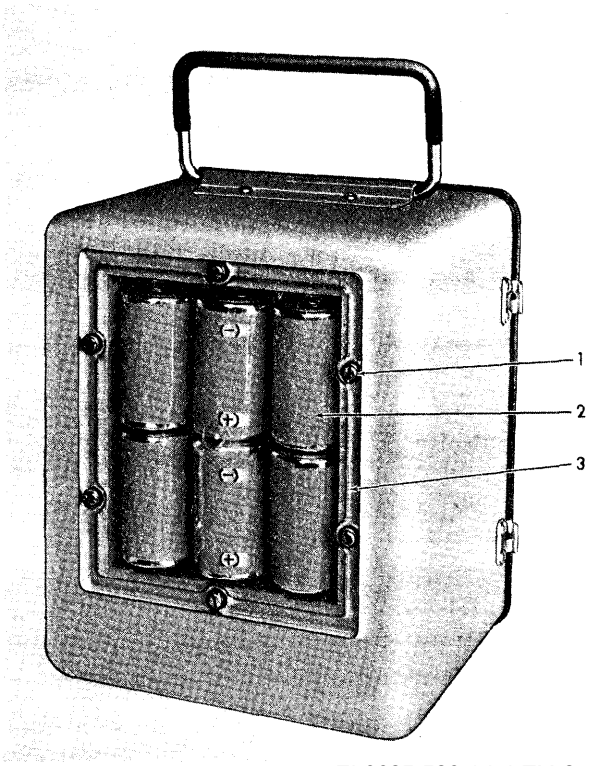
Batteries must be installed before initial operation. If the battery test check indicates that batteries are depleted during subsequent operation, replace them as follows:

a. Loosen the six captive screws (1, fig. 2-2) that secure the battery compartment cover (3) to the rear of the unit; remove the cover.

b. Remove the six size D dry cell batteries (2) drom the battery holder and discard them.

c. Install the new dry cell batteries (2) into the battery holder; be sure to observe the polarity marked on the battery holder in the case. The bottom side is marked + and the top side is marked – . Install batteries with polarities shown in figure 2-2.

d. Reinstall the battery cover (3) using the six captive screws (1).



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1. Captive screw
2. Battery
3. Battery compartment cover

Figure 2-2. Battery installation.

e. Recheck the batteries (para 2–7c) to be sure that none of the cells is defective or connected in reverse.

2-9. Out-of-Circuit Testing of Bi-Polar Transistors

a. Beta Test. The beta test is the most significant hi-polar transistor test. Proceed as follows to make the beta test out of circuit:

(1) Operate the POLARITY switch to PNP or NPN, whichever is applicable.

(2) Operate the FUNCTION switch to BETA. Operate the RANGE switch to X10.

(3) Check to see that the meter pointer is exactly zeroed. If it is not, adjust the METER ZERO control to provide an exact zero indication.

(4) Operate the RANGE switch to X 0.1.

(5) Install the transistor into the transistor socket mounted on the front panel. Be sure to insert the base, collector, and emitter leads respectively into the B, C, and E socket contacts. If necessary for lead identification, refer to transistor basing data in section V of appendix D.

(6) Read the value on the BETA scale. Operate the RANGE switch as necessary. Multiply the meter indication by the setting of the RANGE switch.

(7) Check to see that the beta reading is greater than the minimum allowable value listed in section II of appendix D for the device under test. Reject the transistor if beta is less than listed value.

(8) Remove the device from the transistor socket.

b. Leakage Test. Make the out-of-circuit leakage test (I_{co}) as follows:

(1) Position the POLARITY switch to PNP or NPN, whichever is applicable.

(2) Operate the FUNCTION switch to I_{CO}, I_R.

(3) Operate the RANGE switch to X 10. Check for meter zero. If necessary, zero the meter using the METER ZERO control.

(4) Check the allowable leakage value for the device as indicated in section II of appendix D. Operate the RANGE switch to X 0.1, X 1.0, or X 10 as required.

(5) Install the transistor in the transistor socket on the front panel. Be sure that you insert the base, collector, and emitter leads respectively into the B, C, and E socket contacts. If necessary for lead identification, refer to transistor base data in section V of appendix D.

(6) Read leakage on the I_{CES}, I_{CO}, I_R scale of the meter. Multiply the reading by the setting of the RANGE switch.

(7) Check to see that the leakage reading is less than the maximum allowable value listed in section II of appendix D for the device. Reject the transistor if leakage is greater than that listed,

(8) Remove the device from the transistor socket. Turn the POLARITY switch to OFF.

2-10. In-Circuit Testing of Bi-Polar Transistors

Two in-circuit tests are normally made for hi-polar transistors. These include beta and leakage tests similar to those used for out-of-circuit testing.

a. Beta Test.

(1) Operate the POLARITY switch to PNP or NPN, whichever is applicable.

(2) Operate the FUNCTION switch to BETA.

(3) Operate the RANGE switch to X 10. Check to see that the meter pointer is exactly zeroed. If it is not, adjust the METER ZERO control to provide an exact zero indication.

(4) Operate the FUNCTION switch to OHMS.

(5) Operate the RANGE switch to X 1.0.

(6) Operate the POLARITY switch to E–B position.

(7) Adjust I_{CES} ZERO/OHMS ADJ COARSE and FINE controls to indicate infinite reading on OHMS scale of meter. Short together the E-B jacks. Zero the meter using the METER ZERO control. Remove the short and readjust as necessary for an infinite reading. Repeat the procedure as required until zero and infinity are properly set.

(8) Insert the test leads into the panel test jacks, being sure to match lead and jack color. Connect the red lead to the collector, the black lead to the base, and the yellow lead to the emitter of the device under test.

(9) Sequentially operate the POLARITY switch from E–B to C–B to E-C, checking the meter deflection at each position on the OHMS scale. These positions indicate resistive load across each portion of the transistor circuit. Resistance across any portion of the circuit shall not be less than 500 ohms. If resistance is less, a significant beta reading cannot be made in circuit.

(10) If resistance is greater than 500 ohms at all positions, restore the FUNCTION switch to BETA. Read the value on the BETA scale of the meter. If necessary, adjust the RANGE switch to X 10 and multiply the BETA scale reading by 10.

(11) Check the beta value listed in section II, appendix D for the device under test. Reject the transistor if the beta value is less than the value given.

(12) Disconnect the test leads from the transistor.

b. Leakage Test. Make an in-circuit leakage test as follows:

(1) Operate the POLARITY switch to PNP or NPN, whichever is applicable.

(2) Operate the FUNCTION switch to I_{CO}, I_R.

(3) Adjust the RANGE switch to X 0.1. Check for meter zero. If necessary, zero the meter using the METER ZERO control.

(4) Adjust the RANGE switch as required by the value of the device under test as indicated in section II of appendix D. Set to:

X 0.1 for 0 to 10 µA

X 1.0 for 0 to 100 µA

X 10 for 0 to 1.0 mA

(5) Operate the FUNCTION switch to I_{CES} and use the I_{CES} ZERO/OHMS ADJ COARSE and FINE controls to zero the meter in this setting.

(6) Press and hold the I_{CES} toggle switch to the READ position and adjust the meter to zero, if necessary, using the METER ZERO control. Release the toggle switch so that it returns to the ZERO position and zero the meter using the I_{CES} ZERO/OHMS ADJ FINE control.

(7) Connect the test leads to the color-matched remote test jacks. Connect the red lead to the collector, the black lead to the base, and the yellow lead to the emitter of the device under test.

(8) Use the I_{CES} ZERO/OHMS ADJ COARSE and FINE controls to zero the meter. This will null the effects of the circuit loading.

(9) Press and hold the I_{CES} toggle switch to READ and check the indication on the meter. Multiply the reading by the setting of the RANGE switch. This is the I_{CES} value. Compare this value with that in section II of appendix D. Reject the transistor if leakage is greater than that listed.

(10) Disconnect the test leads from the device under test. Turn the POLARITY SWTICH TO OFF.

2-11. Out-of-Circuit Testing of Field Effect Transistors (FET's)

FET devices are tested for transconductance and the values are given in micromhos (microsiemens) on the G_M scale. Test out of circuit as follows:

a. Operate the POLARITY switch to PNP for P-channel devices or to NPN for N-channel devices.

CAUTION

Insulated gate FET's, denoted by the letter "I" in the listings is section 111 of appendix D are prone to destruction by accumulations of static charge on the gate. Permanent damage will occur if gate voltage rating is exceeded even for a short time. When working on these devices, make sure you and all other personnel, and all equipment, including soldering irons, are grounded. When testing insulated gate FET's, you must set the POLARITY switch to a setting reverse from that used for normal FET's.

b. Operate the FUNCTION switch to FET.

c. Set the RANGE switch to X 0.1. Check for meter zero. If necessary, zero the meter using the METER ZERO control.

d. Set the RANGE switch to X 10.

e. Install the transistor into the transistor socket on the front panel. Be sure that gate, drain, and source leads are respectively inserted into G, D, and S sockets. If necessary for lead

identification, refer to transistor base data in section III of appendix D.

f. Read transconductance on the G_M scale. If reading is less than 2500, set the RANGE switch to X 1.0. Multiply scale reading by setting of the RANGE switch.

g. Check the noted value against that listed in section III, appendix D, for the device under test. If the value is less than that indicated, reject the device.

2-12. In-Circuit Testing of Field Effect Transistors (FET's)

In-circuit testing of FET's is identical to that for out-of-circuit testing described in paragraph 2-11, except that after step e it is necessary to perform the following additional steps:

a. Operate the FUNCTION switch to OHMS.

b. Operate the RANGE switch to X 1.0.

c. Operate the POLARITY switch to E–B position.

d. Adjust I_{CES} ZERO/OHMS ADJ COARSE and fine controls to indicate infinite reading on OHMS scale of meter. Short together the E-B jacks. Zero the meter using the METER ZERO control. Remove the short and readjust as necessary for an infinite reading. Repeat the procedure as required until zero and infinity are properly set.

e. Check parellel G-S circuit resistance on the meter using the red OHMS scale. It shall be 100 ohms minimum. Operate the POLARITY switch to E-C and check parallel S-D circuit. It shall be 4K ohms minimum. If these requirements are met, the in-circuit transconductance readings as indicated in paragraph *2–11f* and *g* are reliable.

2-13. Out-of-Circuit Testing of Diodes

Before attempting to make the out-of-circuit reverse leakage test described in this paragraph, you must check section IV of appendix D for the device to be tested to determine if a reverse leakage value has been assigned. If none has been assigned, the I_R column lists an "a" for the device. In this case, you cannot perform a reverse leakage test. If a reverse leakage value is listed in the I_R column, proceed with the out-of-circuit test as follows:

a. Set the FUNCTION switch to I_{CO}, I_R.

b. Set the POLARITY switch to PNP.

c. Adjust the RANGE switch to X 10. Check for meter zero. If necessary, zero the meter using the METER ZERO control.

d. Adjust the RANGE switch as required by the value of the device under test as indicated in section IV, appendix D. Set to:

X 0.1 for 0 to 10 µ

X 1.0 for 0 to 100 µA

X 10 for0 to 1.0 mA

e. Insert the anode lead of the device into the C, D connector of the transistor socket on the front panel and insert the cathode into the E, S connector. If test leads are used, connect the red test lead to the anode and the yellow lead to the cathode.

f. Read leakage on the meter I_{CES}, I_{CO}, I_R scale and multiply the scale reading by the setting of the RANGE switch. Reject the diode if leakage exceeds the value given in section IV of appendix D.

2-14. In-Circuit Testing of Diodes

You can perform in-circuit checking of diodes by two methods, provided reverse leakage data for the device is given in the I_R column of appendix D. If an "a" appears in the column, only the qualitative diode in-circuit check can be made. If a value is available, you can also make a reserve leakage measurement.

a. Diode In-Circuit Check.

(1) Operate the FUNCTION switch to DIODE IN/CKT position.

(2) Operate the POLARITY switch to PNP position.

(3) Operate the RANGE switch to X 1.0 position.

(4) Connect the red test lead to the anode of the device under test and connect the yellow lead to the cathode.

(5) Check the position of the meter pointer on the DIODE IN/CKT scale of the meter. If it deflects to the GOOD range, the device is not open or shorted. If it deflects not at all or only into the BAD range, the device is open or shorted and should be rejected.

NOTE

During in-circuit diode testing, if there is litter or no parallel resistance in the circuit, the meter pointer may deflect fully up scale, striking the peg. This is normal operation, indicating that the diode is not open or shorted.

b. Reverse Leakage Test. Make an in-circuit reverse leakage test for the device if I_R test values are given for the device in section IV, appendix D. Test as follows:

(1) Operate the POLARITY switch to PNP.

(2) Operate the FUNCTION switch to I_{CO} I_R position.

(3) Operate the RANGE switch to X 10. Check for meter zero. If necessary, zero the meter using the METER ZERO control.

(4) Adjust the RANGE switch as required by the value of the device under test as indicated in section II of appendix D. Set to:

X 0.1 for 0 to 10 µ

X 1.0 for 0 to 100 µA

X 10 for 0 to 1.0 mA

(5) Operate the FUNCTION switch to I_{CES} and use the I_{CES} ZERO/OHMS ADJ COARSE and FINE controls to zero the meter in this setting.

(6) Press and hold the It,, toggle switch to the READ position and adjust the meter to zero, if necessary, using METER ZERO control. Release the toggle switch so that it returns to the ZERO position and zero the meter using the I_{CES} ZERO/ OHMS ADJ FINE control.

(7) Connect the test leads to the color-matched remote test jacks. Connect the red lead to the anode and the black lead to the cathode.

(8) Use the I_{CES} ZERO/OHMS ADJ COARSE and FINE controls to zero the meter. This will null the effects of the circuit loading.

(9) Press and hold the I_{CES} toggle switch to READ and check the indication on the meter. Multiply the reading by the setting of the RANGE switch. This is the I_{CES} value. Compare this value with that in section IV of appendix D. Reject the diode if leakage is greater than that listed.

(10) Disconnect the test leads from the device under test. Turn the POLARITY switch to OFF.

2-15. Ohms Function

The ohms function of the test set provides a convenient method for checking out resistive loading of the circuits that parallel the transistor circuits. This will alert you if the circuit is such that in-circuit tests are possible, and may help you to isolate faults that appear to be transistor oriented, but in actuality are defects in the related circuit.

a. Operation the FUNCTION switch to OHMS position.

b. Operate the RANGE switch to X 1.0 position.

c. Operate the POLARITY switch to E–B position.

d. Adjust I_{CES} ZERO/OHMS ADJ COARSE and FINE controls to indicate infinite reading on the OHMS scale of the meter. Short the E-B jacks together. Zero the meter using the METER ZERO control. Remove the short and readjust as necessary for infinite reading. Repeat the procedure as required until zero and infinity are properly set.

e. Connect the test leads to the matching color-coded remote test jacks. Connect the red lead to the collector of the in-circuit transistor, connect the black lead to base, and connect the yellow lead to emitter.

f. Resistive loading across the emitter-base circuit will be indicated on the OHMS scale of the meter.

NOTE

Resistive loading across any of the three available positions shall not exceed 500 ohms if reliable beta results are to be read.

g. Operate POLARITY switch to C–B and read the resistive load across the transistor collector-base circuit.

h. Operate the POLARITY switch to E-C and read the resistive load across the emitter-collector circuit.

i. A scan of the schematic diagram of the equipment under test will provide an approximation of the resistance across each of the circuits. If test results differ greatly from the schematic diagram, a thorough checkout of the related circuit is required.

j. Operate POLARITY switch to OFF and disconnect test leads.

2-16. Procedures for Placing Equipment in Standby Condition

No special procedure is required for placing the equipment in standby condition, except that you must turn the POLARITY switch to the OFF position to prevent battery drain. Since no warm-up of the set is required, it is ready for immediate use any time.

2-17. Procedures for Shutdown

To shut down the equipment, make sure the POLARITY switch is in the OFF position. Discon-

nect the test leads from the remote test jacks. Fold them so that they fit into the equipment cover. Position the cover on the test set and secure the four latches.

CAUTION

Remove batteries before shipment or inactive storage of 30 days or more.

Section IV. OPERATION UNDER UNUSUAL CONDITIONS

2-18. General

This test set is normally used in an electronics repair shop and is not usually subjected to extreme climatic or other environmental conditions. In general, give it the same environmental protection that is required for the equipment it is being used to test.

2-19. Operation Under Extreme Temperture Conditions

Temperature conditions in which this test set can normally be operated (32° to 122°F (0° to 50°C max)) will not have any marked effect upon its operation or its accuracy. You should not subject the unit to higher or lower temperature than absolutely required.

2-20. Operation Under Various Moisture or Humidity Conditions

a. During on-location testing of equipment, protect the test set from direct contact with rain or other moisture. Heavy collections of moisture on the front panel test jacks could affect meter indications during testing of semiconductor devices.

b. Take particular care to prevent the unit from being splashed with or dropped into salt water. Salt water is a good conductor of electricity and could adversely affect test outputs.

c. Whenever possible while the unit is exposed to moisture or conditions of high humidity, keep the cover on the case to seal out any moisture. Open the case only while the unit is being used.

CHAPTER 3

OPERATOR MAINTENANCE INSTRUCTIONS

Section I. TOOLS AND EQUIPMENT

3-1. Repair Parts, Special Tools, and Test Equipment

No special tools and test equipment are required for the test set.

3-2. Additional Tools and Equipment

No additional tools and equipment are needed for operator maintenance of the test set.

Section II. LUBRICATION

3-3. Lubrication Instructions

No lubrication is required for the test set.

Section III. OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES

3-4 General

To insure that the test set is always ready for operation, it must be inspected systematically so that defects may be discovered and corrected before they result in serious damage or failure. The necessary preventive maintenance checks and services to be performed are listed and de-scribed in table 3-1. The item numbers indicate the sequence of and minimum inspection required. Defects discovered during operation of the unit will be noted for future correction to be made as soon as operation has ceased. Stop operation im-mediately if a deficiency is noted during operation which would damage the equipment. Record all deficiencies together with the corrective action taken as prescribed in DA Pam 750-8.

3-5. Cleaning

Inspect the exterior surface of the test set. The surface should be free of dirt, grease, and fungus.

a. Remove dust and other loose dirt with a clean, soft cloth.

WARNING

Degreasing Solvent MIL-PRF-680 is combustible and toxic to eyes, skin, and respiratory tract. Wear protective gloves and goggles/face shield. Avoid repeated or prolonged contact. Use only in well-ventilated areas (or use approved respirator as determined by local safety/industrial hygiene personnel). Keep away from open flames or other sources of ignition.

b. Remove grease fungus, and ground-in-dirt from the case: use a cloth dampened (not wet) with MIL-PRF-680, Type IV.

c. Remove dirt from plugs and jacks with a brush.

d. Clean the front panel, meter, and control knobs; use a soft, clean cloth. If necessary, dampen the cloth with water; mild soap may be used for more effective cleaning.

Table 3-1. Operator Preventive Maintenance Checks and Services

B-Before Operation Time required: 0.9 M/H	D—During Operation Time required: 0.9 M/H	A—After Operation Time required: 0.1 M/H	
Interval and Sequence No.	ITEM TO BE INSPECTED PROCEDURES		WORK TIME (M/H)
B D A			
1	COMPLETENESS Check to see that all items issued with the test set are present. Refer to paragraph 1-11.		0.1

B-Before Operation
Time required: 0.9 M/H

D—During Operation
Time required: 0.9 M/H

A—After Operation
Time required: 0.1 M/H

Interval and Sequence No.			ITEM TO BE INSPECTED PROCEDURE	WORK TIME (M/H)
B	D	A		
2			CLEANLINESS Refer to paragraph 3-5.	0.1
3			COVER LATCHES Check to see that the cover latches are present, free from distortion, and that they close firmly.	0.1
4			METER Check to see that the meter face is clear and free from discoloration, all numbers are legible, and that no moisture has collected under the glass face. Make sure the glass face is intact. Report damaged meter to higher category maintenance.	0.1
5			TEST LEADS Inspect the test leads for abrasions, loose connectors, damaged insulation, and broken alligator clips. Replace damaged test leads.	0.3
6			REMOTE TEST JACKS Check for cracked insulation and loose mounting. Check to see that the banana plug on the test lead is tight and secure when inserted. Report defective jacks to higher category maintenance.	0.1
7			KNOBS Check to see that all knobs are present and free from cracks and damage. Indicator mark must be clear and easily visible. Replace damaged knobs. Tighten setscrews on loose knobs.	0.1
	8		CHECK BATTERIES Perform battery check. If batteries are weak, replace them (para 2-8).	0.2
	9		VARIABLE RESISTOR CONTROLS Check for rough, catching, and binding operation. Report defects to higher category maintenance.	0.1
	10		TOGGLE SWITCHES Check for restricted movement and for catching and binding. Make sure switches return to upper position when released. Report defective switches to higher category maintenance.	0.1
	11		ROTARY SWITCHES Check for rough, catching, and binding movement and for failure to lock firmly in each of the designated positions. Report defective switches to higher category maintenance.	0.1
	12		TRANSISTOR SOCKET Check for cracks, loose mounting, and for pins that fail to hold transistor during test. Report defective socket to higher category maintenance.	0.1
	13		FAULTY METER READINGS If readings fluctuate or if a disproportionate number of readings are out of range, report to higher category maintenance.	0.3
		14	POLARITY SWITCH POSITION Check that the switch is turned to OFF position to prevent battery drain.	0.1

Section IV. OPERATOR TROUBLESHOOTING

3-6. General

a. This section provides a chart listing the most frequent malfunctions, their probable causes, and the corrective actions required. Symptoms indicated in this chart include those observed during preventive maintenance checks as well as those encountered during normal operation of the test set.

b. Any malfunction that is beyond the scope of the operator to correct shall be referred to higher category maintenance.

3-7. Operator Troubleshooting Chart.

The troubleshooting chart for the transistor test set is provided in table 3-2.

Table 3–2. Troubleshooting

Malfunction	Probable cause	Corrective action
1. Cover latches fail to open or open with difficulty.	*a.* Latches or catches bent.	a. Straighten latches or catches.
	b. Latches corroded.	*b.* Apply drop of light oil on pivot points.
2. Meter pointer not at zero when unit is off.	*a.* Meter mechanical zero not adjusted.	*a.* Use meter zero screw to adjust mechanical zero.
	b. Meter defective.	*b.* Report to higher category maintenance.
3. Meter fails to deflect to BAT CHK when switch is operated.	*a.* Batteries depleted.	*a.* Replace batteries (para 2-8).
	b. Batteries not correctly installed.	*b.* Install batteries observing polarity marked on battery case.
4. All in-circuit tests erratic or fail to register on meter.	*a.* Open or defective test lead.	*a.* Replace test lead.
	b. Test lead terminal or alligator clip dirty or corroded.	*b.* Clean terminal or alligator clip.

CHAPTER 4

ORGANIZATIONAL MAINTENANCE

Section I. ORGANIZATIONAL TOOLS AND EQUIPMENT

4-1. Special Tools and Test Equipment

No special tools or test equipment are required for organizational maintenance of the test set.

4–2. Repair Parts

Refer to TM 11-6625-539-24P for repair parts available for use at organizational maintenance.

Section II. REPAINTING AND REFINISHING INSTRUCTIONS

4-3, General

The case and cover of this equipment are constructed of molded plastic. The color is the same throughout the full thickness of the parts. For this reason, no repainting of these parts is required. Touchup painting should be done only on those parts the original surface of which had been painted.

4-4. Repainting Instructions

a. Touch up the face of the front panel using light spray enamel per spec MIL-E-1590B. Be careful not to erase panel markings. No painting is required on the back of the panel or anywhere in the interior of the test set.

b. Refer to TB 746–10 for instructions on the care of painting equipment.

4–5. Refinishing Exterior Surfaces

You may remove gouges or scratches in the plastic case or cover with fine sandpaper. Sand only enough to remove rough edges. Do not disrupt the surrounding finish any more than necessary. Do not attempt to fill scratches or gouges with paint.

Section Ill. LUBRICATION INSTRUCTIONS

4-6. Lubrication Instructions

No lubrication is required for the test set.

Section IV. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES

4–7. General

To insure that the test set is always ready for operation, inspect it systematically so that defects may be discovered and corrected before they result in serious damage or failure. The necessary preventive maintenance checks and services are listed and described in tables 3-1 and 4-1. The item numbers indicate the sequence of and the minimum inspection required. Record all deficiencies together with corrective action as prescribed in TM 38–750.

4–8. Organizational Preventive Maintenance Checks and Services

Preventive maintenance checks and services applicable to organizational maintenance are listed in table 4–1.

Table 4-1. Organizational Preventive Maintenance Checks and Services

Q-Quarterly
Total man-hours required: 1.0

Sequence number	ITEM TO BE INSPECTED PROCEDURE	WORK TIME (M/H)
	SECTION I—Exterior case Man-hours required: 0.2	
1	HANDLE, COVER LATCHES, AND CATCHES Inspect for missing or inoperative cover latches, catches and catch strikes.	0.1
2	CASE, COVER, AND GASKETS Inspect for cracked or damaged case or cover. Check to see that all gaskets are in place and in good condition.	0.1
	SECTION II—Controls and Indicators Man-hours required: 0.6	
3	METER Check for free movement, legible dial markings, and clean and secure terminals. Tighten loose mounting screws.	0.1
4	KNOBS Check all control knobs for secure mounting. Replace knobs that are cracked. Replace missing setscrews or tighten any that are loose.	0.1
5	ROTARY SWITCHES Rotary switches to each designated position to check that switch defects hold securely at each point. Make sure that switch moves freely without binding or catching. Report defective switches to higher category maintenance.	0.1
6	VARIABLE RESISTORS Rotate variable resistor knobs through full operating range to check for free rotation. Report defective variable resistors to higher category maintenance.	0.1
7	TOGGLE SWITCHES Press toggle switches to operated positions and release to check that switches return to original positions. Switches must operate without binding or catching. Report defective toggle switches to higher category maintenance.	0.1
8	REMOTE TEST JACKS AND TRANSISTOR SOCKET Check for secure mounting and for defects. Tighten loose mounting hardware. Report to higher category maintenance if defective.	0.1
	SECTION III—Batteries Man-hours required: 0.1	
9	BATTERIES Press BAT CHK switch down and check that meter deflects into BAT CHK area of meter. Replace batteries if batteries are weak.	0.1
	SECTION IV—Complete Set Man-hours required: 0.1	
10	TRANSISTOR TEST SET Check to see that all parts of the test set are present and in good condition. Refer to paragraph 1-11.	0.1

Section V. ORGANIZATIONAL TROUBLESHOOTING

4-9. General

This section provides information necessary to help organizational maintenance personnel identify, localize, and repair troubles which are within their allocated scope.

4-10. Organizational Maintenance Troubleshooting Chart

Refer to table 4-2 for the organizational maintenance troubleshooting chart. Report any malfunction that is beyond the scope of organizational maintenance personnel to general support maintenance.

Table 4-2. Organizational Maintenance Troubleshooting

Malfunction	*Probable cause*	Corrective *action*
1. Cover fails to open or close properly.	*a.* Loose latch or strike.	*a.* Tighten latch or strike screws.
	b. Foreign material imbedded in gasket.	*b.*. Remove foreign material from gasket.
	c. Cover damaged.	*c.* Replace cover.
2. Knobs slip on control shafts.	*a.* Loose setscrews.	*a.* Tighten setscrews.
	b. Knobs have stripped threads.	*b.* Replace knobs (para 4-12).
	c. Knobs cracked.	c. Replace knobs (para 4-12).
3. Banana plugs loose in remote test jacks.	a. Damaged plugs *on* test leads.	*a.* Replace test leads.
	b. Remote test jacks defective.	*b.* Refer to higher category maintenance.
4. Meter fails to indicate in BAT CHK range when BAT CHK switch is operated.	*a.* Batteries depleted.	*a.* Replace batteries (para 2-8).
	b. Battery circuit defective.	*b.* Refer to higher category maintenance.

Section VI. ORGANIZATIONAL MAINTENANCE OF TEST SET

4-11. General

This section describes maintenance procedures that are the responsibility of organizational maintenance.

4-12. Knob Replacement

a. If knobs are loose on the control shafts, tighten the setscrews to secure the knots to the shafts.

b. To replace a knob, loosen the setscrew in the knob and pull the knob from the shaft. Back off the setscrew in the new knob and slide the knob onto the shaft so that setscrew is aligned with the flat of the shaft. Tighten the setscrew snugly to secure knob.

c. After tightening or installing knob, operate the control through its full operating range and check that the knob pointer aligns with the panel markings for all operating positions.

CHAPTER 5

FUNCTIONING OF EQUIPMENT

5-1. Basic Functioning of Test Set

a. The basic functioning of the test set is shown in the block diagram in figure 5–1. Power for the test set is provided by six dry cells in the battery supply. The battery supply energizes the multivibrator section which provides a 1-kHz square wave output that generates signals to drive the device under test and also the regulating voltage-doubler power supply. The multivibrator drives the device under test through a drive amplifier, either in conjunction with closed feedback loops or calibrated signals to provide either an ac or dc signal as required.

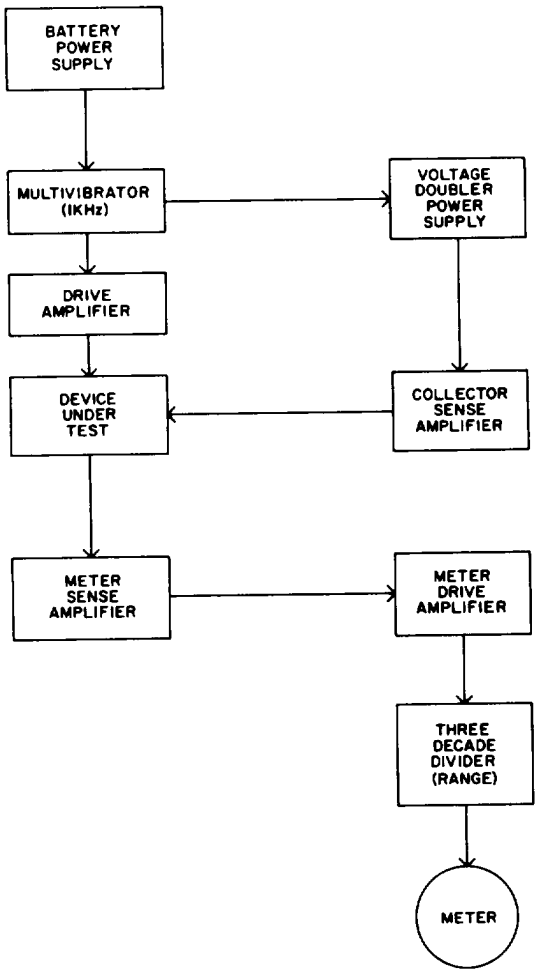

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Figure 5–1. Test set block diagram.

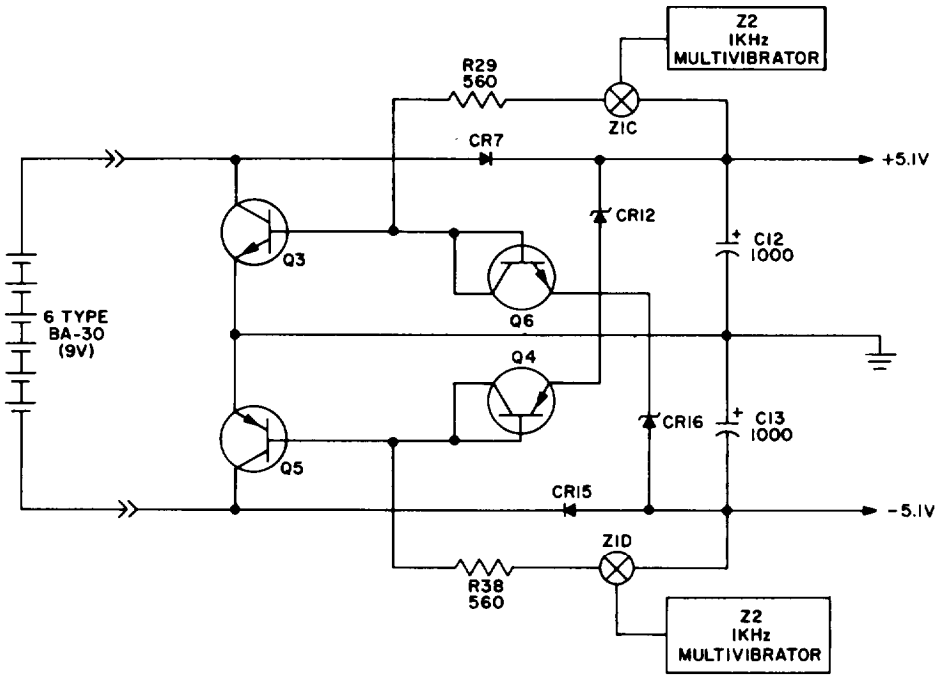
b. The collector sense amplifier is used in beta measurements, and forces the transistor under test to conduct an average of 1-mA collector current. The meter sense amplifier converts the current from the device under test to a proportional voltage. The meter amplifier drives the meter. A three-decade divider produces three ranges for each parameter.

5-2. Regulated Power Supply

a. A simplified schematic diagram of the regulated power supply is shown in figure 5-2. The circuit converts the 9-volt battery supply to a regulated +5.1 and -5.1 output.

b. Transistors Q3 and Q5 are driven out of phase by the multivibrator at a 1-kHz rate in conjunction with analog switch Z1C and Z1D. When Q3 is turned on, the 9-volt battery power supply is applied direct to C13 through Q3 and CR15. At the same time, transistor Q6 base emitter and Zener diode CR16 provide a clamp for the base of Q3, forcing Q3 to cut off when voltage across capacitor C13 is equal to the voltage of Zener diode CR16 and base emitter voltage of Q6, minus the base emitter voltage of Q3. Transistors Q6 and Q3 are in thermal contact to provide temperature compensation for the base-emitter voltage of Q3. This way, the voltage across C13 (–5.1-volt supply) is equal to the zener voltage of CR16, and will continue to be regulated as long as the battery power supply is sufficient to cause the zenering.

c. The two halves of the power alternate charging their respective capacitors C12 and C13 to produce two supplies of opposing polarity. These supplies power the remaining circuits of the test set.



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Figures 5-2. Regulated power supply, simplified schematic diagram.

5-3. Beta Function Circuit

a. A simplified schematic diagram of the beta function circuit is shown in figure 5-3. The circuit is shown for the NPN transistor, but it also applies to a PNP when the polarity is reversed through POLARITY switch S2.

b. The beta circuits are automatically energized when the BETA is selected on FUNCTION SWITCH S1. No additional front panel adjustments are required.

c. The 1-kHz multivibrator Z2 drives analog switches Z1A and Z1B to produce a square wave at C6. The square-wave peak-to-peak level is equal to the difference between circuit common and the output of AR2 through CR6. Amplifier AR2 amplifies the square wave and drives the emitter of the device under test to produce a collector current which flows through resistors R4 and R6. The values of R4 and R6 are such that the input of the sense amplifier AR1 is satisfied when an average collector current of 1mA flows. In this manner, the sense amplifier AR1 controls the emitter drive signal, forcing the device under test to conduct at 1mA. Variable resistor R6 provides an adjustment of the current level during NPN calibration. Variable resistor R3 provides the adjustment during PNP calibration.

d. Meter sense amplifier AR3 forces the required base current from the device under test to flow through resistor R30. The output voltage at AR3, therefore, is proportional to the base current of the device. When this voltage is applied to meter amplifier AR4, it drives the meter to indicate the beta of the device under test. RANGE switch S3 selects the required sensitivity level to provide full-scale deflection at 5 mV, 50 mV, and 500 mV to correspond with full scale beta ranges of 100, 1000, and 10,000.

e. Since beta is an inverse function, and the higher beta transistors read less than full scale, transistors with betas from 1 to 10,000 may accurately be tested.

5-4. Ohms Function Circuit

a. A simplified schematic diagram of the ohms function circuit is shown in figure 5-4. A voltage divider consisting of resistors R10, R13, R15, R16, and R20 produces a 10 mV source for the meter. I_{CES} ZERO/OHMS ADJ controls are adjusted to provide full-scale meter deflection when the unit is not connected to the equipment under test. RANGE resistors R19, R22, and R25 provide ohms ranges of 100 ohms, 1 kilohm, and 10 kilohms at center scale. The meter amplifier AR4 monitors the voltage divider formed by the range resistor

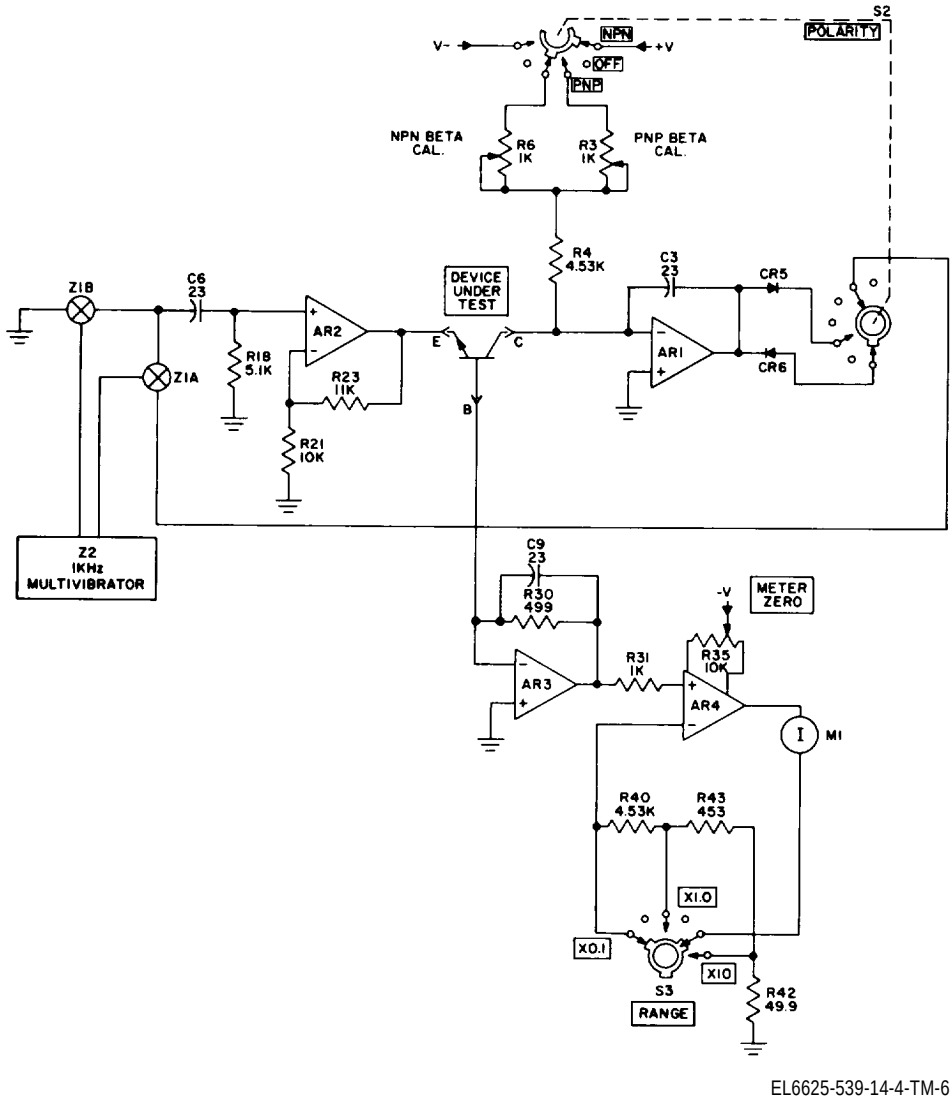

Figure 5-3. Beta function circuit, simplified schematic diagram.

and the resistance of the device under test (R_x) and drives the meter to a ratio proportional to R_x and the range resistor.

b. The 10-mV voltage source for the ohms function allows resistances to be measured without forward biasing the function within the device under test. The 10-mV output is well below the forward conducting level of both silicon and germanium devices. Reliable circuit resistance will be indicated unless the device under test is shorted or excessively leaky.

5-5. Field Effect Transistor (FET) Test Circuit

a. The FET test circuit simplified schematic diagram is shown in figure 5-5. A calibrated dc voltage divider consisting of resistors R7, R12, and R14 feeds analog switch Z1A. The 1kHz multivibrator Z2 drives Z1A and Z1B, generating a square wave at capacitor C6. The peak amplitude of the square wave is equal to one-half the calibrated dc voltage at Z1A. The square wave is fed into AR2 to provide a known calibrated signal level at the gate of the FET under test. The resulting drain/source current produces a signal level at resistor R1 which is coupled through capacitor C11 to meter amplifier AR4. Amplifier AR4 and diodes CR8, CR9, CR13, and CR14 provide an ac to dc conversion of the FET current to deflect the meter proportionately. Range resistors R40, R42, and R43 adjust the signal to the required level to provide ranges of 250, 2,500, and 25,000 micromhos (microsiemens).

b. The circuit for an N-channel device is illustrated on figure 5-5. The circuit is identical for a

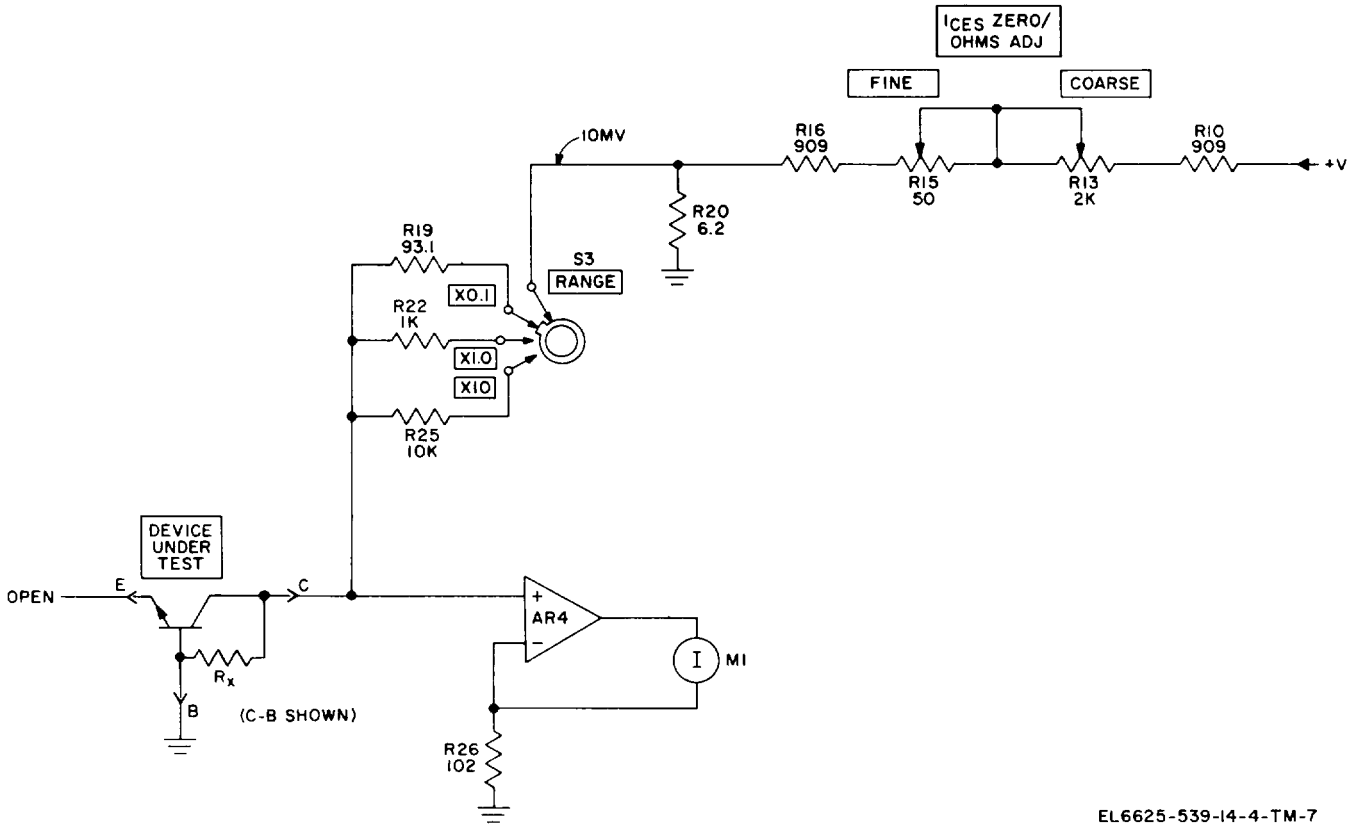

Figure 5-4. Ohms function circuit, simplified schematic diagram.

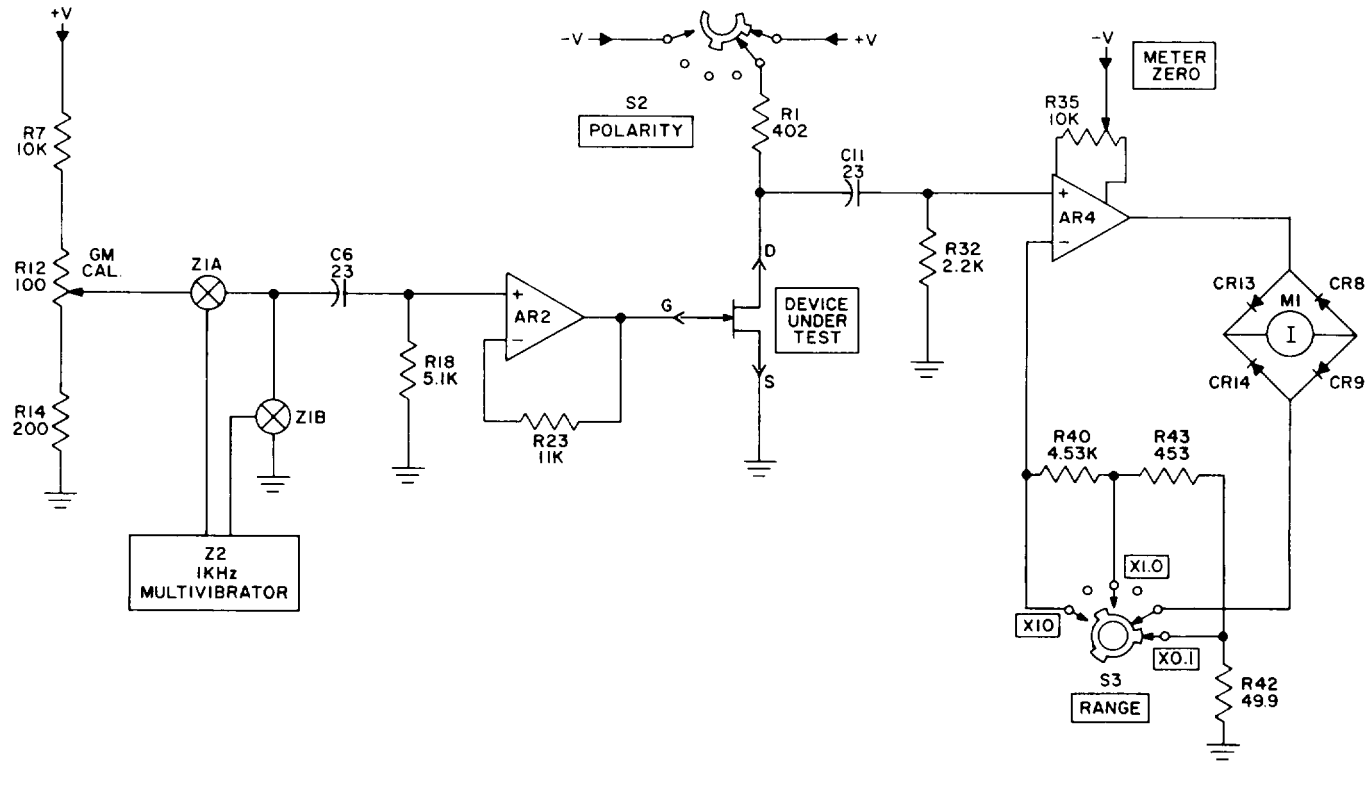

Figure 5-5. Field effect transistor test circuit, simplified schematic diagram.

P-channel device, except that the polarity of drain voltage is reversed at POLARITY switch S2.

5-6. I_{CES} Function Test Circuit

a. A simplified schematic diagram of the I_{CES} function test circuit is shown in figure 5-6. The test circuit uses a bridge circuit with the device under test forming a part of one leg of the bridge, I_{CES} ZERO/OHMS ADJ COARSE and FINE controls R13 and R15 are also part of the bridge. These controls are used to adjust the bridge to a balanced condition when the I_{CES} ZERO READ switch is in the ZERO position. The bridge voltage is then changed to a lower value and rechecked for balance. If all legs of the bridge are purely resistive, the bridge will remain balanced under all supply levels. However, if one leg contains an element whose resistance is voltage dependent, bridge balance will be upset as the supply changes. The I_{CES} of a transistor is a current constant independent of voltage, so that its equivalent resistance is directly proportional to voltage.

b. After the bridge is balanced using the I_{CES} ZERO/OHMS ADJ controls, the I_{CES} ZERO READ switch S4 is operated to READ. This lowers the bridge supply voltage to approximately one-third of its original value. The I_{CES} resistance remains constant and unbalances the bridge. The unbalanced condition is sensed by amplifier AR4 and the output current drives the meter through range resistors R40, R42, and R43. A voltage that is proportional to the meter current and the range resistor is generated in that leg. This voltage is in the direction to rebalance the bridge. The circuit is designed with values that cause the meter deflection to be directly proportional to the I_{CES} of the device under test. This balanced bridge technique cancels out all load resistances in the circuit of the device under test.

5-7. I_{CO},I_R Function Test Circuit

a. The simplified schematic diagram for the I_{CO} $I_R$function is shown in figure 5–7. This circuit is primarily a current-to-voltage converter. Amplifier AR2 and its associated components apply approximately 1.2 volts to the device under test. The resulting current flow-I_{CO} for transistors, I_R for diodes—is forced by amplifier AR3 to flow through resistor R30, producing a voltage at AR3 that is proportional to the current flow.

b. The resultant voltage is fed into meter amplifier AR4 to produce through meter M1 a flow that is proportional to the leakage current of the device under test.

5–8. Diode In-Circuit Function Test Circuit

a. The simplified schematic diagram for the diode in-circuit function test is shown in figure 5-8. This test provides the capability of detecting the presence of a semiconductor junction with as little as 20 ohms in parallel. Transistors Q1 and Q2 and amplifier AR2 with their associated components

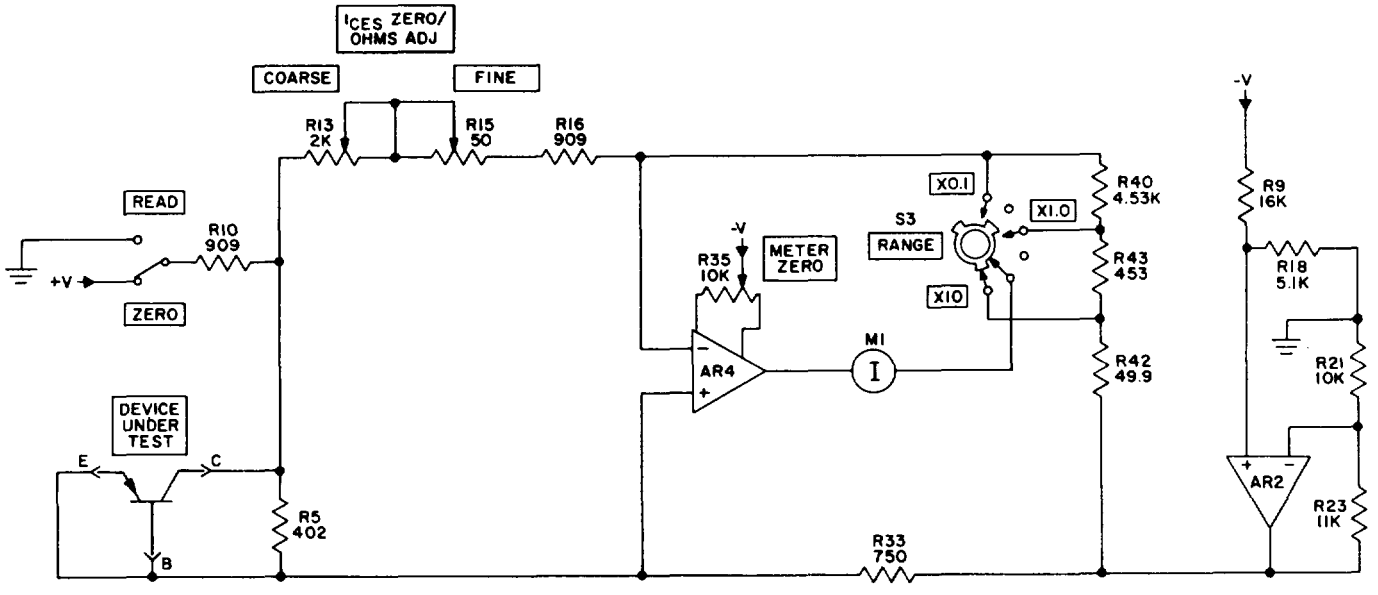

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Figure 5-6. *I_{CES} function test circuit, simplified schematic diagram.*

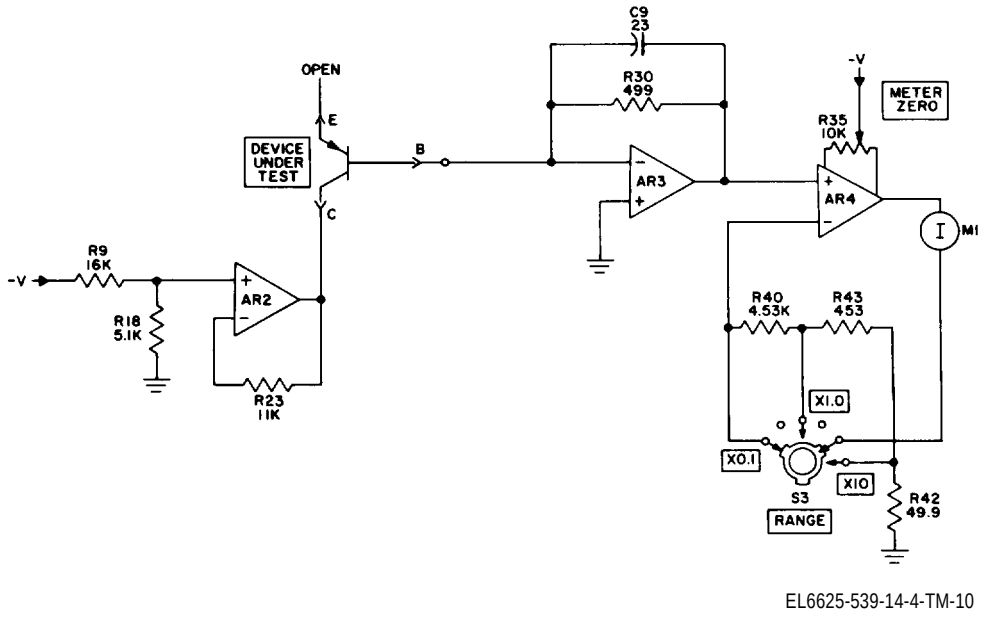


Figure 5-7. I_{co}, $I_R$function test circuit, simplified schematic diagram.

drive the device under test with an ac signal that is free of dc component due to capacitor C8. If the C–E jacks are connected only to a resistive device, the signal at R36 will remain purely ac. Meter amplifier AR4 is a dc amplifier in this configuration, and no meter current will flow when an ac singal is applied.

b. If a P-N junction is placed across the C-E jacks, more current will flow when the function is forward-biased and a resulting dc component will be generated. The meter amplifier AR4 will force meter M1 to deflect up scale in proportion to the dc component. If the diode (P–N junction) is open or shorted, no dc component will be generated. The meter will remain at zero and will not deflect into the GOOD range.

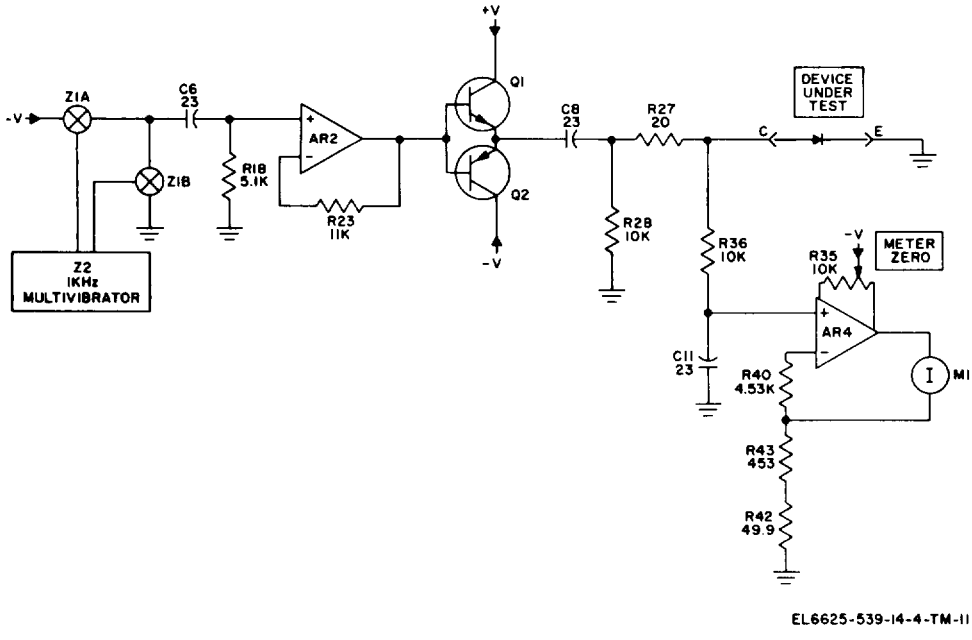


Figure 5-8. Diode in-circuit function test circuit, simplified schematic diagram.

CHAPTER 6

DIRECT SUPPORT MAINTENANCE INSTRUCTIONS

Not applicable.

CHAPTER 7

GENERAL SUPPORT MAINTENANCE INSTRUCTIONS

Section I. GENERAL

7-1. Scope of General Support

General support maintenance personnel are authorized to perform all functions allocated to them by the maintenance allocation chart, as well as any functions normally assigned to lower categories of maintenance.

7-2. Voltage and Resistance Measurements

Significant voltage and resistance measurements are impractical for checking transistor circuits used in this equipment because of the variables introduced by adjustable controls and variations caused by the devices under test.

7-3. Waveforms

The only significant waveform in the equipment is the 1-kHz square wave output which can be checked at the base of transistor Q1 or Q2, using an oscilloscope. The square wave should have an amplitude of approximately 2.5 volts peak-to-peak in the BETA function.

Section II. GENERAL SUPPORT TOOLS AND EQUIPMENT

7-4. Tools

No tools are required other than normal handtools to perform general support maintenance on the test set.

7-5. Test Equipment

Test equipment required to perform general support maintenance of the test set is listed in table 7-1.

Table 7-1. Test Equipment Required for General Support Maintenance

Multimeter AN,/USM-223.
Ammeter ME-221/U.
Resistor Decade ~M-16/U.
Oscilloscope AN/281C.
The following electronic components:
Three hi-polar transistors which, in combination, include the following characteristics:
1-PNP type
1-NPN type
1—with beta range of 1 to 100
1—with beta range of 100 to 1000
1—with beta range of 1000 to 10,000
Three field effect transistors (FET), which, in combination, include the following characteristics:
1—N-channel type
1-P-channel type
1—with G_M range of 0 to 250
1—with G_M range of 250 to 2500
1—with G_M range of 2500 to 25,000
Four 1 percent tolerance resistors including:
1—100 ohm
1—20 ohm
1—500 ohm
1—4000 ohm
Four diodes including both silicon and germanium types.

Section III. GENERAL SUPPORT TROUBLESHOOTING

7-6. General.

The test set is designed to perform a series of particular functions. These individual functions are explained and illustrated in chapter 5. The first step of logical troubleshooting is to determine which functions are giving you trouble. You can determine this by normal operation of the transistor test set or by mocking up tests to check the function.

7-7. Fault Isolation

a. Check out the operation of the test set. If all

functions fail to operate, check for defective power supply circuits or a defective meter circuit, because all functions require the operation of these circuits.

b. If partial operation of the unit is possible, run through a complete checkout of all functions to determine which are faulty. When faulty functions have been isolated, a check of simplified schematic diagrams will indicate common components that are used in the defective circuits, thereby helping to isolate the fault.

c. Following is a list of circuit diagrams related to the various functions of the test set. Relate these circuits to the major schematic diagram given in figure F0-2 to determine their interoperation in the test set.

circuit function	*Figure No.*
Regulated power supply	5-2
Beta function circuit	5-3
Ohms function circuit	5-4
FET test circuit	5-5
I_{CES} function test circuit	5-6
I_{CO} I_R function test circuit	5-7

d. If the square-wave output is questionable, use an oscilloscope to check the waveform at the base of transistor Q1 or Q2. The square wave must have approximately 2.5-volt amplitude peak to peak in the beta function.

e. Faulty operation of the test set may be caused by improper calibration. If the unit gives consistently incorrect readings in one or more functions, calibrate the test set as directed in paragraph 7-8.

Section IV. GENERAL SUPPORT MAINTENANCE OF TEST SET

7-8. Adjustustments

a. General. Adjustment of the test set requires that you adjust five variable resistors mounted on the back of the test set printed circuit board. Remove the front panel from the case (para 7-9 to provide access to the variable resistors. Maintain the connection between the battery power supply and the connector pins on the printed circuit board, because the test set must be energized during the adjustment procedure. Refer to table 7-1 for the required tools and equipment.

b. Battery Check. With the POLARITY switch in the OFF position, operate and hold BAT CHK switch in the direction of the arrow. Check to see that the meter pointer deflects into the BAT CHK range on the scale (red).

c. Beta Adjustments.

(1) Set the FUNCTION SWITCH to BETA. Set the POLARITY switch to NPN. Set the RANGE switch to X 0.1.

(2) Connect a multimeter adjusted to read milliamperes and a good NPN transistor test set as shown in figure 7-2. Adjust variable resistor R6 (8, fig. 7-1) to provide a multimeter indication of 1 mA. Remove the NPN transistor.

(3) Set POLARITY switch to PNP. Connect a multimeter adjusted to read milliamperes and a good PNP transistor to the transistor test set as shown in figure 7-2. Adjust variable resistor R3 (7, fig. 7-2) to provide a multimeter reading of 1 mA.

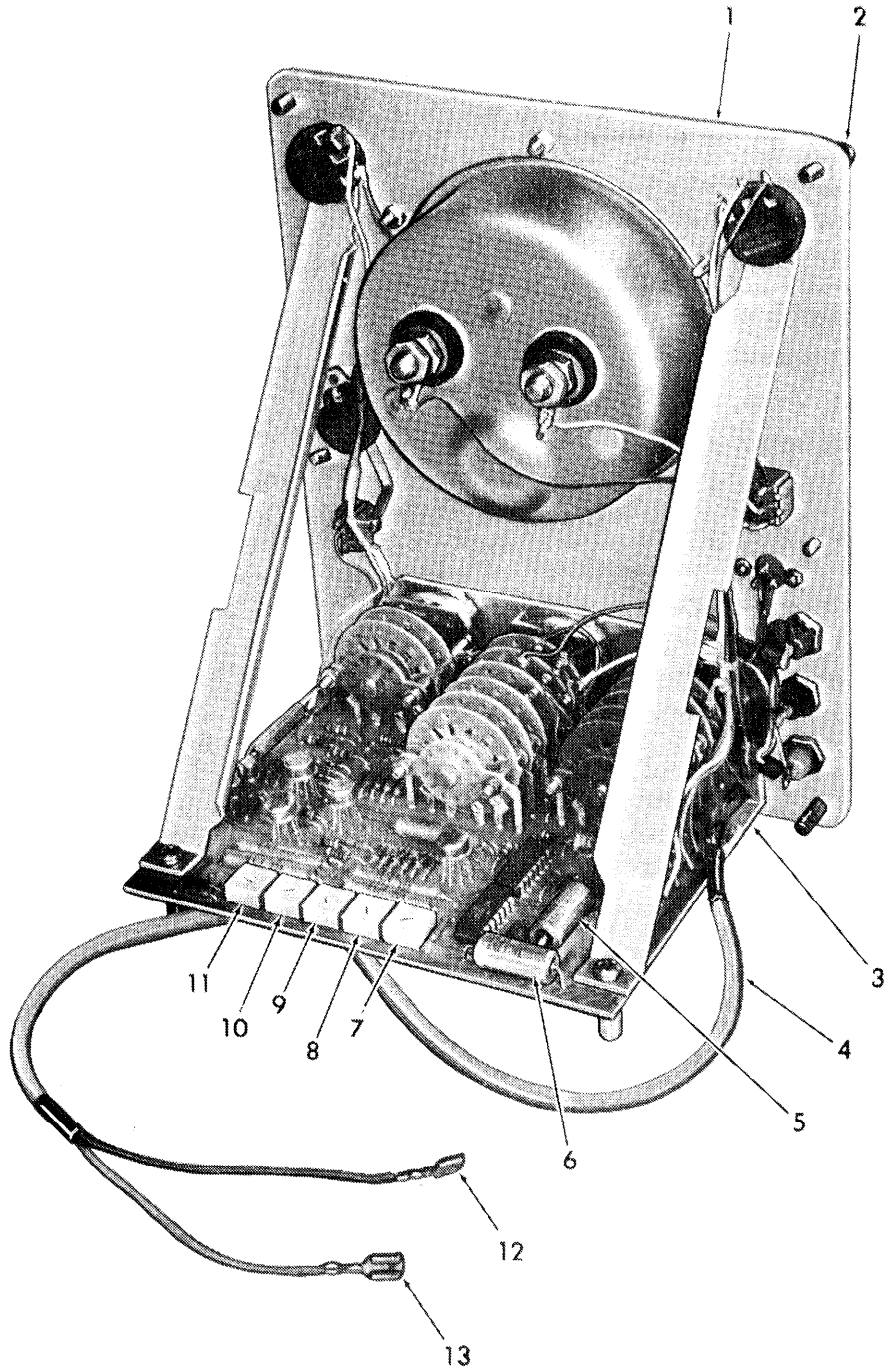
(4) This completes beta adjustment. Remove the transistor and the multimeter from the test set.

d. Offset Adjustment.

(1) Set FUNCTION switch to BETA position, the POLARITY switch to PNP, and the RANGE switch to X 0.1.

(2) Connect a good PNP transistor directly into the transistor socket on the panel of the test set. Connect a multimeter adjusted to read millivolts into the remote test jacks C, D and E, S.

(3) Adjust variable resistor R8 (9, fig. 7-1) to obtain a zero voltage indication on the multimeter (if analog) or 0.0 (if digital).



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1. Front panel assembly
2. Captive screw
3. Printed circuit board
4. Battery connection lead
5. Capacitor C13
6. Capacitor C12
7. Variable resistor R3
8. Variable resistor R6
9. Variable resistor R8
10. Variable resistor R34
11. Variable resistor R12
12. Negative battery terminal
13. Positive battery terminal

Figure 7-1. Rear view of panel assembly, showing adjustment points.

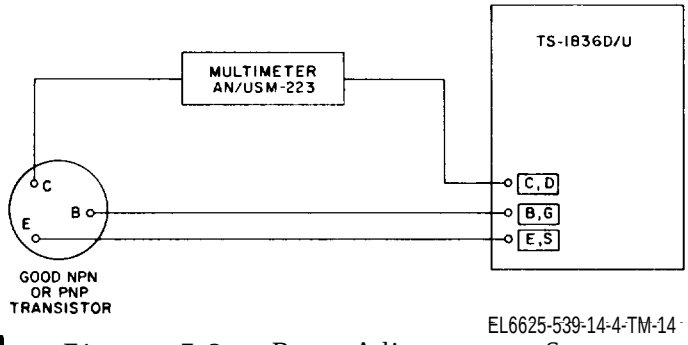


Figure 7.2. Beta Adjustments Setup

(4) Insert the test leads of the multimeter into remote test jacks B, G and E, S.

(5) Adjust variable resistor R34(10) to obtain a zero or 0.0 reading on the multimeter.

(6) Repeat steps (2) through (5) above and readjust if necessary.

(7) Remove the transistor and disconnect the multimeter from the transistor test set.

e. Transconductance Adjustment

(1) Adjust the METER ZERO control to zero the meter.

(2) Connect a 460-ohm ±1 percent resistor across the C, D, and B, G remote test jacks.

(3) Adjust the RANGE switch to the X 1.0 position.

(4) Adjust the FUNCTION switch to FET position.

(5) Adjust variable resistor R12 (11) to provide midscale deflection of the meter (20 on top scale). This will adjust the transconductance of the unit.

7-9. Front Panel Assembly Removal and installation

a. Removal. All operating components and parts of the test set, with the exception of the batteries, are mounted on the front panel assembly. For service or calibration, you must remet'e the front panel assembly as follows:

(1) Remove the cover from the test set.

(2) Loosen the six captive screws (2, fig. 7-1) that secure the front panel assembly to the case.

(3) Pull outward on the front panel assembly to disengage it from the case. Remove only far enough to allow access to disconnect the terminals (12 and 13) of the battery lead (4) from the connectors at the back of the case. Disconnect the battery lead terminals and remove the front panel assembly fully from the case.

b. Cleaning and Inspection. After the front panel assembly is removed from the case, clean and inspect it as follows:

(1) Remove any dust from the electronic components with vacuum cleaning equipment.

(2) Inspect the electronic components and wiring of the test set for broken leads, corroded terminals, and faulty solder connections. Replace damaged leads and resolder broken connections.

(3) Check all panel-mounted components for loose mounting. Tighten mounting hardware as required.

(4) If any components are obviously damaged, replace them.

c. Installation.

(1) Position the front panel assembly (1, fig. 7-1) part way into the case.

(2) Connect the terminals (12 and 13) of the battery lead (4) to the connectors at the back of the case. The black negative lead connects to the upper right terminal, the white positive lead connects to the lower left terminal when you are facing the inside of the case.

(3) Push the front panel assembly into the case until the panel is fully seated. Tighten the six captive screws to secure the panel to the case.

(4) Install the cover on the test set.

7-10. Maintenance of Test Set Case

a. Disassemble (fig. 7-3). Disassemble the test set case only to the extent necessary to replace defective parts. Proceed as follows:

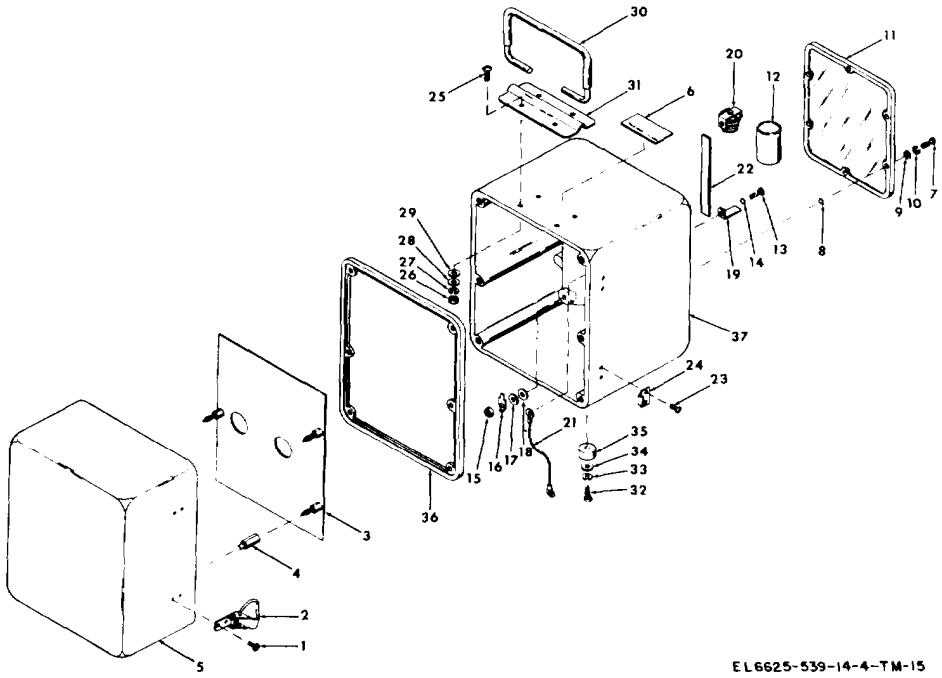
(1) Remove the two screws (1) that secure each of the catches (2) to the cover (5); remove the catches.

(2) Pull out the accessory bracket assembly (3). Unsrew the spacers (4) from the cover.

(3) Loosen the six captive screws (7) and remove the battery compartment cover (11) from the test set case (37). If the captive screws are damaged, remove the preformed packings (8) and unscrew the screws from the cover. Remove the flat washers (9) and lock washers (10).

(4) Remove the six batteries (12) from the battery compartment in the rear of the case. If the battery contacts (19 and 20) are corroded or bent, remove them by removing screws (13), lock washers (14), nuts (15), clips (16), and flat washers (17 and 18). Remove battery interconnecting leads (21) and the cushioning pads (22).

(5) If the catch strikes (24) are damaged, remove the two screws (23) that secure each of the strikes to the case.



1. Screw
2. Catch
3. Accessory bracket assembly
4. Spacer
5. Cover
6. Identification plate
7. Captive screw
8. Preformed packing
9. Flat washer
10. Lock washer
11. Battery compartment cover
12. Battery
13. Screw
14. Lock washer
15. Nut
16. Wire clip
17. Flat washer
18. Flat washer
19. Battery contact
20. Battery contact
21. Battery interconnecting lead
22. Cushioning pad
23. Screw
24. Catch strike
25. Screw
26. Nut
27. Lock washer
28. Flat washer
29. Flat washer
30. Handle assembly
31. Handle clamp
32. Screw
33. Lock washer
34. Flat washer
35. Rubber foot
36. Case gasket
37. Case

Figure 7-3. Test set case, exploded view.

(6) To remove a defective handle assembly (30), remove the four screws (25), nuts (26), lock washers (27), and flat washers (28) that secure the handle clamp (31) to the case; remove the clamp and handle assembly.

(7) If the rubber feet (35) are damaged, remove them from the case.

(8) Remove the gasket (36) from the case.

b. Cleaning and Inspection.

(1) Clean the molded plastic parts with deter-gent and water. Remove any greasy or gummy deposits with a cloth lightly dampened with MIL-PRF-680, TYPE IV. Wipe dry.

(2) Wipe the batteries with a clean, dry cloth. Clean corroded terminal with fine sandpaper.

(3) Clean all remaining parts with MIL-PRF-680 type IV; dry thoroughly.

WARNING

Degreasing Solvents MIL-PRF-680 Type IV is combustible and toxic to eyes, skin, and respiratory tract. Wear protective gloves and goggles face shield. Avoid repeated or prolonged contact. Use only in well-ventilated areas (or use approved respirator as determined by local safety/industrial hygiene personnel). Keep away from open flames or other sources of ignition.

(4) Inspect all molded plastic parts for cracks, distortion, and loose or damaged threaded inserts. Replace damaged parts.

(5) Inspect catches for corrosion, difficult operation, distortion, and cracks; replace damaged catches.

(6) Inspect battery terminals for cracks, distortion, corrosion, and bent or damaged springs. Remove light corrosion with fine sandpaper. Re-place if defective.

(7) Inspect all other parts for cracks, distortion, and other damage; replace all defective parts.

(8) Inspect the batteries for corrosion, leaks, bulging, and other damage. Check battery output voltage; it must be 1.5 volts. Replace defective or weak batteries.

c. Reassembly. Reassemble the test set case as shown in figure 7-3. Install the front panel assembly into the case as described in paragraph 7-9.

7-11. Maintenance of Front Panel Assembly

a. Disassembly (fig. 7-4). Disassemble the front

panel assembly only to the extent necessary to replace defective parts. Proceed as follows:

(1) Remove the front panel from the case as described in paragraph 7-9.

(2) Remove the knobs (2 and 4) by loosening the setscrews (1 and 3) and pulling the knobs from the shafts of the rotary switches and variable resistors.

(3) To remove the remote test jacks (6, 7, and 8), disconnect and tag the electrical leads and remove the nuts (5) that secure them to the panel. Pull the jacks from the front of the pane].

(4) To remove the test transistor socket (12), disconnect and tag the electrical leads and remove the socket from the front of the panel by removing the screw (9), nut (10), and lock washer (11).

(5) To remove the toggle switches (17 and 22), disconnect the leads and remove the nuts (13 and 18) and lock washers (14 and 19). Pull the switches out from the back of the panel. Remove the flat washers (15 and 20) and nuts (16 and 21) from the switches.

(6) To remove the variable resistors (27, 28, and 29), unsolder and tag the electrical leads and remove the nuts (23), lock washers (24), and flat washers (25). Pull the variable resistors out from the back of the front panel. When resistors (28 and 29) are removed, they release the tops of the brackets (33 and 34) from the panel.

(7) Remove the screws (30), lock washers (31), and standoff spacers (32) that secure the bottoms of the brackets (33 and 34) to the printed circuit board (45); remove the brackets.

(8) Disconnect the electrical leads from the meter assembly (37). Remove the six screws (35) and lock washers (36) that secure the meter assembly to the front panel. Pull the meter out from the front of the panel.

(9) To remove the printed circuit board (45), remove the nut (38), lock washer (39), and flat washer (40) that secure each of the pane-mounted rotary switches to the front panel (49). Pull the printed circuit board away from the back of the front panel. Remove the screws (41), look washers (42), and flat washers (43) and separate the printed circuit board and bracket (44).

(10) If the captive screws (46) are damaged, unscrew them from the front panel and remove the lock washers (47) and flat washers (48).

b. Cleaning and Inpection.

(1) Clean the meter assembly by wiping it with a clean cloth. Clean the dial glass with glass cleaning solution. If the terminals are corroded, clean them with fine sandpaper.

(2) Clean the printed circuit board assembly with vacuum cleaning equipment.

(3) Clean the front panel with a cloth dampened lightly with trichloroethane.

(4) Wipe all electrical parts with a clean, dry cloth. Clean corroded terminals with fine sandpaper.

(5) Inspect the meter assembly for cracked glass, illegible or discolored dial face, restricted meter movement, and loose or damaged terminals; replace a damaged meter assembly.

(6) Inspect the printed circuit board for loosely mounted components, broken connections, cracked base, interrupted circuit paths, or other damage. Solder loose connections. Replace a damaged board.

(7) Check operation of toggle switches. Make sure that they operate freely to their momentary positions and that they return to their normal positions when released. Check for loose or damaged terminals. Replace damaged switches.

(8) Inspect the variable resistors. Check that the shafts rotate freely through the full operating ranges. Use a multimeter to check resistance through the resistor as the shaft is rotated. There must be no interruption of the circuit as the resistor is operated, and resistance must increase smoothly.

(9) Inspect all other parts for cracks, distortion, damaged threads, broken or corroded terminals, and other damage; replace dmaged parts.

c. Reassembly. Reassemble the front panel assembly as shown in figure 7-4. Note the following:

(1) Take care to ensure correct color relationships of test jacks, (6, 7, and 8). The C, D jack is red; the B, G jack is black; and the E, S jack is yellow.

(2) The variable resistors (27, 28, and 29) are similar in appearance, but have different electrical characteristics. Each has the rating stamped on the back. Make sure that they are properly installed as follows:

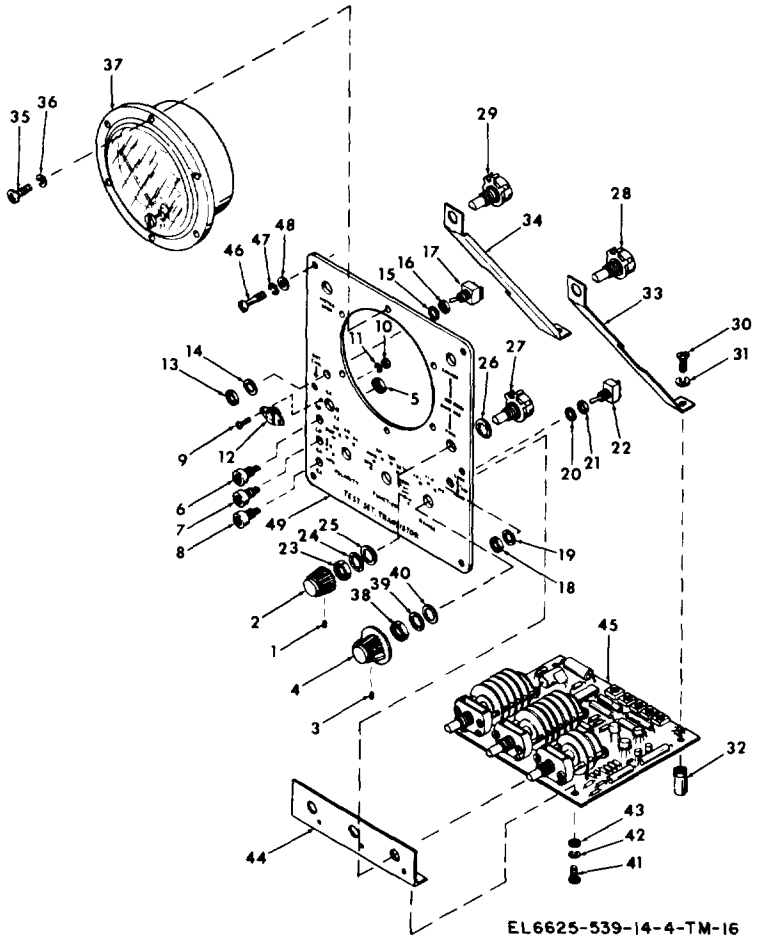
Item 27, R15, I_{CES} ZERO/OHMS ADJ FINE, is 2k ohms.

Item 28, R13, I_{CES} ZERO/OHMS ADJ COARSE, is 500 ohms.

Item 29, R35, METER ZERO, is 10k ohms.

(3) Install the skirted knobs (4) on the shafts of the rotary switches. Install the straight knobs (2) on the shafts of the variable resistors.

(4) Refer to the wiring diagram in figure 7-5 for instructions regarding connection of electrical leads.



1. Setscrew
2. Knob
3. Setscrew
4. Knob
5. Nut
6. Red test jack J1
7. Black test jack J2
8. Yellow test jack J3
9. Screw
10. Nut
11. Lock washer
12. Transistor socket X1
13. Nut
14. Lock washer
15. Flat washer
16. Nut
17. Toggle switch S5
18. Nut
19. Lock washer
20. Flat washer
21. Nut
22. Toggle switch S4
23. Nut
24. Lock washer
25. Flat washer
26. Lock washer
27. Variable resistor R15
28. Variable resistor R13
29. Variable resistor R35
30. Screw
31. Lock washer
32. Standoff spacer
33. Bracket
34. Bracket
35. Screw
36. Lock washer
37. Meter assembly
38. Nut
39. Lock washer
40. Flat washer
41. Screw
41. Lock washer
43. Flat washer
44. Bracket
45. Printed circuit board
46. Captive screw
47. Lock washer
48. Flat washer
49. Front panel

Figure 7-4. Front panel assembly, exploded view.

7-12. Maintenance of Printed Circuit Board

a. Remove the printed circuit board for maintenance as described in paragraph 7–11a.

b. Replace printed circuit board components only if troubleshooting indicates that they are faulty.

c. Take care to prevent overheating heat-sensitive components when soldering them to the printed circuit board. Use a heat sink between the component. and the solder connection when installing these components.

d. Take care to prevent solder from shorting across circuit paths on the board. This can cause circuit path cracks that result in hard-to-locate defects of the equipment.

e. Printed circuit board installation is described in paragraph 7-11c.

f. Circuit connections between the board and other electronic components are illustrated in figure 7-5.

g. Identification of printed circuit board components is provided in figure 7-6. To locate a particu-

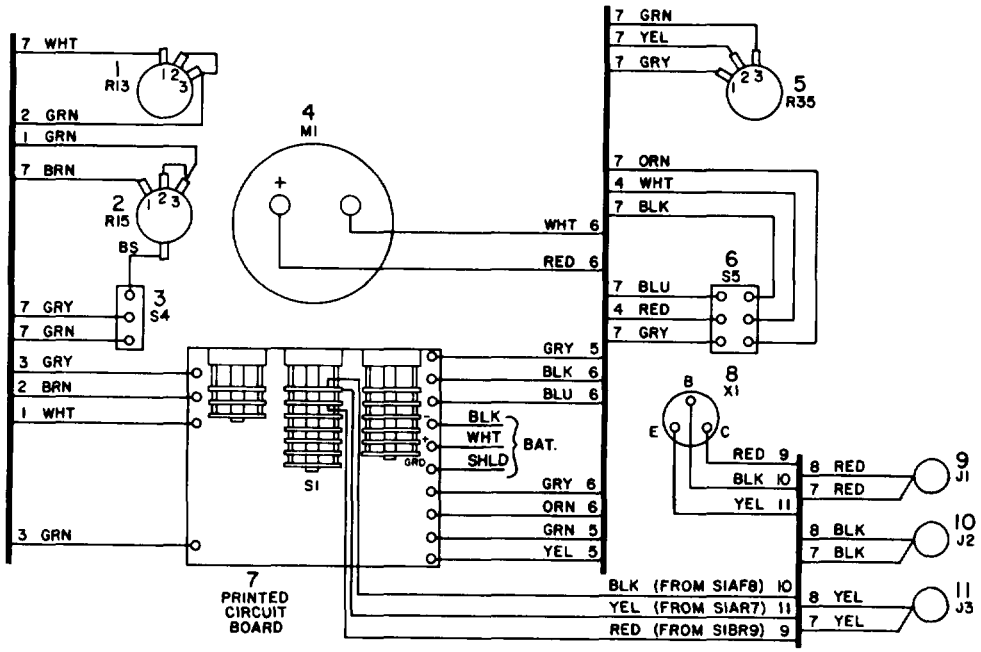


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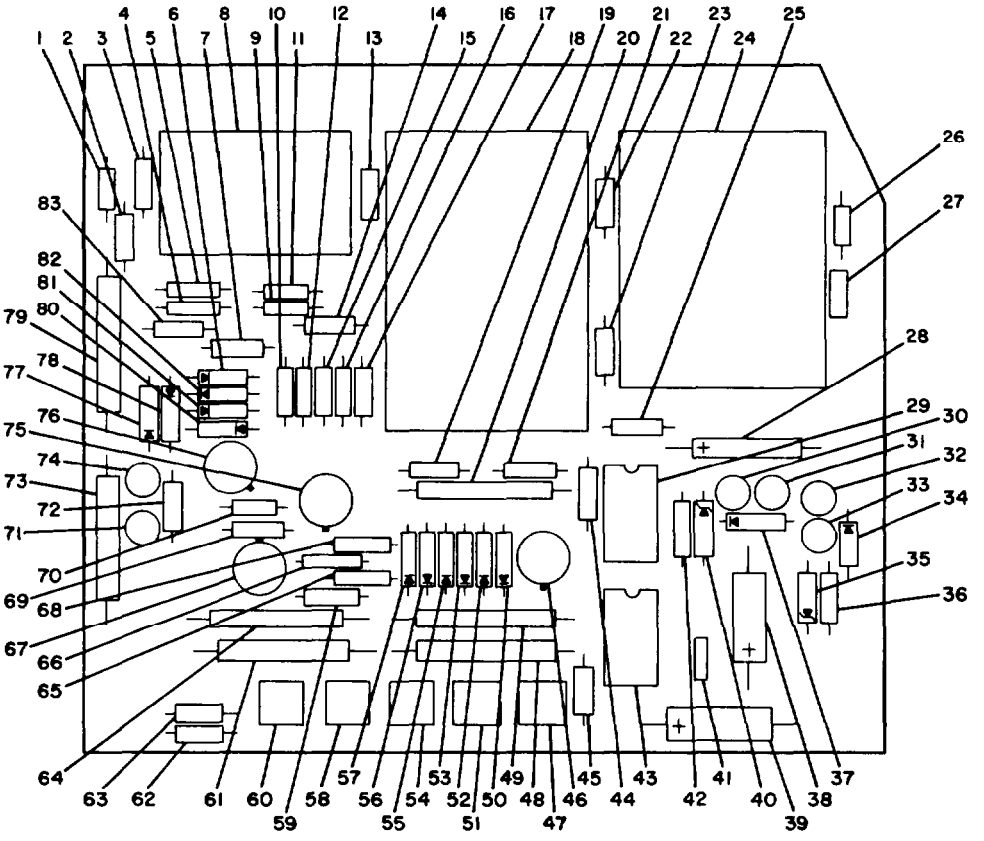
Figure 7-5. Test set wiring diagram.

lar component on the printed circuit board when the reference designator is known, find the reference designator in the alphanumerical list in table 7-2. This will reference the index number in figure 7-6. The index numbers follow a clockwise sequence around the board in figure 7-6 to help locate the index number and the component.

Table 7-.2. Reference Designator to Index Number Cross Reference for Figure 7-6

Ref Desig	Index No.	Ref Desig	Index No.	Ref Desig	Index No	Ref Desig	Index No.
AR1	46	CR5	52	R4	45	R28	3
AR2	75	CR6	50	R5	22	R29	42
AR3	67	CR7	37	R6	51	R30	59
AR4	76	CR8	82	R7	62	R31	66
C1	13	CR9	6	R8	54	R32	10
C2	28	CR10	77	R9	19	R33	12
C3	49	CR11	78	R10	1	R34	58
C4	27	CR12	35	R11	44	R36	7
C5	48	CR13	81	R12	60	R37	26
C6	20	CR14	80	R14	63	R38	36
C7	41	CR15	34	R16	2	R39	5
C8	79	CR16	40	R17	70	R40	4
C9	64	Q1	71	R18	21	R41	11
C10	61	Q2	74	R19	15	R42	14
C11	73	Q3	31	R20	65	R43	9
C12	39	Q4	33	R21	72	S1	18
C13	38	Q5	32	R22	16	S2	24
CR1	56	Q6	30	R23	69	S3	8
CR2	57	R1	23	R25	17	Z1	29
CR3	55	R2	25	R26	68	Z2	43
CR4	53	R3	47	R27	83		



1. R10	12. R33	23. R1	34. CR15	45. R4	**56. CR1**	67. AR3	78. CR11
2. R16	13. C1	24. S2	35. CR12	46. AR1	**57. CR2**	68. R26	79. C8
3. R28	14. R42	25. R2	36. CR12	47. R3	**58. R34**	69. R23	80. CR14
4. R40	15. R19	26. R37	37. CR7	48. C5	**59. R30**	70. R17	81. CR13
5. R39	16. R22	27. C6	38. C13	49. C3	**60. R12**	71. Q1	**82. CR8**
6. CR9	17. R25	28. C2	39. C12	50. CR6	**61. C10**	72. R21	83. R27
7. R36	18. S1	29. Z1	40. CR16	51. R6	62. R7	73. C11	
8: S3	19. R9	30. Q6	41. C7	52. CR5	63. R14	74. Q2	
9. R43	20. C6	31. R31	42. R29	53. CR4	64. C9	75. AR2	
10. R32	21. R18	32. Q5	43. Z2	54. R8	65. R20	**76. AR4**	
11. R41	22. R5	33. Q4	44. R11	55. CR3	66. R31	77. CR10	

Figure 7-6. Printed circuit board, component identification.

Section V. GENERAL SUPPORT TESTING PROCEDURES

7-13. General.

This section describes all tests required to make to determine that the transistor test set is functioning properly in all modes of operation. To totally check out the unit, perform all tests. If the operation of the unit in any particular function is questionable, that function alone can be checked. Before performing any other operation tests, make sure the battery output is adequate as indicated by the battery test in paragraph 7–15. During testing, follow the procedural steps in the order given. Make sure that you set the controls accurately as indicated.

7-14. Physical Tests and Inspection

a. *Test Equipment and Materials.* None.

b. Test Connections and Conditions. Remove cover from case of test set.

c. Procedure.

Step No.	Control settings		Test Procedures	Performance standard
	Test equipment	Equipment under test		
1	N/A	Controls may be set in any position.	*a.* Inspect all parts for loose mounting and missing screws and nuts.	a. All screws and nuts must be tight with none missing.
			b. Inspect meter for binding of movement, damaged glass, and illegible dial.	b. Meter must he in good condition with legible dial and free movement.
			c. Check to see that all parts listed in paragraph 1-11 are present.	c. All items comprising operable equipment must be present,
2	N/A	Set controls as indicated.	*a.* Check operation of all rotary switches, rotating them to all positions.	a. Rotary switches rotate without catching, lock positively in each position, and operate through the full operating range.
			b. Operate toggle switches to down position and release.	b. Toggle switches operate smoothly and return to up position when toggles are released.
			c. Operate variable resistor con. trols in full operating ranges.	c. Knobs rotate freely through full operating range without catching or binding.

7-15. Battery Test

a. Test Equipment and Materials, None.

b. Test Connections and Conditions. Cover removed from case of test set.

c. Procedure.

Step No.	Control settings		Text production	Performance standard
	Test equipment	Equipment under test		
1	N/A	Press and hold BAT CHK switch to down position. Remaining controls may be set to any position.	Check deflection of meter pointer.	Pointer deflects to BAT CHK position.

7-16. Stability Test

a. *Test Equipment and Materials.* Any good PNP or NPN transistor.

b. Test Connections and Conditions. As indicated below.

c. Procedure.

Sep No.	Control settings		Test procedures	Performance standard
	Test equipment	Equipment under test		
1	N/A	POLARITY switch: PNP or NPN as applicable. FUNCTION switch: BETA.	Insert transistor into test socket on panel.	Meter must deflect.
2		RANGE switch: adjust to provide on-scale needle deflection.	*a.* Meter indicates on-scale deflection.	a. Record deflection indicated on beta scale.
			b. Allow condition to remain for full minute.	*b.* Beta indication must not drift more than 3 percent of full-scale deflection.

7-17. Beta Measurement Test (Out-of-Circuit)

a. Test Equipment and Materials. Three good transistors the beta values of which have been tested on a standard transistor test set and whose values have been recorded. Selection should include at least one NPN, one PNP, one silicon, and one germanium, covering beta ranges of 1 to 100, 100 to 1000, and 1000 to 10,000.

b. Test Connections and Conditions, As indicated below.

c. *Procedure.*

Step No.	Control settings		Test procedures	Performance standard
	Test equipment	Equipment under test		
1	N/A	POLARITY switch: NPN or PNP to correspond with selected transisor. FUNCTION switch: BETA. RANGE switch: appropriate for selected transistor.	*a.* Insert one transistor in panel-mounted test socket. *b.* Insert second and third transistors in panel-mounted test socket.	a. Meter deflects to indicate to within 3 percent of beta value recorded on standard transistor tester. Record indicated value. *b.* Meter deflects to indicate within 3 percent of beta values recorded on standard transistor tester. Record indicated value.

7-18. Beta Measurement Tests (In-Circuit)

a. Test Equipment and Materials.

(1) Same three transistors used in previous test.

(2) 500-ohm, l-percent resistor.

b. Test Connections and Conditions. As indicated below.

c. Procedure.

Step No.	Control settings		Test procedures	Performance standard
	Test Equipment	Equipment under test		
1	N/A	POLARITY switch: NPN or PNP to correspond with selected transistor. FUNCTION switch: BETA. RANGE switch: appropriate for selected transistor.	*a.* Insert one transistor in panel-mounted test socket. *b.* Connect 500-ohm resistor across emitter-base terminals of transistor. *c.* Connect 500-ohm resistor across collector-base terminals of transistor under test. *d.* Connect 500-ohm resistor across collector-emitter terminals of transistor under test.	*a.* Record beta for transistor under test. *b.* Check that beta for transistor under test is within following ranges: ±5 percent within 1 to 100 range when compared to out-of-circuit readings. ±5 percent in 10 to 1000 range when compared to out-of-circuit readings. ±30 percent in 100 to 10,000 range when compared to out-of-circuit readings. *c* Performance standards must be same as above. *d* Performance standards must be same as above.
2	N/A	Same as above.	*a.* Insert second and third transistors in panel-mounted test socket. *b.* Connect 500-ohm resistor across transistor terminals successively as described above.	*a.* Record betas for transistors under test. *b.* Performance standards must be within same limits as described above.

7-19. Ohms Measurement Tests

a. Test Equipment and Materials.

(1) Resistor, Decade ZM-16/U.

(2) Multimeter AN/USM-223.

b. Test Connections and Conditions. As indicated below.

c. Procedure.

Step No.	('ontrol settings		Test procedures	Performance
	Test equipment	Equipment under test		
1	N/A	POLARITY switch: E-B. FUNCTION switch: OHMS: RANGE switch: X 0.1. I_{CES} ZERO/OHMS ADJUST controls. METER ZERO control.	*a.* Check meter deflection. *b.* Adjust meter for full-scale deflection. *c.* Short across E–B jacks and check zero deflection of meter. *d.* Repeat a through c above until full scale deflection and zero deflection are achieved.	*a.* Meter deflects to near full scale. *b.* Meter shows exact full-scale deflection. *c.* Meter can be adjusted to zero. *d.* Opne E–B contacts result in exact full-scale deflection. When shorted, meter reads exact zero.
2	Set decade box to 30 ohms.	Same.	Connect decade box to E-B jacks.	Meter must read 300 ohms ±5 percent on OHMS scale.
3	Set decade box to 100 ohms.	Same.	Connect decade box to E-B jacks.	Meter must read 1k ohms ±5 percent on OHMS scale.
4	Set decade box to 300 ohms.	Same.	Connect decade box to E-B jacks.	Meter must read 3k ohms ±5 percent on OHMS scale.
5	Set decade box to 30, 100, and 300 ohms successively,	Same except POLARITY switch: C-B.	Repeat steps 2 through 4 connecting decade box to C–B jacks.	Meter must read 300, 1k, and 3k ohms on OHMS scale with successive tests. All readings must be ±5 percent of decade box setting.
6	Set decade box to 30, 100, and 300 ohms successively.	Same except POLARITY switch: E-C.	Repeat steps 2 through 4 connecting decade box to E–C jacks.	Meter must read 300, 1k, and 3k ohms on OHMS scale with successive tests. All readings must be within ±5 percent of decade box setting.
'7	N/A	POLARITY switch: C-B. RANGE switch: X 1.0. FUNCTION switch: OHMS.	Repeat step 1 to adjust full-scale deflection with C–B open and zero deflection when shorted.	Open E-B terminals cause full-scale deflection. When E–B terminals are shorted, meter is exactly zeroed.
8	Set decade box to 300, 1K, and 3K ohms successively.	Same.	Repeat steps 2 through 6 to check out resistive loading of C-B at each of the selected resistances.	Meter must read 300, 1k, and 3k ohms on OHMS scale with successive tests. All readings must be within ±5 percent of decade box settings.
9	N/A	POLARITY switch: E-C. FUNCTION switch: OHMS RANGE switch: X 10.	Repeat step 1 to adjust full scale deflection with E–C open and zero deflection when shorted.	Open. terminals cause full scale deflection. When E-B terminals are shorted, meter is exactly zeroed.
10	Set decade 3K and 10K ohms successively.	Same.	Repeat steps 2 through 6 to check out resistive loading of E-C at each of the selected resistances.	Meter must read 300 and 1k on the OHMS scale with successive tests. Both readings must be within ±5 percent of decade box setting.

7-20. Transconductance Test (FET Out-of-Circuit

a. Test Equipment and Materials. Three field effect transistors whose transconductance values have been checked on a standard transistor tester and whose values are known. At least one must be N-channel and one P-channel. Coverage must inelude GM ranges of 0 to 250, 250 to 2500, and 2500 to 25,000.

b. Test Connections and Conditions. As indicated below.

c. *Procedure.*

Step No.	Control settings: Test equipment	Control settings: Equipment under test	Test procedures	Performance standard
1	N/A	FUNCTION switch: FET. RANGE switch: to setting appropriate for device. POLARITY switch: NPN for N-channel FET's, PNP for P-channel FET's.	Insert one field effect transistor into test jack on front panel.	Indication on G_M scale must indicate transconductance of device as determined by standard test set within ±5 percent of full-scale range.
2	N/A	RANGE switch: to settings appropriate for second and third FET successive] y. POLARITY switch: NPN for N-channel FET's, PNP for P-channel FET's.	Insert remaining two FET's into test jack on" front panel successively.	Indication on G_M scale must indicate transconductance of device as determined by standard test set within ±5 percent of full-scale range.

7–21. Transconductance Test (FET In-Circuit)

a. Test Equipment and Materials.

(1) Three field effect transistors-one N-channel, one P-channel, covering G_M range of 0 to 250, 250 to 2500, and 2500 to 25,000.

(2) One 100-ohm, 1-percent resistor.

(3) One 4k-ohm, 1-percent resistor.

b. Test Connections and Conditions. As indicated below.

c. Procedure.

Step No.	Contol settings: Test equipment	Contol settings: Equipment under test	Test procedures	Performance standard
1	N/A	FUNCTION switch: FET. RANGE switch: to setting appropriate for device. POLARITY switch: NPN for N-channel devices, PNP for P-channel devices.	Insert one field effect transistor into test jack on front panel.	Meter must indicate transconductance for device under test.
2	N/A	Same.	Connect 100-ohm resistor across G-S terminals of transistor under test.	Meter must indicate transconductance. Value must be within ±10 percent of full-scale range of value indicated in step 1.

Step No.	Control settings: Test equipment	Control settings: Equipment under test	Test procedures	Performance standard
3	N/A	Same.	Connect 4k-ohm resistor across D-S terminals of transistor under test.	Meter must indicate transconductance. Value must be within ±10 percent of full-scale range of value indicated in step 1.
4	N/A	Same.	Insert second and third field effect transistor in test jack on front panel and determine effect of added resistance per steps 2 and 3.	Transconductance value with resistive load must not vary by more than 10 percent of full-scale range of unloaded indication.

7-22. I_{CES} and I_R Measurement Tests

a. Test Equipment and Materials.

(1) One good NPN or PNP transistor, the I_{CES} of which has been checked on a standard transistor test set.

(2) One 500-ohm, 1-percent resistor.

b. Test Connections and Conditions. As indicated below.

c. Procedure.

Step No.	Control settings: Test equipment	Control settings: Equipment under test	Test procedures	Performance standard
1	N/A	FUNCTION switch: I_{CES} I_R. POLARITY switch: NPN or PNP to correspond with selected transistor. RANGE switch: X 10.	Operate METER ZERO to adjust meter zero.	Meter indicates zero on scale.
2	N/A	FUNCTION switch: I_{CES}	Zero meter using I_{CES} COARSE and FINE controls.	Meter indicates zero on scale.
3	N/A	I_{CES} switch: press and hold in READ position.	Zero meter using METER ZERO control.	Meter indicates zero on scale.
4	N/A	I_{CES} switch: as indicated	Repeat steps 2 and 3.	Meter indicates zero in both ZERO and READ positions of I_{CES}. switch.
5	N/A	RANGE switch: to setting appropriate for device.	Insert transistor in test jack on front panel. Connect 500-ohm resistor across C–E terminals. Use I_{CES} COARSE and FINE controls to zero meter	Meter indicates zero with I_{CES} switch in ZERO position.
6	N/A	I_{CES}. switch: press and hold in READ position.	Check indication on I_{CES}, I_{CO}, I_H scale of meter.	Meter indication is within ±10 percent of I_{CES} value determined by standard test set.
7	N/A		Repeat tests using two other transistors which require use of two remaining ranges.	Meter indication is within ±10percent of I_{CES} value determined by standard test set.

7-23. I_{co} I_R Measurement Tests

a. Test Equipment and Materials.

(1) Resistor, Decade ZM-16/U.

(2) Ammeter ME-221/U.

b. Test Connecting and Conditions. Connect the ZM-16/U in series with the ME-221/U across C, D and B, G remote jacks on test set.

c. Procedure.

Step No.	Control settings		Test procedures	Performance standard
	Test equipment	Equipment under test		
1	Adjust ME-221/U to read required range.	FUNCTION switch: I_{CO}, I_R. RANGE switch: X 0.1.	Adjust ME–221/U until meter indicates 20 on I_{CES}, I_{CO}, I_R scale. Compare this reading with indication on the ME–221/U.	Test set meter and ME-221/U readings must coincide within ±3 percent of full-scale deflection for selected range.
2	Same.	Same.	Repeat step 1, except adjust ZM–16/U first to indicate 50, then 100 on I_{CES}, I_{CO}, I_R scale. Compare each reading with indication on ME–221/U.	Test set meter and ME-221/U readings must coinside within ±3 percent of full-scale deflection for selected range.
3	Same	RANGE switch: X 1.0.	Repeat step 2, except adjust ZM–16/U to indicate 100 on I_{CES}, I_{CO}, I_R scale. Compare reading to indication on ME–221/U.	Test set meter and ME-221/U readings must coincide within ±3 percent of full-scale deflection for selected range.
4	Same.	RANGE switch: X 10.	Repeat step 2, except adjust ZM–16/U to indicate 100 on I_{CES}, I_{CO}, I_R scale. Compare reading to indication on ME–221/U.	Test set meter and ME–221/U readings must coincide to within ±3 percent of full-scale deflection for selected range.

7–24. Diode Measurement Tests (in-Circuit)

a. Test Equipment and Materials.

(1) Four diodes of varying values, including silicon and germanium types.

(2) One 20-ohm l-percent.

b. Test Connections and Conditions. As indicated below.

c. Procedure.

Step No.	Control settings		Test Procedures	Performance standard
	Test Equipment	Equipment under test		
	N/A	FUNCTION switch: DIODE lN/CKT. RANGE switch: to setting appropriate for device. POLARITY switch: to setting appropriate for device.	Connect one diode in parallel with 20-ohm resistor across C, D, and E, S remote test jacks. Check deflection of meter on DIODE IN/CKT scale.	Meter must deflect above "BAD" position.
	N/A	Same.	Repeat step 1 using three remaining diodes in turn.	Meter must deflect above "BAD" position.

7-25. Test Set Safety Check

These safety checks determine if the power applied to the device under test is within limits that are safe for the device. Check power in all modes of operation described below.

NOTE

During all device safety checks, measure both ac and dc voltages. Voltages of less than 100 millivolts may be considered insignificant.

a. *Test Equipment and Materials.*

(1) Multi meter AN/USM-223.

(2) Resistor, Decade ZM-16/U.

b. Test Connections and Conditions. As indicated below.

c. *Procedure.*

Step No.	Control settings		Test procedures	Performance standard
	Test equipment	Equipment under test		
1	Multimeter: AC VOLTS and DC VOLTS.	FUNCTION switch: BETA. RANGE switch: X 0.1. POLARITY switch: PNP or NPN.	Measure voltage between B, G and E, S remote test jacks.	Record voltage across jacks in BETA mode.
2	ZM-16/U: 100 ohms.	Same.	Connect ZM-16/U across B, G and E, S remote test jacks. Check voltage across jacks.	If voltage is half or more than that measured in step 1, calculate power using formula: $P = \frac{V^2}{R}$. If voltage is less than half of that noted in step 1, increase setting of ZM-16/U until voltage is one-half that noted in step 1 and apply values in above formula to determine power. Total power shall not exceed 20 milliwatts.
3	Same.	RANGE switch: X 1.0 and X 10.	Repeat steps 1 and 2 in remaining two ranges.	Total power shall not exceed 20 milliwatts in any range.
4	Same.	Same.	Repeat steps 1 through 3 and check voltage across C, D and B, G remote test jacks, then across C, D and E, S jacks.	Total power shall not exceed 20 milliwatts in any range of any jack combination.
5	Multi meter: AC VOLTS and DC VOLTS.	FUNCTION switch: OHMS. POLARITY switch: E-B. RANGE switch: X 0.1. I_{CES} ZERO/OHMS ADJ: fully CW.	Measure voltage across B, G and E, S remote test jacks.	Voltage in OHMS function must be less than 100 millivolts.
6	Same.	Same except POLARITY switch: C-B.	Measure voltage across C, D and B, G remote test jacks.	Voltage must be less than 100 millivolts.
7	Same.	Same except POLARITY switch: E-C.	Measure voltage across C, D and E, S remote test jacks.	Voltage must be less than 100 millivolts.
8	Multi meter: AC VOLTS and DC VOLTS.	FUNCTION switch: FET. POLARITY switch: NPN or PNP. RANGE switch. X 0.1.	Measure voltage across B, G and E, S remote test jacks.	Record voltage across jacks in FET mode.
9	ZM-16/U as required.	Same.	Connect ZM-16/U B, G and E, S remote test jacks. Adjust ZM-16/U so that voltage is one-half that noted in step 8.	Determine power by applying formula given in step 2. Power must not exceed 20 milliwatts.

Step No.	Control settings		Test procedures	Performance standard
	Test equipment	Equipment under test		
10	Same.	Same.	Repeat steps 8 and 9 and determine power across C, D and E, S remote test jacks. Repeat across C, D and B, G jacks.	Power must not exceed 20 milliwatts across any jack combination.
11	Same.	Same except RANGE switch: first X 1.0, then X 10.	Repeat steps 8 through 10 to determine power in all ranges across all remote jack combinations.	Power must not exceed 20 milliwatts.
12	Multi meter: AC VOLTS and DC VOLTS.	FUNCTION switch: I_{CES} POLARITY switch: PNP or NPN. RANGE switch: X 0.1.	Check voltage across C, D and B, G remote test jacks, Adjust I_{CES} ZERO/OHMS ADJ controls for maximum voltage.	Record voltage across jacks in I_{CES} mode.
13	ZM-16/U as required.	Same.	Connect ZM-16/U across C, D and B, G remote test jacks. Adjust resistance until voltage across jacks is one-half that indicated in step 12.	Use formula in step 2 to determine power. Power must not exceed 20 milliwatts.
14	Same.	Same except RANGE switch: first X 1.0, then X 10.	Repeat steps 12 and 13 to determine power across test jacks in the two remaining ranges.	Power must not exceed 20 milliwatts.
15	Multimeter: AC VOLTS and DC VOLTS.	FUNCTION switch: I_{CES}, I_R. POLARITY switch: PNP or NPN. RANGE switch: X 0.1.	Check voltage across C, D and B, G remote test jacks.	Record voltage across jacks in I_{CO}, I_R mode.
16	ZM-16/U as required.	Same.	Connect ZM-16/U across C, D and B, G remote test jacks. Adjust resistance until voltage across jacks is one-half that indicated in step 15.	Use formula in step 2 to determine power. Power must not exceed 20 milliwatts.
17	Same.	Same except RANGE switch: first X 1.0, then X 10.	Repeat steps 15 and 16 to determine power across test jacks in the two remaining ranges.	Power must not exceed 20 milliwatts.
18	Multi meter: AC VOLTS and DC VOLTS.	FUNCTION switch: DIODE IN/CKT. POLARITY switch: PNP or NPN. RANGE switch: X 0.1.	Check voltage across C, D and B, G remote test jacks.	Record voltage across jacks in DIODE IN/CKT mode.
19	ZM-16/U as required.	Same.	Connect ZM-16/U across C, D and B, G remote test jacks. Adjust resistance until voltage across jacks is one-half that indicated in step 18.	Use formula in step 2 to determine power. Power must not exceed .20 milliwatts.
20	Same.	Same except RANGE switch: first X 1.0, then X 10.	Repeat steps 18 and 19 to determine power across test jacks in the two remaining ranges.	Power must not exceed 20 milliwatts.

APPENDIX A

REFERENCES

Following is a list of applicable publications available to the operator and maintenance personnel of the TS-1836D/U:

DA Pam 25-30	Consolidated Index of Army Publications and Blank Forms.
TM 11-5102	Resistors, Decade ZM-16/U, ZM-16A/U, ZM-16B/U.
TM 11-6625-654-14	Operator's, Organizational, Direct Support and General Support Maintenance Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts and Special Tools List) for Multimeter AN/USM-223.
DA Pam 750-8	The Army Maintenance Management System (TAMMS) Users Manual.
TM 750-244-2	Procedures for Destruction of Electronics Materiel to Prevent Enemy Use (Electronics Command).

APPENDIX C

MAINTENANCE ALLOCATION

Section I. INTRODUCTION

C-1. General

This appendix provides a summary of the maintenance operations for the TS–1836D/U. It authorizes categories of maintenance for specific maintenance functions on repairable items and components and the tools and equipment required to perform each function. This appendix may be used as an aid in planning maintenance operations.

C-2. Maintenance Function

Maintenance functions will be limited to and defined as follows:

a. *Inspect.* To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination.

b. Test. To verify serviceability and to detect incipient failure by measuring the mechanical or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. *Service.* Operations required periodically to keep an item in proper operating condition; i.e., to clean, preserve, drain, paint, or to replenish fuel/ lubricants/hydraulic fluids or compressed air supplies.

d. Adjust. Maintain within prescribed limits by bringing into proper or exact position, or by setting the operating characteristics to the specified parameters.

e. Align. To adjust specified variable elements of an item to about optimum or desired performance.

f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test measuring and diagnostic equipment used in precision measurement. Consists of the comparison of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. Install. The act of emplacing, seating, or fixing into position an item, part, module (component or assembly) in a manner to allow the proper functioning of the equipment/system.

h. Replace. The act of substituting a serviceable like-type part, subassembly, model (component or assembly) for an unserviceable counterpart.

i. Repair. The application of maintenance services (inspect, test, service, adjust, align, calibrate, replace) or other maintenance actions (welding, grinding, riveting, straightening, facing, remachining, or resurfacing) to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in part, subassembly, module/component/assembly, end item or system.

j. Overhaul. That periodic maintenance effort (service/action) necessary to restore an item to a completely serviceable/ope rational condition as prescribed by maintenance standards (e.g., DWR) in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like-new condition.

k. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like-new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours, miles, etc.) considered in classifying Army equipment/components.

C-3. Column Entries

a. Column 1, Group Number. Column 1 lists group numbers, the purpose of which is to identify components, assemblies, subassemblies and modules with the next higher assembly.

b. Column 2, Component/Assembly. Column 2 contains the noun names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. Column 3, Maintenance Functions. Column 3 lists the functions to be performend on the item listed in column 2.

d. Column 4, Maintenance Category. Column 4 specifies, by the listing of a "worktime" figure in the appropriate subcolumn(s), the lowest level of maintenance authorized to perform the function listed in column 3. This figure represents the active time required to perform that maintenance function at the indicated category of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance categories, appropriate "worktime" figures will be shown for each category. The number of man-hours specified by the "worktime" figure represents the average time required to restore an item (assembly, subassembly, component, module, end item or system) to a serviceable condition under typical field operating conditions. This time includes preparation time, troubleshooting time and quality assurance/quality control time in additional to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. Subcolumns of column 4 are as follows:

C-Operator/Crew
O-Organizational
F—Direct Support
H—General Support
D-Depot

e. Column 5, Tools and Equipment. Column 5 specifies by code, those common tool sets (not individual tools) and special tools, test, and support equipment required to perform the designated function.

C-4. Tool and Test Equipment Requirements (Table 1)

a. Tool or Test Equipment Reference Code. The numbers in this column coincide with the numbers used in the tools and equipment column of the MAC. The numbers indicate the applicable tool or test equipment for the maintenance functions.

b. Maintenance Category. The codes in this column indicate the maintenance category allocated the tool or test equipment.

c. Nomenclature. This column lists the noun name and nomenclature of the tools and test equipment required to perform the maintenance functions.

d. National/NATO Stock Number. This column lists the National/NATO Stock number of the specific tool or test equipment.

e. Tool Number. This column lists the manufacturer's part number of the tool followed by the Federal Supply Code for manufacturers (5-digit) in parentheses.

SECTION II MAINTENANCE ALLOCATION CHART FOR

TEST SET, TRANSISTOR TS-1836D/U

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT
			C	O	F	H	D	
00	TEST SET, TRANSISTOR TS-1836D/U	Inspect [1]		0.5				
		Inspect [2]		1.0				
		Service [2]		0.5				
		Test		0.5				
		Test				2.0		1 thru 6
		Calibrate				1.0		
		Repair				2.0		1 thru 6
		Overhaul					2.0	1 thru 6

(1) Visual
(2) Cleaning and preventative maintenance
(3) Batteries

TABLE 1. TOOL AND TEST EQUIPMENT REQUIREMENTS
FOR

TEST SET, TRANSISTOR TS-1836D/U

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/NATO STOCK NUMBER	TOOL NUMBER
1	H, D	MULTIMETER AW/USM-223	6625-00-999-7465	
2	H,D	AMMETER ME-221/U	6625-00-892-5863	
3	H,D	RESISTOR, DECADE ZM-16/U	6625-00-669-0266	
4	H,D	OSCILLOSCOPE AN/USM-281C	6625-00-228-2201	
5	H,D	TOOL KIT, ELECTRONIC EQUIPMENT TK-1OOG	5180-03-605-0079	
6	H,D	ACCESSORIES :		
		TRANSISTORS BI -POLAR, 3 EACH INCLUDING 1 PNP, 1 NPN, 1 BETA 1 TO 100, 1 BETA 100-1000, 1 BETA 1000-10000		
		FIELD EFFECT TRANSISTORS (FET) 3 EACH INCLUDING 1 N-CHANEL , 1 P-CHANNEL, 1 WITH GM0-250, 1 GM 250-2500, 1 GM 2500-25000		
		RESISTORS, 1% TOLERANCE: 100 OHM (1 ea) 20 OHM (1 ea) 500 OHM (1 ea) 4000 OHM (1 ea)		
		DIODES : SILICON AND GERMANIUM TYPE 4 EACH		

APPENDIX D

TEST DATA

Section I. INTRODUCTION

D-1. General

a. This appendix provides test data for the transistors and other semiconductor devices which can be tested by Test Set, Transistor TS-1836D/U. By comparing test results achieved during semiconductor tests with those contained in this appendix, the condition of the device under test can be ascertained.

b. The data presented in this appendix was gathered from manufacturers and specification sheets. The characteristics measured are as follows:

(1) *Bi-polar transistor.*

(a) Beta is given as a minimum value unless otherwise specified.

(b) Leakage (I_{CO}, I_{CES}) is given as a maximum value and is in microampere unless otherwise specified.

(2) *Field effect transistors.* Transconductance (G_M) is given as a minimum value and is in micromhos.

(3) *Diodes and rectifiers.* Reverse leakage (I_R) in or out of circuit is given as a maximum value and is in microampere unless otherwise specified.

D-2. Bi-Polar Transistor Data

a. Section II presents data on bi-polar transistors. Two of the most important parameters for testing transistors either in or out of circuit are leakage and beta. Minimum values of beta and maximum values of leakage are presented as an aid in determining faulty transistors and transistors that have started to degrade. In some instances, however, transistors are designed for a specific application and some manufacturers deem it more advisable to specify a maximum value of beta. These devices have the letter (A) after their numerical value. Some manufacturers also prefer to specify a typical minimum value. These devices have the letter (B) after their numerical value. The bell curve used in semiconductor manufacturing shows that 97.5 percent of these devices will be greater than the absolute minimum. There is still a third class of devices that do not specify beta at all, such as unijunction devices, avalanche transistors, and double base diodes. These devices, along with negative resistance devices, are listed for reference only and are denoted by the letter C in the BETA column.

b. A number of devices registered with JEDEC have been discontinued. These devices may still be in use in earlier designed equipment, and they therefore are included in this appendix.

c. The TS-1836D/U measures small signal beta at a collector current of 1 mA. Beta values in this appendix represent manufacturer and military specifications adjusted to this 1-mA bias condition. This test condition was chosen to yield maximum information on the greatest number of transistors possible without unduly complicating the operation of the test set.

d. The TS-1836D/U measures $I_{CO)}$ and I_{CES} as the leakage parameter. I_{CO}, measured out of circuit, is measured at 6 volts; I_{CES} is measured in circuit, at a lower voltage; and both I_{CES} and I_{co} maximum values are given in the same column. Manufacturers specify I_{co} at various potentials; however, a plot of collector current vs collector voltage of a reversed biased collector-to-base junction with a negligible amount of leakage current yields a graph which rises to some current rather quickly and then remains constant with increasing voltage until the breakdown voltage of the junction is reached. A leakage component across the junction modifies this curve in an amount depending, of course, on the amount of leakage present across the junction. Six volts was chosen as a figure that would give maximum information on the largest quantity of transistors and diodes.

e. Since the leakage component modifies the I_{CO} curve by the amount of leakage across the junction, it is possible to have a collector-to-base junction that is shorted or one that may have an extremely high resistive component appear to

have a very low leakage on the I_{CES} in-circuit test. These devices, however, will either be rejected by the beta test, or they will show up as having abnormally low resistive loadings.

f. The last column in section II of this appendix gives a drawing number for each transistor. Refer to this drawing in section V of this appendix when connecting the test leads to the transistor under test.

D-3. Field Effect Transistor (FET) Data

a. Section III of this appendix presents data on field effect transistors. One of the most important parameters of field effect transistors is transconductance. The transconductance (G_M) is presented in micromhos (µmhos).

b. Field effect transistors are measured for transconductance while being driven from a voltage-limited 10 mA current source. This choice of bias conditions insures that the TS–1836D/U will not damage the device under test but, at the same time, will cause the observed G_M to differ from manufacturers' published values in proportion to the amount by which I_{DSS} exceeds 10 mA. The transconductance data in this appendix has been adjusted to reflect these test conditions. When no transconductance value is listed, the manufacturer does not specify a transconductance and a qualitative test only should be made.

NOTE

When testing N-channel field effect transistors, use the NPN position on the POLARITY switch. For P-channel devices, use PNP.

CAUTION

Insulated gate field effect transistors, denoted by the letter (I) before the channel designation, are prone, to destruction through accumulation of static charge on the gate. Permanent damage may result if the gate voltage rating is exceeded for an extremely short time period. All personnel and equipment, including soldering irons, should be grounded when working with this type of device. When testing insulated gate field effect transistors, use POLARITY switch setting reversed from the above procedure for ordinary FET.

D-4. Diodes and Rectifiers

Section IV of this appendix presents data on diodes and rectifiers. To provide maximum information, all JEDEC registered diodes and rectifiers have been listed; however, some of the devices listed, such as silicon-controlled rectifiers, microwave detectors, and light-detecting diodes, do not have reverse leakage as a specified parameter. These devices are marked with a letter (a).

D-5. Transistor Basing Data

Section V of this appendix presents the transistor basing data. When connecting the test leads on the test set to a transistor or other device under test, consult the proper drawing number to identify the emitter, base, and collector leads or other terminals of the device.

Section II. BI-POLAR TRANSISTOR DATA

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N34	50	25	PNP	T022-A
2N34A		20	PNP	A101-A
2N35	50	25	NPN	T022-A
2N36		15	PNP	A101-A
2N37		10	PNP	A101-A
2N38		5	PNP	A101-A
2N43	16	14	PNP	A104-A
2N43A	7.0	42	PNP	A104-A
JAN2N43A	16	66(A)	PNP	A104-A
2N44	16	8	PNP	A104-A
2N44A	8.0	10	PNP	A104-A
JAN2N44A	16	38(A)	PNP	A104-A
2N45	10	5	PNP	T029-A
2N45A	15	15	PNP	T05-A
2N59	15	30	PNP	T05-A
2N59A	15	30	PNP	T05-A
2N59B	15	30	PNP	T05-A
2N59C	15	30	PNP	T05-A
2N60	15	33	PNP	T05-A
2N60A	15	33	PNP	T05-A
2N60B	15	33	PNP	T05-A
2N60C	15	33	PNP	T05-A
2N61	15	15	PNP	T05-A
2N61A	15	15	PNP	T05-A
2N61B	15	15	PNP	T05-A
2N61C	15	15	PNP	T05-A
2NG3	20	8	PNP	A101-A
2N64	20	15	PNP	A101-A
2N65	10	25	PNP	A101-A
2N68/13		15(B)	PNP	T013-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N77	10	18	PNP	T01-A
2N78	3.0	20	NPN	A101-A
2N78A	3.0	20	NPN	A101-A
JAN2N78A	15	45	NPN	A102-A
2N94	50	16	NPN	T022-F
2N94A	50	7	NPN	T022-F
2N97	2.0	5	NPN	T05-A
2N98	2.0	13	NPN	A101-A
2N99	2.0	13	PNP	A101-A
2N101/13	5.0	11(B)	PNP	T013-B
2N102/13	2.0	11(B)	NPN	T013-B
2N103	50	4	NPN	A101-A
2N104	10	15	PNP	T040-A
2N105	5.0	18	PNP	T02-A
2N106		15	PNP	A101-A
2N107	10	6	PNP	A105-A
2N108			PNP	A106-A
2N109	7.0	65	PNP	T040-A
2N111		8	PNP	A101-A
2N111A		8	PNP	A101-A
2N112		10	PNP	A101-A
2N112A		10	PNP	A101-A
2N113		15	PNP	A101-A
2N114		25	PNP	A101-A
2N117	2.0	5	NPN	A101-A
JAN2N117	10	90	NPN	A101-A
2N118	2.0	10	NPN	A101-A
JAN2N118	1.0	18	NPN	A101-A
2N118A	2.0	90(A)	NPN	A101-A
2N119	2.0	21	NPN	A101-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
JAN2N119	1.0	38	NPN	A101-A
2N120	2.0	67	NPN	A101-A
2N122	.10	3(B)	NPN	A131-A
2N123	6 .0	25	PNP	A104-A
2N124	2.0	6	NPN	A101-A
2N125	2.0	12	NPN	A101-A
2N126	2.0	7	NPN	A101-A
2N128	3.0	19	PNP	T024F
JAN2N128	15	6	PNP	T024-F
2N130	12	8	PNP	T05-A
2N130A	15	9	PNP	A102-A
2N131	12	17	PNP	T05-A
2N131A	15	15	PNP	A102-A
2N132	12	30	PNP	T05-A
2N132A	15	30	PNP	A102-A
2N133	12	27	PNP	T05-A
2N133A	15	27	PNP	A102-A
2N135	5.0	7.0	PNP	A105-A
2N136	5.0	13	PNP	A105-A
2N137	5.0	20	PNP	A105-A
2N138	20	15	PNP	T022-A
2N139	10	48(A)	PNP	T040-A
2N140	10	75	PNP	T040-A
2N141/13	2000	25(B)	PNP	T013-B
2N142/13	2000	11(B)	NPN	T013-B
2N143/13	2000	11(B)	PNP	T013-B
2N144/13	6000	4.0	NPN	T013-B
2N145	3.0		NPN	A101-A
2N146	3.0		NPN	A101-A
2N147	3.0		NPN	A101-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} / I_{CES}	BETA	PNP NPN	DWG. NO.
2N155	1000	32(B)	PNP	T03-C
2N156	1000	25(B)	PNP	T013-F
2N158	1000	21(B)	PNP	T013-F
JAN2N158	1000	12(B)	PNP	T013-F
2N158A	1000	21(B)	PNP	T013-F
2N160	10	5	NPN	A101-A
2N160A	10	5	NPN	A101-A
2N161	10	10	NPN	A101-A
2N161A	10	10	NPN	A101-A
2N162	10	9	NPN	T022-F
2N162A	10	9	NPN	T022-F
2N163	10	26	NPN	A101-A
2N163A	10	26	NPN	A101-A
2N164	5.0	80(A)	NPN	T05-A
2N164A	5.0	80(A)	NPN	A108-A
2N165	5.0	27	NPN	T05-A
2N166	5.0	10	NPN	T05-A
2N167	1.5	12	NPN	A101-A
2N167A	1.5	10	NPN	A101-A
JAN2N167A	1.5	17	NPN	A101-A
2N168A	5.0	13	NPN	A101-A
2N169	5.0	27	NPN	A101-A
2N169A	5.0	16	NPN	A101-A
2N170	3.0	7	NPN	A101-A
2N172	3.0		NPN	A101-A
2N173	4000	35(B)	PNP	T036-C
2N174	4000	25(B)	PNP	T036-C
JAN2N174A	15ma	40(B)	PNP	T06-A
2N174A	8000	40(B)	PNP	T036-C
2N175	12	22	PNP	T040-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N176	3.0	8	PNP	T03-C
2N178	3.0	15(B)	PNP	T03-C
2N180	10	20	PNP	A108-A
2N181	10	20	PNP	A108-A
2N182		8	NPN	A108-A
2N183		13	NPN	A108-A
2N184		20	NPN	A108-A
2N185	14	27	PNP	T022-F
2N186	16	8	PNP	A104-A
2N186A	16	8	PNP	A104-A
2N187	16	12	PNP	A104-A
2N187A	16	12	PNP	A104-A
2N188	16	18	PNP	A104-A
2N188A	16	18	PNP	A104-A
2N189	16	11	PNP	A104-A
2N190	16	14	PNP	A104-A
2N191	16	22	PNP	A104-A
2N192	16	30	PNP	A104-A
2N193	50	3	NPN	T022-A
2N194	25	3	NPN	T022-F
2N194A	50	3	NPN	T022-F
2N206	10	16	PNP	TO1-A
2N207	15	33	PNP	T05-A
2N207A	10	33	PNP	T05-A
2N207B	10	33	PNP	T05-A
2N211	20	5.0	NPN	T022-F
2N212	50	7	NPN	T022-F
2N213	50	27	NPN	T022-F
2N213A	50	62	NPN	T022-F
2N214	50	25	NPN	T022-F

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N214A	50	33	NPN	T05-A
2N215	10	15	PNP	T01-A
2N216	50	3	NPN	T022-F
2N217	14	25	PNP	T01-A
2N218	10	48(A)	PNP	T01-A
2N219	10	75	PNP	T044-A
2N220	12	32	PNP	T01-A
JAN2N220	12	40	PNP	T01-A
2N223	20	36	PNP	T025-A
2N224	25	30	PNP	T025-A
2N225	25	30	PNP	T025-A
2N226	25	20	PNP	T025-A
2N227	25	30	PNP	T025-A
2N228	100	26	NPN	T022-F
2N229	100	25	NPN	T022-F
2N231	6.0	19	PNP	T024-F
2N232	6.0	8	PNP	T024-F
2N233	50	3.5	NPN	T022-F
2N233A	50	5	NPN	T022-F
2N234A	1000	25(B)	PNP	T03-C
2N235A	1000	40(B)	PNP	T03-C
2N235B	1000	60 (B)	PNP	T03-C
2N236A	1000	40(B)	PNP	T03-C
2N236B	1000	60 (B)	PNP	T03-C
2N237	10	27	PNP	T03-C
2N238	20	15	PNP	T022-F
2N240	3.0	10	PNP	T024-F
JAN2N240	10	11	PNP	T024-F
2N241	16	24	PNP	A104-A
2N241A	16	24	PNP	A104-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N242	5.0		PNP	T03-A
2N243	1.0	6	NPN	A103-A
2N244	1.0	25	NPN	A103-A
2N247/33	12	20	PNP	T033-G
2N249	25	17	PNP	T05-A
2N250	1000	32(B)	PNP	T03-C
2N250A	500	25(B)	PNP	T03-C
2N251	2000	30(B)	PNP	T03-C
2N251A	500	25(A)	PNP	T03-C
2N252			PNP	A101-A
2N253	3.0	30	NPN	A101-A
2N254	3.0	30	NPN	A101-A
2N255	1000	30	PNP	T03-C
2N255A	500	30(B)	PNP	T03-C
2N256	1000	30(B)	PNP	T03-C
2N256A	500	30(B)	PNP	T03-C
2N257	2000	40(B)	PNP	T03-C
2N257B	5000	50(B)	PNP	T03-C
2N257G	5000	40(B)	PNP	T03-C
2N257W	5000	60(B)	PNP	T03-C
2N263	1.0	30	NPN	A101-A
2N264	1.0	20	NPN	A101-A
2N265	16	38	PNP	A104-A
2N268	2000	40(B)	PNP	T03-C
2N268A	2000	20(B)	PNP	T03-C
2N269	20	13	PNP	T01-A
2N270	16	23	PNP	A105-A
2N271		15	PNP	A101-A
2N271A		15	PNP	A101-A
2N272	10	27	PNP	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N273	10	7	PNP	T05-A
2N274	8.0	20	PNP	T044-A
USA2N274	8.0	20	PNP	T044-A
2N277	8000	35(B)	PNP	T036-C
2N278	4000	35(B)	PNP	T036-C
2N279	12	10	PNP	A109-A
2N280	12	16	PNP	A109-A
2N281	10	23	PNP	A108-A
2N282	10	23	PNP	A108-A
2N283	4.5	13	PNP	A108-A
2N284	12	10	PNP	A108-A
2N284A	12	16	PNP	A108-A
2N285A	1000	150(B)	PNP	T03-C
2N285B	1000	150(B)	PNP	T03-C
2N291	25	15	PNP	A101-A
2N292	5.0	8	NPN	A101-A
2N292A	5.0	27	NPN	T05-A
2N293	5.0	8	NPN	A101-A
2N296	1000	20(B)	PNP	T03-C
2N297	5000	12(A)	PNP	T03-C
2N297A	3000	40(B)	PNP	T03-C
JAN2N297A	3.0	40 (B)	PNP	T03-C
USA2N300	3.0	3	PNP	T024-F
2N301	3.0	70(A)	PNP	T03-C
2N301A	3.0	70(A)	PNP	T03-C
2N302	1.0	15	PNP	A101-A
2N303	1.0		PNP	T022-F
2N306	50	25	NPN	T022-F
2N307	5.0	20(B)	PNP	T03-C
2N307A	2.0	30(B)	PNP	T03-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N308	10		PNP	A101-A
2N309	10		PNP	A101-A
2N310	10		PNP	A101-A
2N311	60	18	PNP	T05-A
2N312	60	18	NPN	T05-A
2N315	25	6	PNP	T05-A
2N315A	25	13	PNP	T05-A
2N315B	2.0	23	PNP	T05-A
2N316	25	10	PNP	T05-A
2N316A	25	12	PNP	T05-A
2N317	2.0	13	PNP	T05-A
2N317A	25	13	PNP	T05-A
2N319	16	11	PNP	T05-A
2N320	16	18	PNP	T05-A
2N321	16	26	PNP	T05-A
2N322	16	34	PNP	T05-A
2N323	16	53	PNP	T05-A
2N324	16	72	PNP	T05-A
JAN2N325	500	15(B)	PNP	T03-A
2N326	300	15(B)	NPN	T03-A
JAN2N326	500	15(B)	NPN	T03-A
2N327A	.10	5	PNP	T05-A
2N327B	.001	4	PNP	T05-A
2N328A	.10	10	PNP	T05-A
JAN2N328A	1.0	18	PNP	T05-A
2N328B	.001	9	PNP	T05-A
2N329A	.10	20	PNP	T05-A
JAN2N329A	1.0	36	PNP	T05-A
2N329B	.001	20	PNP	T05-A
2N330A	1.0	8	PNP	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N331	16	5	PNP	T09-A
JAN2N331	10	30	PNP	T05-A
2N332	2.0	5	NPN	T05-A
2N332A	.50	5	NPN	T05-A
2N333	2.0	9	NPN	T05-A
JAN2N333	.50	44(A)	NPN	T05-A
2N333A	.50	10	NPN	T05-A
JAN2N333A	.50	44(A)	NPN	T05-A
2N334	2.0	28	NPN	T05-A
2N334A	.50	12	NPN	T05-A
2N335	2.0	21	NPN	T05-A
JAN2N335	.50	90(A)	NPN	T05-A
2N335A	.50	17	NPN	T05-A
JAN2N335A	.50	90(A)	NPN	T05-A
2N335B	.50	17	NPN	T05-A
2N336	2.0	66	NPN	T05-A
JAN2N336	.50	270(A)	NPN	T05-A
2N336A	.50	31	NPN	T05-A
JAN2N336A	.50	270 (A)	NPN	T05-A
2N337	1.0	7	NPN	T05-A
JAN2N337	1.0	7	NPN	T05-A
2N337A	50	18	NPN	T05-A
JAN2N337L		5.0	NPN	T05-A
2N338	1.0	8	NPN	T05-A
JAN2N338	1.0	40	NPN	T05-A
2N338A	.50	33	NPN	T05-A
2N339	1.0	16	NPN	T011-A
2N339A	1.0	17	NPN	T011-A
2N340	1.0	16	NPN	T011-A
2N340A	1.0	17	NPN	T011-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N341	1.0	16	NPN	T011-A
JAN2N341	50	15	NPN	T011-A
2N341A	10.0	17	NPN	T011-A
2N342	1.0	6	NPN	T011-A
JAN2N342	1.0	9.0	NPN	T011-A
2N342A	1.0	6	NPN	T011-A
JAN2N342A	1.0	9.0	NPN	T011-A
2N342B	1.0	7	NPN	T011-A
2N343	1.0	16	NPN	T011-A
JAN2N343	1.0	28	NPN	T011-A
2N343A	1.0		NPN	T011-A
2N343B	1.0	19	NPN	T011-A
2N344	3.0	7	PNP	T024-F
2N345	3.0	22	PNP	T024-F
2N346	3.0	10	PNP	T024-F
2N350	3000	20 (B)	PNP	T03-C
2N350A	3000	20(B)	PNP	T03-C
2N351	3000	25(B)	PNP	T03-C
2N351A	3000	25(B)	PNP	T03-C
2N356	5.0	20	NPN	T05-A
2N356A	5.0	20	NPN	T05-A
2N357	25	10	NPN	T05-A
2N357A	5.0	25	NPN	T05-A
2N358	25	10	NPN	T05-A
2N358A	5.0	25	NPN	T05-A
JAN2N358A	25	25	NPN	T05-A
2N359	15	66	PNP	T05-A
2N360	15	33	PNP	T05-A
2N361	15	16	PNP	T05-A
2N362	15	30	PNP	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N363	15	16	PNP	T05-A
2N364	10	5	NPN	A101-A
2N365	10	11	NPN	A101-A
2N366	10	31	NPN	A101-A
2N367	15	6	PNP	T09-A
2N368	15	49(A)	PNP	T05-A
2N369		31	PNP	A101-A
2N370	20	20	PNP	T07-H
2N371	20	20	PNP	T07-H
2N371/33	10	32	PNP	T033-G
2N372	20	20	PNP	T07-H
2N372/33	10	32	PNP	T033-G
2N373	8.0	20	PNP	T07-A
2N374	8.0	20	PNP	T07-A
2N375	3000	35(B)	PNP	T03-C
2N376	3000	35(B)	PNP	T03-C
2N376A	3000	35(B)	PNP	T03-C
2N377	10	13	NPN	T05-A
2N377A	20	20	NPN	T05-A
2N378	500	15(B)	PNP	T03-C
2N379	500	20 (B)	PNP	T03-C
2N380	500	30(B)	PNP	T03-C
2N381	10	20	PNP	T05-A
2N382	10	30	PNP	T05-A
2N383	10	38	PNP	T05-A
2N384	12	20	PNP	T044-A
JAN2N384	50	20	PNP	T044-A
2N384/33	50	20	PNP	T033-A
2N385	10	20	NPN	T05-A
2N385A	40	26	NPN	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N388	10	50	NPN	T05-A
JAN2N388	10	60	NPN	T05-A
2N388A	40	60	NPN	T05-A
2N389	10ma	12(B)	NPN	T053-A
JAN2N389	10ma	15(B)	NPN	T053-A
2N389A	10ma	12(B)	NPN	A101-A
2N392	8.0	200(A)	PNP	T03-C
2N393	5.0	51	PNP	T024-F
JAN2N393	5.0	40	PNP	T024-F
2N394	100	23	PNP	T05-A
2N394A	6.0	23	PNP	T05-A
2N395	6.0	28	PNP	T05-A
2N396	6.0	30	PNP	T05-A
2N396A	100	30	PNP	T05-A
JAN2N396A	100	30	PNP	T05-A
2N397	6.0	31	PNP	T05-A
2N398	14	20	PNP	T05-A
JAN2N398A	14	20	PNP	T05-A
2N398A	50	21	PNP	T05-A
2N398B	6.0	20	PNP	T05-A
2N399	1000	40(B)	PNP	T03-C
2N400	2000	50(B)	PNP	T03-C
2N401	1000	40(B)	PNP	T03-C
2N402	15	8	PNP	T05-A
2N403	15	11	PNP	T05-A
2N404	20	13	PNP	T05-A
JAN2N404	5.0	30	PNP	T05-A
2N404A	5.0	33	PNP	T05-A
JAN2N404A	5.0	30(B)	PNP	T05-A
2N405	14	11	PNP	T044-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N406	14	11	PNP	T01-A
2N407	14	21	PNP	T040-A
2N408	14	21	PNP	T01-A
2N409	10	16	PNP	T040-A
2N41O	10	16	PNP	T01-A
2N411	10	25	PNP	T040-A
2N412	10	25	PNP	T01-A
2N413	5.0	10	PNP	T05-A
2N413A		10	PNP	T05-A
2N414	5.0	20	PNP	T05-A
2N414A		20	PNP	T05-A
2N414B	6.0	20	PNP	T05-A
2N414C	6.0	20	PNP	T05-A
2N415	2.0	10	PNP	T05-A
2N415A		26	PNP	T05-A
2N416	5.0	26	PNP	T05-A
JAN2N416	25	45	PNP	T05-A
2N417	5.0	46	PNP	T05-A
JAN2N417	25	60	PNP	T05-A
2N418	1500	40(B)	PNP	T03-C
2N419	1000	9(B)	PNP	T03-C
2N420	1500	40(B)	PNP	T03-C
2N420A	500	40(B)	PNP	T03-C
2N422	15	16	PNP	T05-A
JAN2N422	20	30	PNP	T053-A
2N424	10ma	12(B)	NPN	A101-A
JAN2N424	10ma	15(B)	NPN	T053-A
2N424A	10ma	12(B)	NPN	T053-A
2N425	4.0	10	PNP	T05-A
JAN2N425	3.0	20	PNP	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CES}	BETA	PNP NPN	DWG. NO.
2N426	4.0	13	PNP	T05-A
JAN2N426	3.0	30	PNP	T05-A
2N427	4.0	18	PNP	T05-A
JAN2N427	3.0	45	PNP	T05-A
2N428	4.0	26	PNP	T05-A
JAN2N428	25	60	PNP	T05-A
2N428A	4.0	20	PNP	T05-A
USAF2N432	2.0	6	NPN	T05-A
USAF2N433	2.0	15	NPN	T05-A
2N438	6.0	8	NPN	T05-A
2N438A	10	8	NPN	T05-A
2N439	10	15	NPN	T05-A
2N439A	10	15	NPN	T05-A
2N440	10	13	NPN	T05-A
2N440A	10	23	NPN	T09-A
2N441	8000	20(B)	PNP	T036-C
2N442	4000	20(B)	PNP	T036-C
2N443	4000	20(B)	PNP	T036-C
2N444	25	5	NPN	T05-A
2N444A	4.0	15	NPN	T05-A
2N445	25	11	NPN	T05-A
2N445A	4.0	35	NPN	T05-A
2N446	25	20	NPN	T05-A
2N446A	4.0	60	NPN	T05-A
2N447	25	41	NPN	T05-A
2N447A	4.0	85	NPN	T05-A
2N447B	4.0	150	NPN	T05-A
2N448	5.0	8	NPN	A101-A
2N449	5.0	24	NPN	A102-A
2N450	6.0	43	PNP	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N456	2000	10(B)	PNP	T03-C
2N456A	2000	30(B)	PNP	T03-C
JAN2N456B	500	30(B)	PNP	T03-C
2N456B	500	30(B)	PNP	T03-C
2N457	2000	10(B)	PNP	T03-C
2N457A	2000	30(B)	PNP	T03-C
JAN2N457B	500	30(B)	PNP	T03-C
2N457B	500	30(B)	PNP	T03-C
2N458	2000	10(B)	PNP	T03-C
2N458A	2000	30(B)	PNP	T03-C
JAN2N458B	500	30(B)	PNP	T03-C
2N458B	500	30(B)	PNP	T03-C
2N459	500	20(B)	PNP	T03-C
2N459A	500	20(B)	PNP	T03-C
2N460	15	8	PNP	T05-A
2N461	15	16	PNP	T05-A
JAN2N461	10	30	PNP	T05-A
JAN2N463	300	20(B)	PNP	T05-A
2N464	15	8	PNP	T05-A
JAN2N464	20	14	PNP	T05-A
2N465	15	15	PNP	T05-A
JAN2N465	20	27	PNP	T05-A
2N466	15	30	PNP	T05-A
JAN2N466M	20	54	PNP	T05-A
2N467	15	60	PNP	T05-A
JAN2N467	20	36	PNP	T05-A
2N469	15	50(B)	PNP	T05-A
2N469A			PNP	T05-A
2N470	.50	10	NPN	T05-A
2N471	.50	10	NPN	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N471A	2.0	6	NPN	T05-A
2N472	.50	10	NPN	T05-A
2N472A	.50	6	NPN	T05-A
2N473	.50	10	NPN	T05-A
2N474	.50	20	NPN	T05-A
2N474A	.50	20	NPN	T05-A
2N475	.50	20	NPN	T05-A
2N475A	.50	11	NPN	T05-A
2N476	.50	30	NPN	T05-A
2N477	,50	30	NPN	T05-A
2N478	.50	40	NPN	T05-A
2N479	.50	40	NPN	T05-A
2N479A	.50	23	NPN	T05-A
2N480	.50	40	NPN	T05-A
2N480A	.50	80	NPN	T05-A
2N481	10	16	PNP	T05-A
2N482	10	16	PNP	T05-A
2N483	10	20	PNP	T05-A
2N484	10	30	PNP	T05-A
2N485	10	16	PNP	T05-A
2N486	10	33	PNP	T05-A
2N489		C		
2N489A		C		
JAN2N489A		C		
2N489B		C		
2N490A		C		
JAN2N490A		C		
2N490B		C		
2N490C		C		
2N491		C		

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N491A		C		
JAN2N491A		C		
2N491B		C		
2N492		C		
2N492A		C		
JAN2N492A		C		
2N492B		C		
2N492C		C		
2N493		C		
2N493A		C		
JAN2N493A		C		
2N493B		C		
2N494		C		
2N494A		C		
JAN2N494A		C		
2N494B		C		
2N494C		C		
2N495	.001	9	PNP	T01-A
2N495/18	1.0	5	PNP	T018-A
2N496	.10	9	PNP	T01-A
2N496/18		5	PNP	T018-A
2N497	10	12(B)	NPN	T05-A
JAN2N497	100	20	NPN	T05-A
2N497A	10	36(B)	NPN	T05-A
2N498	10	12(B)	NPN	T05-A
JAN2N498	100	10	NPN	T05-A
2N498A	10	12(B)	NPN	T05-A
2N499	100	3	PNP	T01-A
JAN2N499	100	3	PNP	T01-A
2N499A	5.0	20	PNP	T01-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
JAN2N499A	100	20	PNP	T01-A
2N500	5.0	20(B)	PNP	T09-A
2N501	100	23	PNP	T01-A
2N501/18	100	6	PNP	T018-A
2N501A	25	31	PNP	T01-A
JAN2N501A	25	30	PNP	T01-A
2N502	20	21	PNP	T09-A
2N502A	20	21	PNP	T09-A
JAN2N502A	10	15	PNP	T09-A
2N502B	5.0	20	NPN	T09-A
JAN2N502B	10	25	PNP	T09-A
2N503	100	15	PNP	T09-A
2N504	10	16	PNP	T01-A
2N505		13	PNP	T09-A
2N506	15	13	PNP	A101-A
2N507	15	25	NPN	T022-F
2N508	7.0	99	PNP	T05-A
2N508A	7.0	40	PNP	T05-A
2N511	15ma	20(B)	PNP	T03-A
2N511A	15ma	20(B)	PNP	T03-A
2N511B	15ma	20(B)	PNP	T03-A
2N512	15ma	20(B)	PNP	T03-A
2N512A	15ma	20(B)	PNP	T03-A
2N512B	15ma	20(B)	PNP	T03-A
2N513	15 ma	20(B)	PNP	T03-A
2N513A	15ma	20(B)	PNP	T03-A
2N513B	15ma	20(B)	PNP	T03-A
2N514	15ma	20(B)	PNP	T03-A
2N514A	15ma	20(B)	PNP	T03-A
2N514B	15ma	20(B)	PNP	T03-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{co} / I_{CES}	BETA	PNP NPN	DWG. NO.
2N515	50	3	NPN	T022-F
2N516	50	3	NPN	T022-F
2N517	50	3	NPN	T022-F
2N518	6.0	20	PNP	A104-A
2N519	2.0	8	PNP	T05-A
2N519A	25	11	PNP	T05-A
2N520	25	13	PNP	T05-A
2N520A	25	33	PNP	T05-A
2N521	25	3	PNP	T05-A
2N521A	25	50	PNP	T05-A
2N522	2.0	40	PNP	T05-A
2N522A	25	66	PNP	T05-A
2N523	2.0	66	PNP	T05-A
2N523A	25	83	PNP	T05-A
2N524	10	41(A)	PNP	T05-A
2N524A	10	41(A)	PNP	T05-A
2N525	10	64 (A)	PNP	T05-A
2N525A	10	64(A)	PNP	T05-A
2N526	10	88(A)	PNP	T05-A
JAN2N526	10	44	PNP	T05-A
2N526A	10	88(A)	PNP	T05-A
2N527	10	120(A)	PNP	T05-A
2N527A	10	120(A)	PNP	T05-A
USN2N528	.05	6	PNP	T038-A
2N529	25	6	PNP	T05-A
2N530	25	7	PNP	T05-A
2N531	25	8	PNP	T05-A
2N532	25	11	PNP	T05-A
2N533	25	12	PNP	T05-A
2N535	12	33	PNP	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N535A	12	33	PNP	T05-A
2N535B	12	33	PNP	T05-A
2N536	12	50	PNP	T05-A
JAN2N537	5.0	10	PNP	T029-A
2N538	2000	20(B)	PNP	T059-A
2N538A	2000	20(B)	PNP	T059-A
2N539	2000	30(B)	PNP	T059-A
JAN2N539	2000	30(B)	PNP	T059-A
2N539A	2000	20(B)	PNP	T059-A
JAN2N539AM	2000	30(B)	PNP	T059-A
JAN2N539M	2000	30(B)	PNP	T059-A
2N540	2000	45(B)	PNP	T059-A
2N540A	2000	45(B)	PNP	T059-A
2N541	.50	43	NPN	T05-A
2N542	.50	43	NPN	T05-A
2N542A	.50	80	NPN	T05-A
2N543	.50	43	NPN	T05-A
2N543A	.50	46	NPN	T05-A
2N544/33	16	32	PNP	T033-G
2N545	15	8	NPN	T05-A
JAN2N545	25	15	NPN	T05-A
2N546	15	8	NPN	T05-A
2N547	15	31	NPN	T05-A
2N548	15	4	NPN	T05-A
2N549	15	20	NPN	T05-A
2N550	15	20	NPN	T05-A
2N551	15	20	NPN	T05-A
2N552	15	20	NPN	T05-A
2N553	2000	40(B)	PNP	T03-A
2N554	10ma	50(B)	PNP	T03-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} / I_{CES}	BETA	PNP NPN	DWG. NO.
2N555	20ma	50(B)	PNP	T03-C
2N556		16	NPN	T05-A
2N557	10	10	NPN	T05-A
2N558	10	25	NPN	T05-A
JAN2N559(1)	3.0	25	PNP	T028-A
JAN2N559(2)	3.0	25	PNP	T028-A
JA.N2N559(3)	3.0	25	PNP	T028-A
2N560	.10	20	NPN	T029-A
JAN2N560	.10	20	NPN	T029-A
2N561	3.0	20(B)	PNP	T03-C
2N563	25	8	PNP	A104-A
2N564	25	8	PNP	T05-A
2N565	25	18	PNP	A104-A
2N566	25	18	PNP	T05-A
2N567	15	13	NPN	A104-A
2N568	25	33	PNP	T05-A
2N569	25	50	PNP	A104-A
2N570	25	50	PNP	T05-A
2N571	25	66	PNP	A104-A
2N572	25	66	PNP	T05-A
2N573	40	50	PNP	T05-A
2N574	7000	9.0(B)	PNP	T059-A
JAN2N574	7000	9.0(B)	PNP	T059-A
2N574A	20ma	9.0(B)	PNP	T059-A
2N575	7000	10(B)	PNP	T059-A
JAN2N575	7000	19(B)	PNP	T059-A
2N575A	20ma	10(B)	PNP	T059-A
JAN2N575A	20ma	19(B)	PNP	T059-A
2N576	10	10	NPN	T05-A
2N576A	40	10	NPN	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{co} I_{CES}	BETA	PNP NPN	DWG. NO.
2N578	20	5	PNP	T09-A
2N579	20	10	PNP	T09-A
2N580	20	15	PNP	T09-A
2N581	20	10	PNP	T05-A
2N582	20	20	PNP	T05-A
2N583	20	10	PNP	T01-A
2N584	20	20	PNP	T01-A
2N585	8.0	13	PNP	T09-A
2N586	16	18	PNP	A105-A
2N587	10	20	PNP	T05-A
2N588	15		PNP	T01-A
2N588A	15	10	PNP	T01-A
2N589	2000	20(B)	PNP	T03-C
2N591	7.0	23	PNP	T01-A
2N594			NPN	T05-A
2N595			NPN	T05-A
2N596			NPN	T05-A
2N597	25	40	PNP	T05-A
2N598	25	1.4	PNP	T05-A
JAN2N598	25	50	PNP	T05-A
2N599	25	75	PNP	T05-A
JAN2N599	25	75	PNP	T09-A
JAN2N600	25	50	PNP	T031-A
2N601	5.0	100	PNP	A134-A
2N602	8.0	20	PNP	T09-A
2N602A	5.0	80(A)	PNP	T09-A
2N603	8.0	30	PNP	T09-A
2N603A	5.0	21	PNP	T09-A
2N604	8.0	40	PNP	T09-A
JAN2N604M	8.0	40	PNP	T05-A

BI-POLAR TRANSISTOR DATA - Ccntinued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N604A	5.0	26	PNP	T09-A
2N609	25	30	PNP	T05-A
2N610	25	21	PNP	T05-A
2N611	15	15	PNP	T05-A
2N612	25	8	PNP	T05-A
2N613	25	11	PNP	T05-A
2N614	6.0	4.5	PNP	T05-A
2N615	6.0	7.5	PNP	T05-A
2N616	6.0	25	PNP	T05-A
2N617	6.0	5	PNP	T05-A
2N618	3000	60(B)	PNP	T03-C
2N624	30	6	PNP	T072-G
USA2N624	30	6	PNP	T072-G
2N627	20ma	10(B)	PNP	T03-C
2N628	20ma	10(B)	PNP	T03-C
2N629	20ma	10(B)	PNP	T03-C
2N630	20ma	10 (B)	PNP	T03-C
2N631	25	66	PNP	T05-A
2N632	25	40	PNP	T05-A
2N633	25	20	PNP	T05-A
2N634	15	15	NPN	T09-A
2N634A	6.0	55	NPN	T05-A
2N635	15	25	NPN	T09-A
2N635A	6.0	33	NPN	T05-A
2N636	15	35	NPN	T09-A
2N636A	6.0	63	NPN	T05-A
2N637	1000	30(B)	PNP	T03-C
2N637A	1000	30(B)	PNP	T03-C
2N637B	1000	30(B)	PNP	T03-C
2N638	1000	20(B)	PNP	T03-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N638A	1000	20 (B)	PNP	T03-C
2N638B	1000	20(B)	PNP	T03-C
2N639	1000	15(B)	PNP	T03-C
2N639A	5000	15(B)	PNP	T03-C
2N639B	5000	15(B)	PNP	T03-C
2N640	5.0	20	PNP	T07-A
2N641	7.0	20	PNP	T07-A
2N642	7.0	20	PNP	T07-A
2N643	10	15	PNP	T09-A
2N644	10	15	PNP	T09-A
2N645	10	15	PNP	T09-A
2N647	14	23	NPN	T01-A
2N647/22	14	23	NPN	T022-F
2N649	14	21	NPN	T01-A
2N649/22	14	21	NPN	T022-F
2N650	50	16	PNP	T05-A
2N650A	50	16	PNP	T05-A
JAN2N650A	50	30	PNP	T05-A
2N651	50	26	PNP	T05-A
2N651A	50	28	PNP	T05-A
JAN2N651A	50	50	PNP	T05-A
2N652	50	43	PNP	T05-A
2N652A	50	53	PNP	T05-A
JAN2N652A	50	100	PNP	T05-A
2N653	15	16	PNP	T05-A
2N654	15	26	PNP	T05-A
2N655	15	43	PNP	T05-A
2N656	10	30(B)	NPN	T05-A
JAN2N656	10	40	NPN	T05-A
2N656A	10	30(B)	NPN	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG NO.
2N657	10	30(B)	NPN	T05-A
JAN2N657	100	40	NPN	T05-A
2N657A	10	30(B)	NPN	T05-A
2N658	5.0	50	PNP	T05-A
2N659	5.0	70	PNP	T05-A
2N660	5.0	90	PNP	T05-A
2N661	5.0	120	PNP	T05-A
2N662	5.0	70	PNP	T05-A
2N663	12ma	25(B)	PNP	T03-C
2N665	2000	40(B)	PNP	T 03 -C
JAN2N665	10ma	40(B)	PNP	T03-C
2N6G9	3000	75(B)	PNP	T03-C
2N670	75	100	PNP	T05-A
2N672	100	30	PNP	T05-A
2N677	2.0	20(B)	PNP	T03-C
2N677A	2.0	20(B)	PNP	T03-C
2N677B	5.0	20(B)	PNP	T03-C
2N677C	5.0	20(B)	PNP	T03-C
2N678	2.0	50(B)	PNP	T03-C
2N678A	2.0	50(B)	PNP	T03-C
2N678B	2.0	50(B)	PNP	T03-C
2N678C	5.0	50(B)	PNP	T03-C
2N679	25	10	NPN	T05-A
2N680	14	11	PNP	A101-A
2N681		C		
JAN2N681		C		
2N681A		C		
2N682		C		
JAN2N682		C		
2N682A		C		

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N683		C		
JAN2N683		C		
2N683A		C		
2N684		C		
JAN2N684		C		
2N684A		C		
2N685		C		
JAN2N685		C		
2N685A		C		
2N686		C		
JAN2N686		C		
2N686A		C		
2N687		C		
JAN2N687		C		
2N687A		C		
2N688		C		
JAN2N688		C		
2N688A		C		
2N689		C		
JAN2N689		C		
2N689A		C		
2N690		C		
2N690A		C		
2N691		C		
2N692		C		
USA2N694	3.0	3	PNP	T028-A
2N695	3.0	13	PNP	T017-A
USN2N695	100	25	PNP	T017-A
2N696	1.0	6	NPN	T05-A
JAN2N696	100	20	NPN	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} / I_{CES}	BETA	PNP NPN	DWG. NO.
2N697	1.0	40	NPN	T05-A
JAN2N697	100	40	NPN	T05-A
2N697A	.10	25	NPN	T05-A
2N698	.005	15	NPN	T05-A
2N699	2.0	35	NPN	T05-A
2N699A	.50	35	NPN	T05-A
2N699B	.01	35	NPN	T05-A
2N700	2.0	3	PNP	T072-G
2N700A	100	4.0	PNP	T092-G
2N700A/18	100	4.0	PNP	T018-A
JAN2N700A	2.0	4.0	PNP	T072-G
2N700/18	2.0	3	PNP	T018-A
2N702	5.0	13	NPN	T018-A
JAN2N702	5.0	13	NPN	T018-A
2N703	5.0	26	NPN	T018-A
JAN2N703	.10	40	NPN	T018-A
2N705	100	13	PNP	T018-A
JAN2N705	100	8	PNP	T018-A
2N705A		13	PNP	T018-A
2N706	.05	20	NPN	T018-A
JAN2N706	.10	30	NPN	T018-A
2N7064	10	6	NPN	T018-A
2N706A/TPT	.05	6	NPN	A130-B
2N706A/46	10	6	NPN	T046-A
2N706A/51	10	6	NPN	T046-A
2N706B	10	13	NPN	T018-A
2N706B/46	10	13	NPN	T046-A
2N706B/51	10	13	NPN	T051-A
2N706C	1.0	20	NPN	T018-A
2N706C/46	1.0	6	NPN	T046-A

BI-POLAR TRANSISTOR DATA - **Continued**

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N706C/51	1.0	6	NPN	T051-A
2N706/KVT	.05	6	NPN	**A129-A**
2N706/46	.05	6	NPN	T046-A
2N706/TPT	.05	6	NPN	**A130-B**
2N707	5.0	4	NPN	**T018-A**
2N707A	10	10	NPN	**T018-A**
2N708	.025	10	NPN	**T018-A**
JAN2N708	.025	40	NPN	**T018-A**
2N708/46	.025	30	NPN	T046-A
2N708/51	.025	30	NPN	T046-A
2N708/TNT	.025	30	NPN	**A146-D**
2N708A	.01	40	NPN	**T018-A**
2N709	.05	55	NPN	**T018-A**
2N709/46	.05	55	NPN	T046-A
2N709/TNT	.05	55	NPN	**A146-D**
2N709A	.005	60	NPN	**T018-A**
2N710	100	40	PNP	**T018-A**
2N71OA	100	40	PNP	**T018-A**
2N711	3.0	30	PNP	**T018-A**
2N711A	1.5	25	PNP	**T018-A**
2N711B	1.5	30	PNP	**T018-A**
2N715	10	10	NPN	**T018-A**
2N716	10	3	NPN	**T018-A**
USA2N716	10	3	NPN	**T018-A**
2N717	1.0	20	NPN	**T018-A**
2N717A			NPN	**T018-A**
2N718	1.0	13	NPN	T018-A
2N718A	.01	13	NPN	**T018-A**
JAN2N718A	10	11	NPN	**T018-A**
2N719	2.0	20	NPN	**T018-A**

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} / I_{CES}	BETA	PNP NPN	DWG. NO.
2N719A	.01	20	NPN	T018-A
2N720	2.0	26	NPN	T018-A
JAN2N720A	10	76	NPN	T018-A
2N720A	.01	40	NPN	T018-A
2N721	1.0	15	PNP	T018-A
2N721A	.10	15	PNP	T018-A
2N722	1.0	25	PNP	T018-A
2N722A	.10	30	PNP	T018-A
2N725		6	PNP	T018-A
2N726	1.0	10	PNP	T018-A
2N727	1.0	20	PNP	T018-A
2N728	5.0	3	NPN	T018-A
2N729	5.0	3	NPN	T018-A
2N730	1.0	13	NPN	T018-A
2N731	1.0	26	NPN	T018-A
2N734	10	11	NPN	T018-A
2N735	1.0	40	NPN	T018-A
2N735A	.01	40	NPN	T018-A
2N736	10	80	NPN	T018-A
2N736A	.50	60	NPN	T018-A
2N736B	.005	80	NPN	T018-A
2N738	1.0	20	NPN	T018-A
2N739	1.0	40	NPN	T018-A
2N739A	.005	40	NPN	T018-A
2N740	10	20	NPN	T018-A
2N740A	.005	80	NPN	T018-A
2N741	3.0	8	PNP	T018-A
2N741A	3.0	8	PNP	T018-A
2N742	10	20	NPN	T018-A
2N742A	10	20	NPN	T018-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N743		13	NPN	T018-A
2N743A	1.0	20	NPN	T018-A
2N743/46		13	NPN	T046-A
2N743/51		13	NPN	T051-A
2N744	.35	26	NPN	T018-A
JAN2N744		40	NPN	T018-A
2N744A	1.0	40	NPN	T018-A
2N744/46		26	NPN	T046-A
2N744/51		26	NPN	T051-A
2N752	10	40	NPN	T018-A
2N753	10	26	NPN	T018-A
2N753/46	.50	13	NPN	T046-A
2N753/51	.50	13	NPN	T051-A
2N754	1.0	20	NPN	T018-A
2N755	1.0	20	NPN	T018-A
2N756	.20	6	NPN	T018-A
2N756A	.10	6	NPN	T018-A
2N757	.20	10	NPN	T018-A
2N757A	.10	9	NPN	T018-A
JAN2N757A	10	18	NPN	T018-A
2N758	.20	28	NPN	T018-A
2N758A	.10	28	NPN	T018-A
2N758B	.005	18	NPN	T018-A
2N759	.20	31	NPN	T018-A
2N759A	.10	31	NPN	T018-A
JAN2N759A	.01	1OO(A)	NPN	T018-A
2N759B	.005	36	NPN	T018-A
2N760	.20	68	NPN	T018-A
2N760A	.10	68	NPN	T018-A
JAN2N760A	10	76	NPN	T018-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N760B	.005	76	NPN	T018-A
2N761	.20	19	NPN	T018-A
2N762	.20	39	NPN	T018-A
2N764		C		
2N765		C		
2N766		C		
2N767		C		
2N768	10	13	PNP	T018-A
2N769	10	18	PNP	T018-A
2N779A	25	28	PNP	T018-A
2N780	.01	20	NPN	T018-A
2N781	3.0	8	PNP	T018-A
2N782	3.0	20	PNP	T018-A
2N783	.25	20	NPN	T018-A
2N784	.25	25	NPN	T018-A
2N784A	100	29	NPN	T018-A
2N784A/46	100	29	NPN	T046-A
2N784A/51	100	29	NPN	T051-A
2N794	3.0	16	PNP	T018-A
2N795	3.0	16	PNP	T018-A
2N796	3.0	25	PNP	T018-A
2N797	100	28	NPN	T018-A
2N827		100	PNP	T018-A
2N828	100	13	PNP	T018-A
2N828A	3.0	25	PNP	T018-A
2N829	3.0	50	PNP	T018-A
2N834	.50	13	NPN	T018-A
2N834A	.50	25	NPN	T018-A
2N834/46	.50	13	NPN	T046-A
2N834/51	.50	13	NPN	T051-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N835	.50	13	NPN	T018-A
2N835/46	.50	13	NPN	T046-A
2N835/51	.50	13	NPN	T051-A
2N837	3.0	10	PNP	T018-A
2N838		30	PNP	T018-A
2N839	1.0	20	NPN	T018-A
2N840	1.0	40	NPN	T018-A
2N841	1.0	80	NPN	T018-A
2N841/46	1.0	46	NPN	T046-A
2N841/51	1.0	46	PNP	T051-A
2N841/KVT	1.0	46	NPN	A129-A
2N841/TNT	1.0	46	NPN	A146-D
2N841/TPT	1.0	46	NPN	A130-B
2N842	1.0	20	NPN	T018-A
2N843	1.0	40	NPN	T018-A
2N844	1.0	26	NPN	T018-A
2N845	1.0	26	NPN	T018-A
2N846A	3.0	11	PNP	T018-A
2N849	10	13	NPN	T050-A
2N850	10	26	NPN	T050-A
2N851	10	13	NPN	T050-C
2N852	10	26	NPN	T050-C
USA2N852		20	NPN	T050-C
2N858	1.0	6	PNP	T018-A
2N859	1.0	11	PNP	T018-A
2N860	1.0	6	PNP	T018-A
2N861	1.0	11	PNP	T018-A
2N862	.01	6	PNP	T018-A
2N863	1.0	11	PNP	T018-A
2N864	.10	11	PNP	T018-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N865	.10	25	PNP	T018-A
2N869	.01	20	PNP	T018-A
2N869A	.01	13	PNP	T018-A
JAN2N869A	.01	40	PNP	T018-A
2N870	.01	30	NPN	T018-A
2N871	.01	50	NPN	T018-A
2N876		C		
2N877		C		
2N876		C		
2N879		C		
2N880		C		
2N881		C		
2N882		C		
2N883		C		
2N884		C		
2N884A		C		
2N885		C		
2N885A		C		
2N886		C		
2N886A		C		
2N887		C		
2N887A		C		
2N888		C		
2N888A		C		
2N889		C		
2N389A		C		
2N890		C		
2N891		C		
2N892		C		
2N893		C		

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N894		C		
2N895		C		
2N896		C		
2N897		C		
2N898		C		
2N899		C		
2N900		C		
2N901		C		
2N909	1.0	40	NPN	T018-A
2N910	.025	41	NPN	T018-A
JAN2N910	.025	80	NPN	T018-A
2N911	.025	36	NPN	T018-A
JAN2N911	.025	40	NPN	T018-A
2N912	.025	12	NPN	T018-A
JAN2N912	.025	20	NPN	T018-A
2N913	.05	25	NPN	T018-A
2N914	.025	18	NPN	T018-A
2N914/46	.025	10	NPN	T046-A
2N914-51	.025	10	NPN	T051-A
JAN2N914	.025	30	NPN	T018-A
2N915	.01	50	NPN	T018-A
2N915A	2.0ma	50	NPN	T018-A
2N916	.01	50	NPN	T018-A
JAN2N916	.01	40	NPN	T018-A
2N916A	.01	40	NPN	T018-A
2N917	.001	20	NPN	T072
2N917/46	.001	6	NPN	T046-A
2N917/51	.001	6	NPN	T051-A
2N918	.01	6	NPN	T072-G
JAN2N2918	.01	20	NPN	T072-G

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N918/46	.01	6	NPN	T046-A
2N918	.01	6	NPN	T072-G
2N919	10	4.0	NPN	T018-A
2N920	10	4.0	NPN	T018-A
2N921	10	4.0	NPN	T018-A
2N922	10	4.0	NPN	T018-A
2N923	50	7	PNP	T018-A
2N924	50	15	PNP	T018-A
2N925	50	5	PNP	T018-A
2N926	50	12	PNP	T018-A
2N927	50	5	PNP	T018-A
2N928	50	11	PNP	T018-A
2N929	10	60	NPN	T018-A
JAN2N929	.01	60	NPN	T018-A
USA2N929	10	20	NPN	T018-A
2N929A	.002	20	NPN	T018-A
2N929/51	10	20	NPN	T051-A
2N930	10	150	NPN	T018-A
JAN2N930	.01	150	NPN	T018-A
USA2N930	10	50	NPN	T018-A
2N930A	.002	50	NPN	T018-A
2N930B	10	150	NPN	T018-A
2N930A/46	2	50	NPN	T046-A
2N930A/51	2	50	NPN	T051-A
2N930/KVT	10	50	NPN	A129-A
2N930/TNT	.01	150	NPN	A146-A
2N930/TPT	10	50	NPN	A130-B
2N930/46	10	50	NPN	T046-A
2N930/51	10	50	NPN	T051-A
2N934	6.0	20	PNP	T018-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} / I_{CES}	BETA	PNP NPN	DWG. NO.
2N935	.10	4	PNP	T018-A
2N936	.10	9	PNP	T018-A
2N937	.10	20	PNP	T018-A
2N938	.025	5	PNP	T018-A
2N939	.025	10	PNP	T018-A
2N940	.025	20	PNP	T018-A
2N941	2.5	16	PNP	T018-A
2N942	2.5	16	PNP	T018-A
2N943		10	PNP	T018-A
2N944	6.0	10	PNP	T018-A
2N945		10	PNP	T018-A
2N946		10	PNP	T018-A
2N947	1.0	10	NPN	T018-A
2N948		C		
2N949		C		
2N950		C		
2N951		C		
2N955	5.0	20	NPN	T018-A
2N955A	5.0	16	NPN	T018-A
2N956	.01	50	NPN	T018-A
2N957	.10	45	NPN	T018-A
2N960	3.0	13	PNP	T018-A
2N960/46	3.0	13	PNP	T046-A
2N961	3.0	13	PNP	T018-A
2N961/46	3.0	13	PNP	T046-A
2N962	3.0	13	PNP	T018-A
JAN2N962	3.0	13	PNP	T018-A
2N962/46	3.0	13	PNP	T018-A
2N963	5.0	20	PNP	T018-A
2N964	3.0	23	PNP	T018-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} / I_{CES}	BETA	PNP NPN	DWG. NO.
JAN2N964	3.0	40	PNP	T018-A
2N964A	3.0	48	PNP	T018-A
2N964/46	3.0	23	PNP	T046-A
2N965	3.0	23	PNP	T018-A
2N966	3.0	23	PNP	T018-A
2N967	5.0	40	PNP	T018-A
2N968	3.0	20	PNP	T018-A
2N969	3.0	20	PNP	T018-A
2N970	3.0	20	PNP	T018-A
2N971	10	20	PNP	T018-A
2N972	3.0	40	PNP	T018-A
2N973	3.0	40	PNP	T018-A
2N974	3.0	40	PNP	T018-A
2N975	10	40	PNP	T018-A
2N976	3.0	30	PNP	T018-A
2N978	5.0	12	PNP	T018-A
2N979	3.0	16	PNP	T018-A
2N980	5.0	16	PNP	T018-A
2N981	1.0	36	PNP	T018-A
2N982	3.0	33	PNP	T018-A
2N983	3.0	28	PNP	T018-A
2N984	5.0	23	PNP	T018-A
2N985	100	60	PNP	T018-A
2N986			NPN	T05-A
JAN2N986			NPN	T05-A
2N987	8.0	40	PNP	T018-A
JAN2N987	8.0	33	PNP	T072-G
2N988	.50	6	NPN	T018-A
2N989	.50	6	NPN	T018-A
2N990	8.0	40	PNP	T018-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N991	8.0	40	PNP	T072-G
2N992	8.0	40	PNP	T072-G
2N993	8.0	40	PNP	T072-G
2N994	3.0	45	PNP	T018-A
2N995	.005	35	PNP	T018-A
2N995A	.005	11	PNP	T018-A
2N996	.005	25	PNP	T018-A
2N997	.01	4000	PNP	T018-A
2N998	.01	1600	NPN	T072-A
2N999	.01	1000	NPN	T072-A
2N1000	15	11	NPN	T05-A
2N1007	1000	30	PNP	T03-C
2N1008		30	PNP	T05-A
2N1008A		30	PNP	T05-A
2N1008B		30	PNP	T05-A
JAN2N1008B	15	40	PNP	T05-A
2N1010	10	11	NPN	T01-A
2N1011	20ma	30(B)	PNP	T03-C
JAN2N1011	10ma	30(B)	PNP	T03-C
2N1012	25	40	NPN	T05-A
2N1015	20ma	10(B)	NPN	T081-A
2N1015A	20ma	10(B)	NPN	T081-A
2N1015B	20ma	10(B)	NPN	T081-A
2N1015C	20ma	10(B)	NPN	T081-A
2N1015D	20ma	10(B)	NPN	T081-A
2N1015E	20ma	10(B)	NPN	T081-A
2N1015F	20ma	10(B)	NPN	T081-A
2N1016	20ma	10(B)	NPN	T081-A
2N1016A	20ma	10(B)	NPN	T081-A
2N1016B	20ma	10(B)	NPN	T081-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1016C	20ma	10(B)	NPN	T081-A
JAN2N1016C	1000	20(B)	NPN	T081-A
2N1016D	20ma	10(B)	NPN	T081-A
JAN2N1016D	1000	20(B)	NPN	T081-A
2N101GE	20ma	10(B)	NPN	T081-A
2N1016F	20ma	20(B)	NPN	T082-B
2N1017	25	33	PNP	T05-A
2N1018	4.0	46	PNP	T05-A
2N1021	2000	30(B)	PNP	T03-C
JAN2N1021	500	30(B)	PNP	T03-C
2N1021A	500	30(B)	PNP	T03-C
2N1022	2000	30(B)	PNP	T03-C
JAN2N1022	500	30(B)	PNP	T03-C
2N1022A	500	30(B)	PNP	T03-C
2N1023	1 2	20	PNP	T044-G
2N1024	.025	5	PNP	T05-A
2N1025	.025	5	PNP	T05-A
JAN2N1025	100	9.0	PNP	T05-A
2N1026	.025	10	PNP	T05-A
JAN2N1026	.025	18	PNP	T05-A
2N1026A	.025	12	PNP	T05-A
2N1027	.025	10	PNP	T05-A
2N1028	0.25	9.0	PNP	T05-A
2N1029	15ma	20(B)	PNP	T03-A
2N1029A	15ma	20(B)	PNP	T03-A
2N1029B	15ma	20(B)	PNP	T03-A
2N1029C	15ma	20(B)	PNP	T03-A
2N1030	15ma	50(B)	PNP	T 03 -A
2N1030A	15ma	50(B)	PNP	T03-A
2N1030B	15ma	50(B)	PNP	T03-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1030C	15ma		PNP	T03-C
2N1031	15ma	20(B)	PNP	T041-C
2N1031A	15ma	20(B)	PNP	T041-C
2N1031B	15ma	20(B)	PNP	T041-C
2N1031C	15ma	20(B)	PNP	T041-C
2N1032	15ma	50(B)	PNP	T041-C
2N1032A	15ma	50(B)	PNP	T041-C
2N1032B	15ma	50(B)	PNP	T041-C
2N1032C	15ma	50(B)	PNP	T041-C
2N1034	1.0	5	PNP	T05-A
2N1035	1.0	10	PNP	T05-A
2N1036	1.0	20	PNP	T05-A
2N1037	1.0	8	PNP	T05-A
2N1038	125	20(B)	PNP	A110-A
2N1038-1	650	20(B)	PNP	A136-A
2N1038-2	650	20(B)	PNP	A137-A
2N1039	125	20(B)	PNP	A110-A
JAN2N1039	70	20	PNP	T085-A
2N1039-1	650	20(B)	PNP	A136-A
2N1039-2	650	20(B)	PNP	A137-A
2N1040	125	20(B)	PNP	A110-A
2N1040-1	650	20(B)	PNP	A136-A
2N1040-2	650	20(B)	PNP	A137-A
2N1041	125	20(B)	PNP	A110-A
JAN2N1041	70	20(B)	PNP	T085-A
2N1041-1	650	20(B)	PNP	A136-A
2N1041-2	650	20(B)	PNP	A137-A
2N1042	650	20(B)	PNP	A137-A
JAN2N1042	650	20(B)	PNP	A137-A
2N1042-1	650	20(B)	PNP	A136-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1042-2	650	20(B)	PNP	A110-A
2N1043	650	20(B)	PNP	A137-A
JAN2N1043	5000	20(B)	PNP	A137-A
2N1043-1	650	20(B)	PNP	A136-A
2N1043-2	650	20(B)	PNP	A110-A
2N1044	650	20(B)	PNP	A137-A
JAN2N1044	5000	20(B)	PNP	A137-A
2N1044-1	650	20(B)	PNP	A136-A
2N1044-2	650	20(B)	PNP	A137-A
2N1045	650	20(B)	PNP	A137-A
JAN2N1045	5000	20(B)	PNP	A137-A
2N1045-1	650	20(B)	PNP	A136-A
2N1045-2	650	20(B)	PNP	A110-A
2N1046	2000	40(B)	PNP	T03-C
JAN2N1046	1000	40(B)	PNP	T03-C
2N1046A	2000	40(B)	PNP	T03-C
2N1046B	2000	20(B)	PNP	T03-C
2N1047	15	12(B)	NPN	A139-A
2N1047A	15	12(B)	NPN	A139-A
JAN2N1047A	15	12(B)	NPN	T057-A
2N1047B	15	12(B)	NPN	T057-A
2N1048	15	12(B)	NPN	A139-A
2N1048A	15	12(B)	NPN	A139-A
JAN2N1048A	15	12(B)	NPN	T057-A
2N1048B	15	12(B)	NPN	A139-A
2N1049	15	30(B)	NPN	A139-A
2N1049A	15	30(B)	NPN	T057-A
JAN2N1049A	15	36(B)	NPN	A139-A
2N1049B	15	30(B)	NPN	A139-A
2N1050	15	30(B)	NPN	A139-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1050A	15	30(B)	NPN	A139-A
JAN2N1050A	15	30(B)	NPN	T057-A
2N1050B	15	30(B)	NPN	A139-A
2N1051	.01	10	NPN	T05-A
JAN2N1051	.10	40	NPN	T018-A
2N1052	10	11	NPN	T05-A
2N1053	10	11	NPN	T05-A
2N1054	5.0	4.0	NPN	T05-A
2N1055	15	3.0	NPN	T05-A
2N1056	25	8.0	PNP	T05-A
2N1057	16	16	PNP	A104-A
2N1058	50	5.0	NPN	T022-F
2N1059	50	25	NPN	T022-F
2N1060	.10	50(B)	NPN	T028-A
2N1065	50	16	PNP	T09-A
2N1066	12	20	PNP	T033-G
2N1067	500	15(B)	NPN	T08-C
2N1068	500	15(B)	NPN	T08-C
2N1069	1000	10(B)	NPN	T03-C
2N1070	1000	10(B)	NPN	T 03 -C
JAN2N1072	.10	7.5(B)	NPN	T038-A
2N1073	1000	20(B)	PNP	T03-C
2N1073A	1000	20(B)	PNP	T03-C
2N1073B	2000	20(B)	PNP	T03-C
2N1078		30(B)	PNP	T013-A
2N1079	10ma	20(B)	NPN	T053-A
2N1080	10ma	20(B)	NPN	T053-A
2N1081	15ma	20(B)	NPN	T05-A
USA2N1081	500	20(B)	NPN	T05-A
2N1082	500	10(B)	NPN	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
USA2N1082	500	10(B)	NPN	T05-A
2N1084	10	20(B)	PNP	T05-A
2N1085	500	40(B)	NPN	T05-A
2N1086	3.0	12	NPN	A101-A
2N1086A	3.0	12	NPN	A101-A
2N1087	3.0	12	NPN	A101-A
2N1090	25	16	NPN	T09-A
2N1091	25	23	NPN	T09-A
2N1092	500	15(B)	NPN	T05-A
2N1093	6.0	41	PNP	T05-A
JAN2N1094	5.0	15	PNP	T028-A
2N1097	16	34	PNP	T05-A
2N1098	16	25	PNP	T05-A
2N1099	4000	35(B)	PNP	T036-C
2N1100	4000	25(B)	PNP	T036-C
2N1101	50	15	NPN	T022-F
2N1102	50	15	NPN	T022-F
2N1103	1.0	10	NPN	T05-A
2N1104	1.0	15	NPN	T05-A
2N1107	10	11	PNP	T022-F
2N1108	10	11	PNP	T022-F
2N1109	10	6	PNP	T022-F
2N1110	10	9	PNP	T022-F
2N1111	10	8	PNP	T022-F
2N1111A	10	9	PNP	T022-F
2N1111B	10	9	PNP	T022-F
2N1114	30	36	NPN	T05-A
2N1115	6.0		PNP	A101-A
2N1116	15	3.0	NPN	T05-A
2N1117	15	40	NPN	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1118	1.0	10	PNP	T05-A
JAN2N1118	.10	5	PNP	T018-A
2N1118A	1.0	8	PNP	T05-A
2N1119	.10	8	PNP	T05-A
JAN2N1119	.10	15	PNP	T05-A
2N1120	15ma	20(B)	PNP	T041-C
JAN2N1120	10ma	20(B)	PNP	T041-C
2N1121	5.0	11	NPN	A101-A
2N1122	5.0	25	PNP	T024-A
2N1122A	5.0	25	PNP	T024-A
2N1124	75	41	PNP	T05-A
2N1125	10	150(A)	PNP	T05-A
2N1128	20	40	PNP	T05-A
2N1129	25	55	PNP	T05-A
2N1130	25	36	PNP	T05-A
2N1131	100	15	PNP	T05-A
JAN2N1131	1.0	15	PNP	T05-A
2N1131A	.50	15	PNP	T05-A
2N1131/51	.50	20	PNP	T051-A
2N1131A/51	1.0	6	PNP	T051-A
2N1132	100	25	PNP	T05-A
JAN2N1132	1.0	30	PNP	T05-A
2N1132A	.50	25	PNP	T05-A
2N1132A/46	1.0	10	PNP	T046-A
2N1132A/51	1.0	10	PNP	T051-A
2N1132B	.01	25	PNP	T05-A
2N1132B/46	100	20	PNP	T046-A
2N1132B/51	.01	10	PNP	T051-A
2N1132/KVT	1.0	10	PNP	A129-A
2N1132/TPT	1.0	10	PNP	A130-B

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1132/46	1.0	10	PNP	T046-A
2N1132/51	1.0	10	PNP	T051-A
2N1136	1000	50(B)	PNP	T03-C
2N1136A	1000	50(B)	PNP	T03-C
2N1136B	1000	50(B)	PNP	T03-C
2N1137	1000	75(B)	PNP	T03-C
2N1137A	1000	75(B)	PNP	T03-C
2N1137B	1000	75(B)	PNP	T03-C
2N1138		100(B)	PNP	T03-C
2N1138A		100(B)	PNP	T03-C
2N1138B		100(B)	PNP	T03-C
2N1139	5	13	NPN	T05-A
2N1140	15	20	NPN	T05-A
2N1141	100	16	PNP	T05-A
2N1141A		5	PNP	T05-A
2N1142	100	16	PNP	T05-A
JAN2N1142	100	10	PNP	T05-A
2N1142A		5	PNP	T05-A
2N1 143	100	16	PNP	T05-A
2N1143A		5	PNP	T05-A
2N1144	16	18	PNP	A104-A
2N1145	16	15	PNP	A104-A
2N1146	4000	60(B)	PNP	T03-C
2N1146A	4000	60(B)	PNP	T03-C
2N1146B	4000	60(B)	PNP	T03-C
2N1146C	4000	60(B)	PNP	T03-C
2N1147	4000	60(B)	PNP	T041-C
2N1147A	4000	60(B)	PNP	T041-C
2N1147B	4000	60(B)	PNP	T041-C
2N1147C	4000	60(B)	PNP	T041-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1149	2.0	4	NPN	A101-A
2N1150	2.0	8	NPN	A101-A
2N1151	2.0	13	NPN	A101-A
2N1152	2.0	16	NPN	A101-A
2N1153	2.0	33	NPN	A101-A
2N1154	5.0	6	NPN	A101-A
2N1155	6.0	6	NPN	A101-A
2N1156	8.0	5	NPN	A101-A
2N1157	7000	10(B)	PNP	T059-A
2N1157A	20ma	10(B)	PNP	T059-A
JAN2N1157A	20ma	38(B)	PNP	T09-A
2N1158	5.0	50(B)	PNP	T09-A
USA2N1158A	5.0	50(B)	PNP	T09-A
2N1158A	5.0	50(B)	PNP	T09-A
2N1159	8000	30(B)	PNP	T03-C
2N1160	8000	20(B)	PNP	T03-C
2N1162	15ma	15(B)	PNP	T03-C
2N1162A	15ma	15(B)	PNP	T03-C
2N1163	15ma	15(B)	PNP	T041-C
2N1163A	15ma	15(B)	PNP	T041-C
2N1164	15ma	15(B)	PNP	T03-C
2N1164A	15ma	15(B)	PNP	T03-C
2N1165	15ma	26(B)	PNP	T041-C
JAN2N1165	15ma	15(B)	PNP	T041-C
2N1165A	15ma	15(B)	PNP	T041-C
2N1166	15ma	15(B)	PNP	T03-C
2N1166A	15ma	15(B)	PNP	T03-C
2N1167	15ma	15(B)	PNP	T041-C
2N1167A	15ma	15(B)	PNP	T041-C
2N1168	8.0ma	70(B)	PNP	T03-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} / I_{CES}	BETA	PNP NPN	DWG. NO.
2N1169			NPN	T05-A
2N1170			NPN	T05-A
2N1171	5.0	30	PNP	T05-A
JAN2N1173	10	50	NPN	T05-A
JAN2N1174	10	50	PNP	T05-A
2N1175	12	26	PNP	T05-A
2N1175A	12	26	PNP	T05-A
2N1176	10	20	PNP	T05-A
2N1176A	30	20	PNP	T05-A
2N1176B	35	20	PNP	T05-A
2N1177	12	33	PNP	T045-H
2N1178	12	13	PNP	T045-H
2N1179	12	26	PNP	T045-H
2N1180	12	26	PNP	T045-H
2N1183		20(B)	PNP	T08-A
JAN2N1183	250	20(B)	PNP	T08-A
2N1183A		20(B)	PNP	T08-A
JAN2N1183A	250	20(B)	PNP	T08-A
2N1183B		20(B)	PNP	T08-A
JAN2N1183B	250	20(B)	PNP	T08-A
2N1184		40(B)	PNP	T08-A
JAN2N1184	250	40(B)	PNP	T08-A
2N1184A		40(B)	PNP	T08-A
JAN2N1184A	250	40(B)	PNP	T08-A
2N1184B		40(B)	PNP	T08-A
JAN2N1184B	250	40(B)	PNP	T08-A
2N1185	50	86	PNP	T05-A
2N1186	50	16	PNP	T05-A
2N1187	50	26	PNP	T05-A
2N1188	50	43	PNP	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1189	50	40	PNP	T05-A
2N1190	50	63	PNP	T05-A
2N1191	15	13	PNP	T05-A
2N1192	15	25	PNP	T05-A
2N1193	15	53	PNP	T05-A
2N1194	15	93	PNP	T05-A
2N1195		13	PNP	T029-A
JAN2N1195	5.0	24	PNP	T029-A
2N1196	.25	3	PNP	T05-A
JAN2N1196	.25	3	PNP	T05-A
2N1197	.25	3	PNP	T05-A
JAN2N1197	.25	3	PNP	T05-A
2N1198		5	NPN	A102-A
2N1199	10.0	25	NPN	T09-A
USA2N1200	5.0	3	NPN	T09-A
USA2N1201	5.0	3	NPN	T09-A
2N1202	2000	40(B)	PNP	T059-A
2N1203	2000	25(B)	PNP	T059-A
2N1204	7.0	35	PNP	T09-A
2N1204A	7.0	11	PNP	T039-A
2N1205	5.0	10	NPN	T05-A
2N1206	1.0	11	NPN	T05-A
2N1207	1.0	11	NPN	T05-A
2N1208	10ma	15(B)	NPN	T061-A
2N1208/1		15(B)	NPN	T061-A
2N1209	20ma	20(B)	NPN	T061-A
2N1209/1		20(B)	NPN	T061-A
2N1210	10ma	15(B)	NPN	T062-A
2N1210/1	20ma	15(B)	NPN	T053-A
2N1211	10ma	15(B)	NPN	T053-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1211/1	10ma	15(B)	NPN	A101-A
2N1212	10ma	12(B)	NPN	T061-A
2N1212/1	10ma	12(B)	NPN	T061-A
2N1217	1.5	20	NPN	A101-A
2N1218	100	30(B)	NPN	T03-C
2N1219	.10	18	PNP	T05-A
2N1220	.10	9.0	PNP	T05-A
2N1221	.10	18	PNP	T05-A
2N1222	.10	9.0	PNP	T05-A
2N1223	.10	6.0	PNP	T05-A
2N1224	12	20	PNP	T033-G
JAN2N1224	20	30	PNP	T05-A
2N1225	12	20	PNP	T033-G
JAN2N1225	20	30	PNP	T05-G
2N1226	12	20	PNP	T033-G
2N1227	1000	50(B)	PNP	T03-C
2N1228	.10	4	PNP	T05-A
2N1229	.10	10	PNP	T05-A
2N1230	.10	4	PNP	T05-A
2N1231	.10	10	PNP	T05-A
2N1232	,10	4	PNP	T05-A
2N1233	.10	10	PNP	T05-A
2N1234	.10	4	PNP	T05-A
JAN2N1234	100	10	PNP	T05-A
2N1235	10ma	12(B)	NPN	T053-A
2N1238	.10	4	PNP	A120-A
2N1239	.10	10	PNP	A120-A
2N1240	.10	4	PNP	A120-A
2N1241	.10	10	PNP	A120-A
2N1242	.10	4	PNP	A120-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1243	.10	10	PNP	A120-A
2N1244	.10	4	PNP	A120-A
2N1247	.005	15	NPN	T05-A
2N1248	.001	15	NPN	T05-A
2N1249	.01	15	NPN	T05-A
2N1250	10ma	15(B)	NPN	T053-A
2N1250/1	10ma	15(B)	NPN	A120-A
2N1251	50	50	NPN	T022-F
2N1252	10	11	NPN	T05-A
2N1253	10	15	NPN	T05-A
2N1254	.20	25	PNP	T05-A
2N1255	.20	40	PNP	T05-A
2N1256	.20	40	PNP	T05-A
2N1257	.20	40	PNP	T05-A
2N1258	.20	75	PNP	T05-A
2N1259	.20	25	PNP	T05-A
2N1260	10ma	12(B)	NPN	T053-A
2N1261	2000	20(B)	PNP	T059-A
2N1262	2000	0(B)	PNP	T059-A
2N1263	2000	45(B)	PNP	T059-A
2N1264/13	50	8	PNP	T013-A
2N1265	10	50	PNP	T05-A
2N1265/5		25	PNP	T05-A
2N1266		16	PNP	T022-A
2N1267	.70	11	NPN	T05-A
2N1268	25ma	20	NPN	T023-A
2N1269	.70	50	NPN	T023-A
2N1270	.70	11	NPN	T023-A
2N1271	.70	20	NPN	T023-A
2N1272	.70	50	NPN	T023-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1273	14	187(A)	PNP	T05-A
2N1274	14	187(A)	PNP	T05-A
2N1275	1.0	5	PNP	T05-A
2N1276	1.0	4	NPN	T05-A
2N1277	1.0	11	NPN	T05-A
2N1278	1.0	22	NPN	T05-A
2N1279	1.0	111	NPN	T05-A
2N1280	10	20	PNP	T05-A
2N1281	10	30	PNP	T05-A
2N1282	10	33	PNP	T05-A
2N1284	6.0	30	PNP	T05-A
2N1285	20	33	PNP	T033-A
2N1291	1500	30(B)	PNP	T03-C
2N1292	1000	30(B)	NPN	T03-C
2N1293	2000	30(B)	PNP	T03-C
2N1294	2000	30(B)	NPN	T03-C
2N1295	2000	40(B)	PNP	T03-C
2N1296	3000	30(B)	NPN	T03-C
2N1297	4000	30(B)	PNP	T03-C
2N1298	2000	30(B)	NPN	T03-C
2N1299		35	NPN	T05-A
2N1300	3.0	16	PNP	T05-A
2N1301	3.0	25	PNP	T05-A
2N1302	6.0	20	NPN	T05-A
JAN2N1302	6.0	20	NPN	T05-A
2N1303	6.0	20	PNP	T05-A
JAN2N1303	6.0	20	PNP	T05-A
2N1304	6.0	40	NPN	T05-A
JAN2N1304	6.0	40	NPN	T05-A
2N1305	6.0	40	PNP	T05-A

BI-POLAR TRANSISTOR DATA. - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
JAN2N1305	6.0	40	PNP	T05-A
2N1306	6.0	60	NPN	T05-A
JAN2N1306	6.0	60	NPN	T05-A
2N1307	6.0	60	PNP	T05-A
JAN2N1307	6.0	60	PNP	T05-A
2N1308	6.0	80	NPN	T05-A
JAN2N1308	6.0	80	NPN	T05-A
2N1309	6.0	80	PNP	T05-A
JAN2N1309	6.0	80	PNP	T05-A
2N1309A	6.0	26	PNP	T05-A
2N1310	25	11	NPN	T09-A
JAN2N1310	7.0	30	NPN	T05-A
2N1311	25	10	NPN	T09-A
2N1312	25	16	NPN	T09-A
2N1313	25	28	PNP	T05-A
2N1314	100	20(B)	PNP	T03-A
2N1316	25	33	PNP	T05-A
2N1317	25	31	PNP	T05-A
2N1318	7.0	28	PNP	T05-A
2N1319	6.0	10	PNP	T05-A
2N1321	1000	30(B)	NPN	T010-F
2N1323	2000	30(B)	NPN	T010-F
2N1325	3000	30(B)	NPN	T010-F
2N1326	2000	30(B)	PNP	T010-F
2N1327	2000	90	NPN	T013-F
2N1328		90	PNP	T013-F
2N1329	1000	30	NPN	T013-F
2N1330		90	NPN	T013-F
2N1331		30	PNP	T013-F
2N1332	2000	90	NPN	T013-F

BI-POLAR TRANSISTOR DATA -Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1333		20	PNP	T013-F
2N1334		90	NPN	T013-F
2N1335	1.0	10	NPN	T05-A
2N1336	1.0	10	NPN	T05-A
2N1337	1.0	10	NPN	T05-A
2N1338	10	10	NPN	T05-A
2N1339	1.0	10	NPN	T05-A
2N1340	1.0	10	NPN	T05-A
2N1341	1.0	10	NPN	T05-A
2N1342	10	10	NPN	T05-A
2N1343	6.0	13	PNP	T05-A
2N1344	10	30	PNP	T05-A
2N1345	6.0	20	PNP	T05-A
2N1346	5.0	41	PNP	T05-A
2N1347	6.0	26	PNP	T05-A
2N1348	10	31	PNP	T05-A
2N1349	10	36	PNP	T05-A
2N1350	20	31	PNP	T05-A
2N1351	10	21	PNP	T05-A
2N1352	5.0	23	PNP	T05-A
2N1353	6.0	23	PNP	T05-A
2N1354	6.0	23	PNP	T05-A
2N1355	6.0	26	PNP	T05-A
2N1356	6.0	26	PNP	T05-A
2N1357	6.0	28	PNP	T05-A
2N1358	8000	25(B)	PNP	T036-C
JAN2N1358	4000	25(B)	PNP	T036-C
2N1358A	10ma	25(B)	PNP	T036-C
2N1359	3000	35(B)	PNP	T03-C
2N1360	3000	60(B)	PNP	T03-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1362	3000	35(B)	PNP	T03-C
2N1363	3000	60(B)	PNP	T03-C
2N1364	3000	35(B)	PNP	T03-C
2N1365	3000	40(B)	PNP	T03-C
2N1366	15	3	NPN	T05-A
2N1367	15	20	NPN	T05-A
2N1370	14	187(A)	PNP	T05-A
2N1371	14	187(A)	PNP	T05-A
2N1372	7.0	127(A)	PNP	T05-A
2N1373	7.0	127(A)	PNP	T05-A
2N1374	7.0	187(A)	PNP	T05-A
2N1375	7.0	187(A)	PNP	T05-A
2N1376	7.0	187(A)	PNP	T05-A
2N1377	7.0	187(A)	PNP	T05-A
2N1378	7.0	385(A)	PNP	T05-A
2N1379	7.0	385(A)	PNP	T05-A
2N1380	14	385(A)	PNP	T05-A
2N1381	14	385(A)	PNP	T05-A
2N1382	14	187(A)	PNP	T05-A
2N1383	14	187(A)	PNP	T05-A
2N1384	50	16	PNP	T011-A
2N1385	10	10	PNP	T05-A
2N1386	.10	15	NPN	T05-A
2N1387	.10	10	NPN	T05-A
2N1388	.50	15	NPN	T05-A
2N1389	.50		NPN	T05-A
2N1390	.80	15	NPN	T05-A
2N1391	4.0	23	NPN	T05-A
2N1395	12	30	PNP	T033-G
2N1396	12	30	PNP	T033-G

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1397	12	30	PNP	T033-G
2N1404	5.0	33	PNP	T05-A
2N1406	25	8	PNP	T05-A
2N1408	25	8	PNP	T05-A
2N1409	10	15	NPN	T05-A
2N1409A	10	15	NPN	T05-A
2N1410	10	30	NPN	T05-A
2N1410A	10	20	NPN	T05-A
2N1411	5.0	25	PNP	T024-F
JAN2N1411	5.0	20	PNP	T024-F
2N1412	6000	25(B)	PNP	T036-C
JAN2N1412	6000	25(B)	PNP	T036-C
JAN2N1412A	6000	25(B)	PNP	A140-A
2N1413	12	10	PNP	T05-A
2N1414	12	14	PNP	T05-A
2N1415	12	21	PNP	T05-A
2N1416	20	36	PNP	T025-A
2N1417	10	20	NPN	T05-A
2N1418	1.0	20	NPN	T05-A
2N1420	1.0	100	NPN	T05-A
2N1420A	.01	35	NPN	T05-A
2N1425	12	16	PNP	T07-H
2N1426	12	43	PNP	T07-H
2N1427	5.0	40	PNP	T024-A
2N1428	.10	10	PNP	T01-A
2N1429	.10	10	PNP	T05-A
2N1430		10	PNP	T041-C
2N1431	50	37	NPN	T022-F
2N1432	15	20	PNP	T033-G
2N1437	2000	20(B)	PNP	T013-F

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	ICO ICES	BETA	PNP NPN	DWG. NO.
2N1438	2000	20 (B)	PNP	T010-F
2N1439	.025	3	PNP	T05-A
2N1440	50	5	PNP	T05-A
2N1441	50	9	PNP	T05-A
2N1442	50	14	PNP	T05-A
2N1443	.025	21	PNP	T05-A
2N1445	10	80(A)	NPN	T05-A
2N1446	10	10	PNP	T05-A
2N1447	10	15	PNP	T05-A
2N1448	10	21	PNP	T05-A
2N1449	10	26	PNP	T05-A
2N1450	100	20	PNP	T09-A
JAN2N1450	10	20	PNP	T05-A
2N1451	15	15	PNP	T05-A
2N1452	15	20	PNP	T05-A
2N1465	2500	20(B)	PNP	T013-F
2N1466	2500	20(B)	PNP	T010-F
2N1469	.025	20	PNP	T05-A
JAN2N1469M	.025	36	PNP	T05-A
2N1471	5.0	53	PNP	T05-A
2N1472	10	8	NPN	T09-A
2N1473	5.0	15	NPN	T05-A
2N1474	.05	8	PNP	T05-A
2N1474A	.05	10	PNP	T05-A
2N1475	.05	20	PNP	T05-A
2N1476	.20	8	PNP	T05-A
2N1477	.20	15	PNP	T05-A
2N1478	5.0	23	PNP	T09-A
2N1479	10	20(B)	NPN	T05-A
JAN2N1479	5.0	20(B)	NPN	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1480	10	20(B)	NPN	T05-A
JAN2N1480	5.0	20(B)	NPN	T05-A
2N1481	10	35(B)	NPN	T05-A
JAN2N1481	5.0	35(B)	NPN	T05-A
2N1482	10	35(B)	NPN	T05-A
JAN2N1482	5.0	35(B)	NPN	T05-A
2N1483	15	20(B)	NPN	T08-A
JAN2N1483	15	20(B)	NPN	T08-A
2N1484	15	20(B)	NPN	T08-A
JAN2N1484	15	20(B)	NPN	T08-A
2N1485	15	35(B)	NPN	T08-A
JAN2N1485	15	35(B)	NPN	T08-A
2N1486	15	35(B)	NPN	T08-A
JAN2N1486	15	35(B)	NPN	T08-A
2N1487	25	15(B)	NPN	T03-A
JAN2N1487	25	15(B)	NPN	T03-A
2N1488	25	15(B)	NPN	T03-A
JAN2N1488	25	15(B)	NPN	T03-A
2N1489	25	25(B)	NPN	T03-A
JAN2N1489	25	25(B)	NPN	T03-A
2N1490	25	25(B)	NPN	T03-A
JAN2N1490	25	25(B)	NPN	T03-A
2N1491	10	16	NPN	T039-A
2N1492	10	16	NPN	T039-A
2N1493	10	16	NPN	T039-A
JAN2N1493	1.0	16	NPN	T05-A
2N1494	7.0	11	PNP	T031-A
2N1494A	7.0	25	PNP	T031-A
2N1495	7.0	25	PNP	T09-A
2N1496	7.0	25	PNP	T031-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1499A	25	16	PNP	T09-A
JAN2N1499A	25	30	PNP	T09-A
2N1499B	3.0	40	PNP	T09-A
2N1500	25	23	PNP	T09-A
JAN2N1500	25	20	PNP	T09-A
2N1500/18	1.5	23	PNP	T018-A
2N1501	2000	25(B)	PNP	A137-A
2N1502	2000	25(B)	PNP	A137-A
2N1504/10	2500	20(B)	PNP	T010-F
2N1504/16	1000	21(B)	PNP	T010-F
2N1505	50	7(B)	NPN	T05-A
2N1506	10	10(B)	NPN	T05-A
2N1506A	.050	10(B)	NPN	T05-A
JAN2N1506A	.050	20	NPN	T05-A
2N1507	100	50	NPN	T05-A
2N1510	5.0	10	NPN	A101-A
2N1511	25	15(B)	NPN	T036-C
JAN2N1511			NPN	T067-A
USA2N1511	25	15(B)	NPN	T036-C
2N1512	25	15(B)	NPN	T036-C
JAN2N1512			NPN	T067-A
USA2N1512	25	15(B)	NPN	T036-C
2N1513	25	25(B)	NPN	T036-C
JAN2N1513			NPN	TO67-A
USA2N1513	25	25(B)	NPN	T036-C
2N1514	25	25(B)	NPN	T036-C
JAN2N1514			NPN	T067-A
USA2N1514	25	25(B)	NPN	T036-C
2N1515	13	33	PNP	T07-H
2N1516	13	22	PNP	T07-H

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO
2N1517	13	22	PNP	T07-H
2N1518	4000	15(B)	PNP	T036-C
2N1519	4000	15(B)	PNP	T036-C
2N1520	4000	17(B)	PNP	T036-C
2N1521	4000	17(B)	PNP	T036-C
2N1522	4000	22(B)	PNP	T036-C
2N1523	4000	22(B)	PNP	T036-C
2N1524	16	17	PNP	T09-A
2N1524/33	16	17	PNP	T033-A
2N1525	16	17	PNP	T09-A
2N1526	16	27	PNP	TO1-A
2N1526/33	16	27	PNP	T033-A
2N1527	16	27	PNP	T040-A
2N1528	1.0	4	NPN	T05-A
2N1529	20ma	20(B)	PNP	T03-C
2N1529A	20ma	20(B)	PNP	T03-C
2N1530	20ma	20(B)	PNP	T03-C
2N1530A	20ma	20(B)	PNP	T03-C
2N1531	20ma	20(B)	PNP	T03-C
2N1531A	20ma	20(B)	PNP	T03-C
2N1532	20ma	20(B)	PNP	T03-C
2N1532A	20ma	20(B)	PNP	T03-C
2N1533	20ma	20(B)	PNP	T03-C
2N1534	20ma	35(B)	PNP	T03-C
2N1534A	20ma	35(B)	PNP	T03-C
2N1535	20ma	35(B)	PNP	T03-C
2N1535A	20ma	35(B)	PNP	T03-C
2N1536	20ma	36(B)	PNP	T03-C
2N1536A	20ma	35(B)	PNP	T03-C
2N1537	20ma	35(B)	PNP	T03-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1537A	20ma	35(B)	PNP	T03-C
2N1538	20ma	35(B)	PNP	T03-C
2N1539	2000	50(B)	PNP	T03-C
2N1539A	2000	50(B)	PNP	T03-C
2N1540	2000	50(B)	PNP	T03-C
2N1540A	2000	50(B)	PNP	T03-C
2N1541	2000	50(B)	PNP	T03-C
2N1541A	2000	50(B)	PNP	T03-C
2N1542	2000	50(B)	PNP	T03-C
2N1542A	2000	50(B)	PNP	T03-C
2N1543	2000	50(B)	PNP	T03-C
2N1544	2000	75(B)	PNP	T03-C
2N1544A	2000	75(B)	PNP	T03-C
2N1545	2000	75(B)	PNP	T03-C
2N1545A	2000	75(B)	PNP	T03-C
2N1546	2000	75(B)	PNP	T03-C
2N1546A	2000	75(B)	PNP	T03-C
2N1547	2000	75(B)	PNP	T03-C
2N1547A	2000	75(B)	PNP	T03-C
2N1548	2000	75(B)	PNP	T03-C
2N1549	3000	10(B)	PNP	T03-C
2N1549A	3000	10(B)	PNP	T03-C
JAN2N1549A	2000	30(A)	PNP	T03-C
2N1550	3000	10(B)	PNP	T03-C
2N1550A	3000	10(B)	PNP	T03-C
JAN2N1550A	2000	30(A)	PNP	T03-C
2N1551	3000	10(B)	PNP	T03-C
2N1551A	3000	10(B)	PNP	T03-C
JAN2N1551A	2000	30(B)	PNP	T03-C
2N1552	3000	10 (B)	PNP	T03-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} / I_{CES}	BETA	PNP NPN	DWG. NO.
2N1552A	3000	10(B)	PNP	T03-C
JAN2N1552A	2000	30(B)	PNP	T03-C
2N1553	3000	30(B)	PNP	T03-C
2N1553A	3000	30(B)	PNP	T03-C
JAN2N1553A	2000	60(B)	PNP	T03-C
2N1554	3000	30(B)	PNP	T03-C
2N1554A	3000	30(B)	PNP	T03-C
JAN2N1554A	2000	60(B)	PNP	T03-C
2N1555	3000	30(B)	PNP	T03-C
2N1555A	3000	30(B)	PNP	T03-C
JAN2N1555A	2000	60(B)	PNP	T03-C
2N1556	3000	30(B)	PNP	T03-C
2N1556A	3000	30(B)	PNP	T03-C
JAN2N1556A	2000	60(B)	PNP	T03-C
2N1557	3000	50(B)	PNP	T03-C
2N1557A	3000	50(B)	PNP	T03-C
JAN2N1557A	2000	100(B)	PNP	T03-C
2N1558	3000	50(B)	PNP	T03-C
2N1558A	3000	50(B)	PNP	T03-C
JAN2N1558A	2000	100(B)	PNP	T03-C
2N1559	3000	50(B)	PNP	T03-C
2N1559A	3000	50(B)	PNP	T03-C
JAN2N1559A	2000	100(B)	PNP	T03-C
2N1560	3000	50(B)	PNP	T03-C
2N1560A	3000	50(B)	PNP	T03-C
JAN2N1560A	2000	100(B)	PNP	T03-C
2N1561	10	10	PNP	A111-A
2N1562	10	9	PNP	A111-A
2N1564	1.0	20	NPN	T05-A
2N1565	1.0	40	NPN	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1566	1.0	80	NPN	T05-A
2N1566A	.50	60	NPN	T05-A
2N1572	1.0	20	NPN	T05-A
2N1573	1.0	40	NPN	T05-A
2N1574	1.0	80	NPN	T05-A
2N1586	1.0	9.0	NPN	A101-A
2N1587	1.0	9.0	NPN	A101-A
2N1588	1.0	9.0	NPN	A101-A
2N1589	1.0	25	NPN	A101-A
2N1590	1.0	25	NPN	A101-A
2N1591	1.0	25	NPN	A101-A
2N1592	1.0	70	NPN	A101-A
2N1593	1.0	70	NPN	A101-A
2N1594	1.0	70	NPN	A101-A
2N1595				
2N1595A		C		
2N1596		C		
2N1596A		C		
2N1597		C		
2N1597A		C		
2N1598		C		
2N1598A		C		
2N1599		C		
2N1599A		C		
2N1600		C		
2N1601		C		
2N1602		C		
2N1603		C		
2N1604		C		
2N1605	5.0	41	NPN	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1605A	10	20	NPN	T05-A
2N1613	.01	30	NPN	T05-A
JAN2N1613	.01	100(A)	NPN	T05-A
2N1613A	.002	26	NPN	T05-A
2N1613/KVT	.01	26	NPN	A129-A
2N1613/TPT	.01	26	NPN	A130-B
2N1613/46	.01	26	NPN	T046-A
2N1613/51	.01	26	NPN	T051-A
2N1614	25	10	PNP	A104-A
2N1615	2.0	25	NPN	T05-A
2N1616	10ma	15(B)	NPN	T061-A
2N1616A	1.0ma	15(B)	NPN	T061-A
2N1616A/1	10ma	10(B)	NPN	T061-A
2N1616/1	10ma	15(B)	NPN	T061-A
2N1617	10ma	15(B)	NPN	T061-A
2N1617A	1.0ma	15(B)	NPN	T061-A
2N1617A/1	10ma	10(B)	NPN	T061-A
2N1617/1	10ma	15(B)	NPN	T061-A
2N1618	10ma	15(B)	NPN	T061-A
2N1618A	1.0ma	15(B)	NPN	T061-A
2N1618A/1	10ma	10(B)	NPN	T061-A
2N1618/1	10ma	15(B)	NPN	T061-A
2N1620	10ma	15(B)	NPN	T061-A
2N1620/1	10ma	15(B)	NPN	T061-A
2N1622	7.0	13	NPN	T05-A
2N1623	1.0	8	PNP	T05-A
2N1624	1.0	40	NPN	T05-A
2N1631	16	26	PNP	T09-A
2N1632	16	26	PNP	T01-A
2N1633	16	25	PNP	T09-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1634	16	25	PNP	T09-A
2N1635	16	25	PNP	T09-A
2N1636	16	25	PNP	T09-A
2N1637	5.0	26	PNP	T01-A
2N1637/33	5.0	26	PNP	T033-A
2N1638	7.0	25	PNP	T01-A
2N1638/33	7.0	25	PNP	T033-A
2N1639	7.0	25	PNP	T01-A
2N1639/33	7.0	25	PNP	T033-A
2N1640			PNP	T05-A
2N1641			PNP	T05-A
2N1642			PNP	T05-A
2N1643	.001	6	PNP	T05-A
2N1644	1.0	25	NPN	T05-A
2N1644A	1.0	25	NPN	T05-A
2N1646	100	20	PNP	A121-A
JAN2N1646M	3.0	20	PNP	A121-A
2N1647	100	15(B)	NPN	A121-A
2N1648	100	15(B)	NPN	A121-A
2N1649	100	30(B)	NPN	A121-A
2N1650	100	30(B)	NPN	A121-A
2N1651	5000	35(B)	PNP	T041-C
JAN2N1651	5000	35(B)	PNP	T03-A
2N1652	5000	35(B)	PNP	T041-C
JAN2N1652	5000	35(B)	PNP	T03-A
2N1653	5000	35(B)	PNP	T041-C
JAN2N1653	5000	35(B)	PNP	T03-A
2N1654	1.0	10	PNP	T05-A
2N1655	1.0	5	PNP	T05-A
2N1656	1.0	10	PNP	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} / I_{CES}	BETA	PNP NPN	DWG. NO.
2N1658/13	500	30(B)	PNP	T013
2N1659/13	500	30(B)	PNP	T013
2N1666	1000	90(A)	PNP	T03-A
2N1667	1000	50(A)	PNP	T03-A
2N1668	.10	50(A)	PNP	T03-A
2N1669	.10	70(A)	PNP	T03-A
2N1670	7.0	5	PNP	T09-A
2N1671		C		
2N1671A		C		
2N1671B		C		
2N1671C		C		
2N1672	25	16	NPN	T05-A
2N1672A		6	NPN	T05-A
2N1673	50	33	PNP	T033-A
2N1674	.50	16	NPN	T05-A
2N1676	.10	3	PNP	T05-A
2N1677	.10	16	PNP	T05-A
2N1678	25	8	PNP	T09-A
2N1681	25	25	PNP	T05-A
2N1683	3.0	28	PNP	T05-A
2N1686		C		
2N1687		C		
2N1688		C		
2N1689		C		
2N1690	.015	6	NPN	A139-A
2N1691	.015	6	NPN	A139-A
2N1692	10	3	PNP	T060-A
2N1693	10	3	PNP	T060-A
2N1694	1.5	8	NPN	T05-A
2N1700	75	13	NPN	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1701	100	20(B)	NPN	T08-A
2N1702	200	15(B)	NPN	T03-A
2N1703	200	15(B)	NPN	T036-A
2N1704	.10	16	NPN	T05-A
2N1705	10	36	PNP	T05-A
2N1706	10	30	PNP	T05-A
2N1707	15	31	PNP	T05-A
2N1708	.025	20	NPN	T046-A
2N1708A	.025	10	NPN	T046-A
2N1709	10	7.5(B)	NPN	T08-A
2N1710	50	7.5(B)	NPN	T08-A
2N1711	.01	50	NPN	T05-A
JAN2N1711	10	90	NPN	T05-A
2N1711A	.002	66	NPN	T05-A
2N1711B	.002	16	NPN	T05-A
2N1711/KVT	.01	65	NPN	A129-A
2N1711/TPT	.01	65	NPN	A130-B
2N1711/46	.01	65	NPN	T046-A
2N1711/51	.01	65	NPN	T051-A
2N1714	2.0	20	NPN	T05-A
JAN2N1714	1.0	20	NPN	T05-A
2N1715	2.0	20	NPN	T05-A
JAN2N1715	1.0	20	NPN	T05-A
2N1716	2.0	40	NPN	T05-A
JAN2N1716	1.0	40	NPN	T05-A
2N1717	2.0	40	NPN	T05-A
JAN2N1717	1.0	40	NPN	T05-A
2N1718	50	20(B)	NPN	T060-A
2N1719	50	20(B)	NPN	T060-A
2N1720	50	40(B)	NPN	T060-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1721	50	40(B)	NPN	T060-A
2N1722	10ma	20(B)	NPN	T053-A
JAN2N1722	5000	30(B)	NPN	T053-A
2N1722A	10ma	20(B)	NPN	T053-A
2N1722/1	10ma	90(B)	NPN	T053-A
2N1723	10ma	50(B)	NPN	T053-A
2N1724	10ma	20(B)	NPN	T061-A
JAN2N1724	5000	30(B)	NPN	T061-A
2N1724A	100	20(B)	NPN	T061-A
2N1724/1	5000	20(B)	NPN	T061-A
2N1725	100	50(B)	NPN	T061-A
2N1726	10	50	PNP	T09-A
2N1727	10	20	PNP	T09-A
2N1728	10	40	PNP	T09-A
2N1729	6.0	30	PNP	T018-A
2N1730	25	25	NPN	T018-A
2N1731	6.0	80	PNP	T018-A
2N1732	6.0	40	NPN	T018-A
2N1742	10	11	PNP	T09-A
2N1743	10	11	PNP	T03-A
2N1744	10	11	PNP	T09-A
2N1745	10	3	PNP	T09-A
2N1746	10	20	PNP	T09-A
2N1747	10	20	PNP	T09-A
2N1748	10	30	PNP	T09-A
2N1748A	10	23	PNP	T09-A
2N1749	100	15	PNP	T09-A
2N1751	5000	30(B)	PNP	T03-C
2N1752	10	30	PNP	T09-A
2N1754	100	16	PNP	T09-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1755	3000	30(B)	PNP	A150-A
2N1756	3000	30(B)	PNP	A150-A
2N1757	3000	30(B)	PNP	A150-A
2N1758	3000	30(B)	PNP	A150-A
2N1759	3000	60(B)	PNP	A150-A
2N1760	3000	60(B)	PNP	A150-A
2N1761	3000	60(B)	PNP	A150-A
2N1762	2000	60(B)	PNP	A150-A
2N1765		C		
2N1768	15	35(B)	NPN	A139-A
2N1769	15	35(B)	NPN	A139-A
2N1770		C		
2N1770A		C		
2N1771		C		
2N1771A		C		
JAN2N177M		C		
2N1772		C		
2N1772A		C		
JAN2N1772A		C		
2N1773		C		
2N1773A		C		
2N1774		C		
2N1774A		C		
JAN2N1774A		C		
2N1775		C		
2N1775A		C		
2N1776		C		
2N1776A		C		
JAN1776A		C		
2N1776B		C		

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1777		C		
2N1777A		C		
JAN2N1777A		C		
2N1778		C		
2N1778A		C		
2N1785	10	40	PNP	T09-A
2N1786	10	15	PNP	T09-A
2N1787	10	25	PNP	T09-A
2N1788	5.0	50	PNP	T09-A
2N1789	7.0	20	PNP	T09-A
2N1790	7.0	40	PNP	T09-A
2N1792		C		
2N1793		C		
2N1794		C		
2N1795		C		
2N1796		C		
2N1797		C		
2N1798		C		
2N1799		C		
2N1800		C		
2N1801		C		
2N1802		C		
2N1803		C		
2N1804		C		
2N1805		C		
2N1806		C		
2N1807		C		
2N1808	5.0	41	NPN	T05-A
2N1809	10ma	10(B)	NPN	A141-A
2N1810	10ma	10(B)	NPN	A141-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1811	10ma	10(B)	NPN	A141-A
2N1812	10ma	10(B)	NPN	A141-A
2N1813	10ma	10(B)	NPN	A141-A
2N1814	10ma	10(B)	NPN	A141-A
2N1816	10ma	10(B)	NPN	A141-A
2N1817	10ma	10(B)	NPN	A141-A
2N1818	10ma	10(B)	NPN	A141-A
2N1819	10ma	10(B)	NPN	A141-A
2N1820	30 ma	10(B)	NPN	T049-A
2N1823	10ma	10(B)	NPN	A141-A
2N1824	10ma	10(B)	NPN	A141-A
2N1825	10ma	10(B)	NPN	A141-A
2N1826	10ma	10(B)	NPN	A141-A
2N1830	10ma	10(B)	NPN	A141-A
2N1831	10ma	10(B)	NPN	A141-A
2N1832	10ma	10(B)	NPN	A142-A
2N1833	10ma	10(B)	NPN	A142-A
2N1837	.50	40	NPN	T05-A
2N1837A	.50	40	NPN	T05-A
2N1838	1.5	40	NPN	T05-A
2N1839	1.5	12	NPN	T05-A
2N1840	300	10	NPN	T05-A
2N1842		C		
2N1842A		C		
2N1842B		C		
2N1843		C		
2N1843A		C		
2N1843B		C		
2N1844		C		
2N1844A		C		

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1844B		C		
2N1845		C		
2N1845A		C		
2N1845B		C		
2N1846		C		
2N1846A		C		
2N1846B		C		
2N1847		C		
2N1847A		C		
2N1847B		C		
2N1848		C		
2N1848A		C		
2N1848B		C		
2N1849		C		
2N1849A		C		
2N1849B		C		
2N1850		C		
2N1850A		C		
2N1850B		C		
2N1853	4.2	30	PNP	T05-A
JAN2N1853	35	30	PNP	T05-A
2N1853/18	4.2	10	PNP	T018-A
2N1854	4.2	40	PNP	T05-A
JAN2N1854	40	25	PNP	T05-A
2N1864	10	10	PNP	T09-A
2N1865	10	10	PNP	T09-A
2N1866	10	23	PNP	T09-A
2N1867	10	16	PNP	T09-A
2N1868	10	11	PNP	T09-A
2N1869		C		

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1870		C		
2N1870A		C		
JAN2N1870A		C		
2N1871		C		
2N1871A		C		
JAN2N1871A		C		
2N1872		C		
2N1872A		C		
JAN2N1872A		C		
2N1873		C		
2N1874		C		
JAN2N1874A		C		
2N1875		C		
2N1875A		C		
2N1876		C		
2N1876A		C		
2N1877		C		
2N1877A		C		
2N1878		C		
2N1878A		C		
2N1879		C		
2N1879A		C		
2N1880		C		
2N1880A		C		
2N1881		C		
2N1883		C		
2N1884		C		
2N1885		C		
2N1886	350	20(B)	NPN	A152-A
2N1889	.01	30	NPN	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} / I_{CES}	BETA	PNP NPN	DWG. NO.
2N1890	.01	50	NPN	T05-A
JAN2N1890	.01	90	NPN	T05-A
2N1891	5.0	25	NPN	T05-A
2N1892	6.0		PNP	T05-A
2N1893	.01	30	NPN	T05-A
JAN2N1893	.01	100(A)	NPN	T05-A
2N1893A	.01	30	NPN	T05-A
2N1893/KVT	.01	26	NPN	A129-A
2N1893/TNT	.01	26	NPN	A146-D
2N1893/TPT	.01	26	NPN	A130-B
2N1893/46	.01	26	NPN	T046-A
2N1893/51	.01	26	NPN	T051-A
2N1899	30ma	10(B)	NPN	T081-A
2N1900	30ma	8(B)	NPN	T081-A
2N1901	30ma	20(B)	NPN	T081-A
2N1902	30ma	10(B)	NPN	T059-A
2N1903	30ma	8 (B)	NPN	T081-A
2N1904	30ma	20(B)	NPN	T059-A
2N1905	500	50(B)	PNP	T03-C
2N1906	500	75(B)	PNP	T03-C
2N1907	10ma	20(B)	PNP	T03-C
2N1907A	10ma	30(B)	PNP	T03-C
2N1908	10	20(B)	PNP	T03-C
2N1908A	10ma	30(B)	PNP	T03-C
2N1917	.003	16	PNP	T05-A
2N1918	.003	16	PNP	T05-A
2N1919			PNP	T05-A
2N1920			PNP	T05-A
2N1921			PNP	T05-A
2N1922			PNP	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1924	10	14	PNP	T05-A
2N1925	10	21	PNP	T05-A
2N1926	10	26	PNP	T05-A
2N1929		C		
2N1930		C		
2N1931		C		
2N1932		C		
2N1933		C		
2N1934		C		
2N1935		C		
2N1936	10ma	10(B)	NPN	T063-A
2N1937	10ma	10(B)	NPN	T063-A
2N1940	5	5(B)	NPN	T060-A
2N1943	10	4	NPN	T05-A
2N1944	1.0	100	NPN	T05-A
2N1945	1.0	100	NPN	T05-A
2N1946	1.0	100	NPN	T05-A
2N1947	1.0	216	NPN	T05-A
2N1948	1.0	216	NPN	T05-A
2N1949	1.0	216	NPN	T05-A
2N1950	1.0	125	NPN	T05-A
2N1951	1.0	125	NPN	T05-A
2N1952	1.0	125	NPN	T05-A
2N1953	.70	15	NPN	T05-A
2N1954	20	25	PNP	T05-A
2N1955	20	41	PNP	T05-A
2N1956	20	25	PNP	T05-A
2N1957	20	25	PNP	T05-A
2N1958	.50	20	NPN	T05-A
2N1958A	.20	20	NPN	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} / I_{CES}	BETA	PNP NPN	DWG. NO.
2N1958/18	100	13	NPN	T018-A
2N1959	.50	40	NPN	T05-A
2N1959A	.20	40	NPN	T05-A
2N1959A/51	.20	8	NPN	T051-A
2N1959/18	100	26	NPN	T018-A
2N1960	100	8	PNP	T047-A
2N1960/46	100	8	PNP	T046-A
2N1961	100	6	PNP	T047-A
2N1961/46	100	6	PNP	T046-A
2N1962	100	16	NPN	T047-A
2N1962/46	100	16	NPN	T046-A
2N1963	100	8	NPN	T047-A
2N1963/46	100	8	NPN	T046-A
2N1964	100	13	NPN	T047-A
2N1964/46	10	3	NPN	T046-A
2N1965	100	26	NPN	T047-A
2N1965/46	100	26	NPN	T046-A
2N1969	25	41	PNP	T05-A
2N1970	4000	17(B)	PNP	T036-C
2N1971	2000	25(B)	PNP	T03-A
2N1972	1.0	40	NPN	T05-A
2N1973	.025	76	NPN	T05-A
2N1974	.025	36	NPN	T05-A
2N1975	.025	12	NPN	T05-A
2N1978	.10	10	NPN	T063-A
2N1980	6000	50(B)	PNP	T036-C
2N1981	6000	50(B)	PNP	T036-C
2N1992	6000	50(B)	PNP	T036-C
2N1983	5.0	70	NPN	T05-A
2N1984	5.0	35	NPN	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N1985	5.0	15	NPN	T05-A
2N1986	5.0	60	NPN	T05-A
2N1987	5.0	20	NPN	T05-A
2N1988	5.0	20	NPN	T05-A
2N1989	5.0	10	NPN	T05-A
2N1990	1.0	20	NPN	T05-A
2N1990R	1.0	25	NPN	T018-A
2N1990S	10	20	NPN	T05-A
2N1991	5.0	15	NPN	T05-A
2N1993	10	50	NPN	T05-A
2N1994			NPN	T05-A
2N1995			NPN	T05-A
2N1996			NPN	T05-A
2N1997	25	23	PNP	T05-A
2N1998	25	31	PNP	T05-A
2N1999	25	50	PNP	T05-A
2N2000	100	58	PNP	T05-A
2N2001	100	60	PNP	T05-A
2N2002	.001		PNP	T05-A
2N2003	.003		PNP	T05-A
2N2004	50	12	PNP	T05-A
2N2005	50		PNP	T05-A
2N2006	50		PNP	T05-A
2N2007	.005		PNP	T05-A
2N2008	2.0	65	NPN	T05-A
2N2015	50	15(B)	NPN	T036-C
JAN2N2015	50	15(B)	NPN	T036-C
2N2016	50	15(B)	NPN	T036-C
2N2017	10	35(B)	NPN	T05-C
2N2018	100	20(B)	NPN	A152-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2019	100	20(B)	NPN	A152-A
2N2020	100	40(B)	NPN	A152-A
2N2021	100	40(B)	NPN	A152-A
2N2023		C		
2N2024		C		
JAN2N2024W		C		
2N2025		C		
JAN2N2025W		C		
2N2026		C		
2N2027		C		
JAN2N2027W		C		
2N2028		C		
2N2029		C		
JAN2N2029W		C		
2N2030		C		
JAN2N2030W		C		
2N2031		C		
JAN2N2031W		C		
2N2032	20ma	20(B)	NPN	T053-A
2N2032/1	2000	20(B)	NPN	
2N2033	25	20(B)	NPN	T05-A
2N2034	25	20(B)	NPN	T05-A
2N2035	25	15(B)	NPN	T08-A
2N2036	10ma	15(B)	NPN	T037-A
2N2038	15	12	NPN	T05-A
2N2039	15	12	NPN	T05-A
2N2040	15	30	NPN	T05-A
2N2041	15	30	NPN	T05-A
2N2042	25	26	PNP	T05-A
2N2042A	25	26	PNP	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2043	25	60	PNP	T05-A
2N2043A	25	60	PNP	T05-A
2N2048	100	41	PNP	T09-A
2N2048A	25	13	PNP	T09-A
2N2049	.01	75	NPN	T05-A
2N2060	.002	16(A)	NPN	A113-A
JAN2N2060	.10	16(A)	NPN	T077-A
2N2060A	.002	16(A)	NPN	A113-A
2N2060B	.002	16(A)	NPN	A113-A
2N2061	10ma	10(B)	PNP	T03-C
2N2061A	2000	20(B)	PNP	T03-C
2N2062	10ma	20(B)	PNP	T03-C
2N2062A	2000	50(B)	PNP	T03-C
2N2063	20ma	10(B)	PNP	T03-C
2N2063A	2000	20(B)	PNP	T03-C
2N2064	20ma	20(B)	PNP	T03-C
2N2064A	2000	50(B)	PNP	T03-C
2N2065	20ma	10(B)	PNP	T03-C
2N2065A	5000	20(B)	PNP	T03-C
2N2066	20ma	20(B)	PNP	T03-C
2N2066A	5000	50(B)	PNP	T03-C
2N2067	3000	20(B)	PNP	A150-A
2N2067B	3000	15(B)	PNP	A150-A
2N2067G	3000	25(B)	PNP	A150-A
2N2067-O	3000	20(B)	PNP	A150-A
2N2067W	3000	33(B)	PNP	A150-A
2N2068	3000	20(B)	PNP	A150-A
2N2068G	3000	25(B)	PNP	A150-A
2N2068-O	3000	20(B)	PNP	A150-A
2N2075	4000	20(B)	PNP	T036-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} / I_{CES}	BETA	PNP NPN	DWG. NO.
2N2075A	4000	20(B)	PNP	T036-C
2N2076	4000	20(B)	PNP	T036-C
2N2076A	4000	20(B)	PNP	T036-C
2N2077	4000	20(B)	PNP	T036-C
2N2077A	4000	20(B)	PNP	T036-C
2N2078	4000	20(B)	PNP	T036-C
2N2078A	4000	20(B)	PNP	T036-C
2N2079	4000	35(B)	PNP	T036-A
2N2079A	4000	35(B)	PNP	T036-A
JAN2N2079A	4000	35(B)	PNP	T036-C
2N2080	4000	35(B)	PNP	T036-C
2N2080A	4000	35(B)	PNP	T036-C
2N2081	4000	35(B)	PNP	T036-C
2N2081A	4000	35(B)	PNP	T036-C
2N2082	4000	35(B)	PNP	T036-C
2N2082A	4000	35(B)	PNP	T036-C
2N2083			PNP	T045-H
2N2084	8.0	40	PNP	T033-G
JAN2N2084	8.0	40	PNP	T033-G
2N2085	5.0	33	NPN	T05-A
2N2086	2.0	20	NPN	T05-A
2N2087	2.0	40	NPN	T05-A
2N2089	8.0	50	PNP	T07-H
2N2090	8.0	40	PNP	T07-H
2N2091	8.0	40	PNP	T07-H
2N2092	8.0	50	PNP	T07-H
2N2094	.02	8	NPN	T05-A
2N2094A	.01	13	NPN	T05-A
2N2095	15		PNP	T031-A
2N2095A	.01	33	NPN	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} / I_{CES}	BETA	PNP NPN	DWG. NO.
2N2096	12	13	PNP	T031-A
2N2096A	.01	13	NPN	T018-A
2N2097	12	23	PNP	T031-A
2N2097A	.01	33	NPN	T013-A
2N2098	15		PNP	T09-A
2N2099	12	13	PNP	T09-A
2N2100	12	23	PNP	T09-A
2N2101		15(B)	NPN	T063-A
2N2102	.002	35(B)	NPN	T05-A
2N2102A	.002	40(B)	NPN	T05-A
2N2104	.025	20	PNP	T05-A
2N2105	.025	11	PNP	T05-A
2N2106	200	12(B)	NPN	T05-A
2N2107		30(B)	NPN	T05-A
2N2108		75(B)	NPN	T05-A
2N2109	10ma	l0(B)	NPN	A142-A
2N2110	10ma	10(B)	NPN	A142-A
2N2111	10ma	10(B)	NPN	A142-A
2N2112	10ma	10(B)	NPN	A142-A
2N2113	10ma	10(B)	NPN	A142-A
2N2114	10ma	10(B)	NPN	A142-A
2N2116	10ma	10(B)	NPN	A142-A
2N2117	10ma	10(B)	NPN	A142-A
2N2118	10ma	10(B)	NPN	A142-A
2N2119	10ma	10(B)	NPN	A142-A
2N2120	30ma	10(B)	PNP	A142-A
2N2123	10ma	10(B)	NPN	A142-A
2N2124	10ma	10(B)	NPN	A142-A
2N2125	10ma	10(B)	NPN	A142-A
2N2126	10ma	10(B)	NPN	A142-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2130	10ma	10(B)	NPN	A142-A
2N2131	10ma	10(B)	NPN	A142-A
2N2132	10ma	10(B)	NPN	A142-A
2N2133	10ma	10(B)	NPN	A142-A
2N2137	2000	30(B)	PNP	T03-C
2N2137A	2000	30(B)	PNP	T03-C
2N2138	2000	30(B)	PNP	T03-C
2N2138A	2000	30(B)	PNP	T03-C
2N2139	2000	30(B)	PNP	T03-C
2N2139A	2000	30(B)	PNP	T03-C
2N2140	2000	30(B)	PNP	T03-C
2N2140A	2000	30(B)	PNP	T03-C
2N2141	2000	30(B)	PNP	T03-C
2N2141A	2000	30(B)	PNP	T03-C
2N2142	2000	50(B)	PNP	T03-C
2N2142A	2000	50(B)	PNP	T03-C
2N2143	2000	50(B)	PNP	T03-C
2N2143A	2000	50(B)	PNP	T03-C
2N2144	2000	50(B)	PNP	T03-C
2N2144A	2000	50(B)	PNP	T03-C
2N2145	2000	50(B)	PNP	T03-C
2N2145A	2000	50(B)	PNP	T03-C
2N2146	2000	50(B)	PNP	T03-C
2N2146A	2000	50(B)	PNP	T03-C
2N2147	1000	100(B)	PNP	T03-C
2N2148	1000	40(B)	PNP	T03-C
2N2150	10	20(B)	NPN	A143-A
JAN2N2150	100	20(B)	NPN	A143-A
2N2151	10	40(B)	NPN	A143-A
JAN2N2151	100	40(B)	NPN	A143-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2152	4000	50(B)	PNP	T036-A
2N2152A	4000	50(B)	PNP	T036-C
2N2153	4000	50(B)	PNP	T036-C
2N2153A	4000	50(B)	PNP	T036-C
2N2154	4000	50(B)	PNP	T036-C
2N2154A	4000	50(B)	PNP	T036-C
2N2155	4000	50(B)	PNP	T036-C
2N2155A	4000	15(B)	PNP	T036-C
2N2156	4000	80(B)	PNP	T036-C
2N2156A	4000	80(B)	PNP	T036-C
2N2157	4000	80(B)	PNP	T036-C
2N2157A	4000	80(B)	PNP	T036-C
2N2158	4000	80(B)	PNP	T036-C
2N2158A	4000	80(B)	PNP	T036-C
2N2159	4000	80 (B)	PNP	T036-C
2N2159A	4000	15(B)	PNP	T036-C
2N2160		C		
2N2162	.01	11	PNP	T05-A
2N2163	.01	11	PNP	T05-A
2N2164	.02	13	PNP	T05-A
2N2165	.02	8	PNP	T05-A
2N2166	.02	8	PNP	T05-A
2N2167	.02	12	PNP	T05-A
2N2168	3.0	33	PNP	T09-A
2N2169	3.0	28	PNP	T09-A
2N2170	5.0	23	PNP	T09-A
2N2171	10	70	PNP	T05-A
2N2172	6.0	21	PNP	T05-A
2N2173	10	30	PNP	T05-A
2N2175	.001	16	PNP	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2176	.001	16	PNP	T018-A
2N2177	.001	16	PNP	T05-A
2N2178	.001	16	PNP	T018-A
2N2185	1.0	3	PNP	T018-A
2N2186	1.0	3	PNP	T018-A
2N2187	1.0	3	PNP	T018-A
2N2188	3.0	40	PNP	T058-A
2N2189	3.0	60	PNP	T058-A
2N2190	3.0	40	PNP	T058-A
2N2191	3.0	60	PNP	T058-A
2N2192	.01	75	NPN	T05-A
2N2192A	.01	75	NPN	T05-A
2N2192B	.01	75	NPN	T05-A
2N2193	.01	30	NPN	T05-A
2N2193A	.01	30	NPN	T05-A
2N2193B	.01	30	NPN	T05-A
2N2194	.01	15	NPN	T05-A
2N2194A	.01	15	NPN	T05-A
2N2194B	.01	15	NPN	T05-A
2N2195	.1	20	NPN	T05-A
2N2195A	.1	20	NPN	T05-A
2N2195B	.01	20	NPN	T05-A
2N2196	75	30(B)	NPN	A133-A
2N2197	75	30(B)	NPN	A133-A
2N2198	15	35	NPN	T05-A
2N2199	5.0	20	PNP	T03-A
2N2200	5.0	70(A)	PNP	T09-A
2N2201		30(B)	NPN	A133-A
2N2202	50	30(B)	NPN	A114-A
2N2203	50	30(B)	NPN	A114-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2204	50	30(B)	NPN	T03-A
2N2205	.025	20	NPN	T018-A
2N2206	.025	20	NPN	T046-A
2N2207		36	PNP	T07-H
2N2210	4000	25(B)	PNP	T036-C
JAN2N2210	4000	25(B)	PNP	T036-C
2N2212	2000	50(B)	PNP	T041-C
2N2216	.01	24	PNP	T05-A
2N2217	.01	12	NPN	T05-A
2N2217/51	.01	13	NPN	T051-A
2N2218	.01	25	NPN	T05-A
JAN2N2218	.01	30	NPN	T05-A
2N2218A	.01	30	NPN	T05-A
JAN2N2218A	.01	25	NPN	T05-A
2N2218/TPT	.01	26	NPN	A130-B
2N2218/51	.01	26	NPN	T051-A
2N2219	.01	50	NPN	T05-A
JAN2N2219	.01	50	NPN	T05-A
2N2219A	.01	40	NPN	T05-A
JAN2N2219A	.01	50		T05-A
2N2219/TPT	.01	50	NPN	A130-B
2N2219/51	.01	50	NPN	T051-A
2N2220	.01	12	NPN	T018-A
2N2221	.01	25	NPN	T018-A
JAN2N2221	.01	25	NPN	T018-A
2N221A	.01	30	NPN	T018-A
JAN2N2221A	.01	25	NPN	T018-A
2N2222	.01	50	NPN	T018-A
JAN2N2222	.01	50	NPN	T018-A
2N2222A	.01	50	NPN	T018-A

BI-POLAR TRANSISTOR DATA -Continued

TYPE NO.	ICO ICES	BETA	PNP NPN	DWG. NO.
2N2222B	.01	50	NPN	T018-A
JAN2N2222A	.01	50	NPN	T018-A
2N2223	.01	40	NPN	A113-A
2N2223A	.01	40	NPN	A113-A
2N2224	.01	35	NPN	T05-A
2N2226		100(B)	NPN	T081-C
2N2227		100(B)	NPN	T081-C
2N2228		100(B)	NPN	T081-C
2N2229	10ma	100(B)	NPN	T081-C
2N2230		400(B)	NPN	T081-C
2N2231		400(B)	NPN	T081-C
2N2232		400(B)	NPN	T081-C
2N2233	10	400(B)	NPN	T081-C
2N2234	1.0	5	NPN	T03-C
2N2235	1.0	13	NPN	T03-C
2N2236	.05	11	NPN	T05-C
2N2237	.05	21	NPN	T05-A
2N2239	10	16	NPN	T037-A
2N2240	.025	13	NPN	T05-A
2N2241	.025	33	NPN	T05-A
2N2242	.10	26	NPN	T018-A
2N2243	.01	30	NPN	T05-A
2N2243A	.01	30	NPN	T05-A
2N2244	.01	3	NPN	T018-A
2N2245	.01	6	NPN	T018-A
2N2246	.01	13	NPN	T018-A
2N2247	.01	3	NPN	T018-A
2N2248	.01	6	NPN	T018-A
2N2249	.01	13	NPN	T018-A
2N2250	.01	3	NPN	T018-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2251	.01	6	NPN	T018-A
2N2252	.01	13	NPN	T018-A
2N2253	.01	3	NPN	T018-A
2N2254	.01	6	NPN	T018-A
2N2255	.01	13	NPN	T018-A
2N2256	10	10	NPN	T018-A
2N2257	10	16	NPN	T018-A
2N2258	10	10	NPN	T018-A
2N2259	10	16	PNP	T018-A
2N2266	2000	25(B)	PNP	T059-B
2N2267	2000	25(B)	PNP	T059-B
2N2268	2000	25(B)	PNP	T059-B
2N2269	2000	25(B)	PNP	T059-B
2N2270	.05	50(B)	NPN	T05-A
2N2271	500	25	PNP	T05-A
2N2273	100	20	PNP	T018-A
JAN2N2273	10	20	PNP	T018-A
2N2274	3.0	10	PNP	T018-A
2N2275	3.0	10	PNP	T018-A
2N2276	3.0	10	PNP	T018-A
2N2277	3.0	10	PNP	T018-A
2N2278	1.0	10	PNP	T018-A
2N2279	1.0	10	PNP	T018-A
2N2280	.003	3	PNP	T018-A
2N2281	.003	3	PNP	T018-A
2N2282	.05	30(B)	PNP	T037-A
2N2283	.05	30(B)	PNP	T037-A
2N2284	.05	30(B)	PNP	T037-A
2N2285	5000	35(B)	PNP	T03-C
2N2286	5000	35(B)	PNP	T03-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2287	5000	35(B)	PNP	T03-C
2N2288	1000	20(B)	PNP	T03-C
2N2289	1000	20(B)	PNP	T03-C
2N2290	2000	20(B)	PNP	T03-C
2N2291	1000	50(B)	PNP	T03-C
2N2292	1000	50(B)	PNP	T 03 -C
2N2293	2000	50(B)	PNP	T03-C
2N2294	1000	50(B)	PNP	T041-C
2N2295	1000	50(B)	PNP	T041-C
2N2296	2000	50(B)	PNP	T041-C
2N2297	.01	40	PNP	T05-A
2N2297/51	.50	6	NPN	T05-A
2N2303	1.0	75	PNP	T05-A
2N2303/KVT	1.0	25	PNP	A129-A
2N2303/TPT	1.0	25	PNP	A130-B
2N2303/46	1.0	25	PNP	T046-A
2N2303/51	1.0	25	PNP	T051-A
2N2304	100	20(B)	NPN	T08-A
2N2305	25	15(B)	NPN	T03-C
2N2308	50	20(B)	NPN	T08-A
2N2309	.005	16	NPN	T05-A
2N2310	10	6	NPN	T046-A
2N2311	10	6	NPN	T046-A
2N2312	10	20	NPN	T046-A
2N2313	10	20	NPN	T046-A
2N2314	1.0	15	NPN	T046-A
2N2315	1.0	23	NPN	T046-A
2N2316	2.0	21	NPN	T05-A
2N2317	.01	26	NPN	T046-A
2N2318	1.0	13	NPN	T018-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2319	1.0	13	NPN	T046-A
2N2320	1.0	13	NPN	T05-A
2N2322		C		
2N2322A		C		
2N2323		C		
JAN2N2323		C		
2N2323A		C		
JAN2N2323A		C		
2N2324		C		
2N2324A		C		
JAN2N2324A		C		
2N2325		C		
2N2325A		C		
2N2326		C		
JAN2N2326		C		
2N2326A		C		
JAN2N2326A		C		
2N2327		C		
2N2327A		C		
2N2328		C		
JAN2N2328		C		
2N2328A		C		
JAN2N2328A		C		
2N2329		C		
JAN2N2329		C		
2N2329A		C		
2N2330	.01	50	NPN	T05-A
2N2331	.01	30	NPN	T018-A
2N2332	50		PNP	T018-A
2N2333	50		PNP	T018-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2334	50		PNP	T018-A
2N2335	50		PNP	T018-A
2N2336	50		PNP	T018-A
2N2337	50		PNP	T018-A
2N2338	200	15(B)	NPN	T026-A
2N2339	100	20(B)	NPN	A139-A
2N2344		**C**		
2N2345		**C**		
2N2346		**C**		
2N2347		**C**		
2N2348		**C**		
2N2349	1.0	120	NPN	T05-A
2N2350	.01	100	NPN	T046-A
2N2350A	.01	100	NPN	T046-A
2N2351	.01	40	NPN	T046-A
2N2351A	.01	40	NPN	T046-A
2N2352	.01	20	NPN	T046-A
2N2352A	.01	20	NPN	T046-A
2N2353	.10	20	NPN	T046-A
2N2353A	.10	20	NPN	T046-A
2N2354	50	50	NPN	T022-F
2N2356	.01	2.5	NPN	T077-C
2N2356A	.01	2.5	NPN	T077-C
2N2357	5000	30(B)	PNP	T041-C
2N2358	5000	30(B)	PNP	T041-C
2N2259	5000	30(B)	PNP	T041-C
2N2360	10	11	PNP	T012-G
2N2361	10	11	PNP	T012-G
2N2362	10	11	PNP	T012-G
2N2364	.01	40	PNP	T046-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2364A	.01	40	PNP	T046-A
2N2368	.40	13	NPN	T018-A
2N2368/51	.40	13	NPN	T051-A
2N2369	.40	26	NPN	T018-A
2N2369A	.40	40	NPN	T018-A
JAN2N2369A	30	120(A)	NPN	T018-A
2N2369/KVT	.40	26	NPN	A129-A
2N2369/TNT	.40	26	NPN	A146-D
2N2369/TPT	.40	26	NPN	A130-B
2N2369/46	.40	26	NPN	T046-A
2N2369/51	.40	26	NPN	T051-A
2N2370	50	15	PNP	T05-A
2N2371	50	20	PNP	T05-A
2N2372	50	15	PNP	T018-A
2N2373	50	20	PNP	T018-A
2N2374	100	46	PNP	T05-A
2N2375	100	25	PNP	T05-A
2N2376	100	25	PNP	T05-A
2N2377	1.0	15	PNP	T018-A
JAN2N2377	1.0	25	PNP	T018-A
2N2378	.10	25	PNP	T018-A
JAN2N2378	.10	15	PNP	T018-A
2N2380	4.0	20	NPN	T05-A
2N2380A	4.0	20	NPN	T05-A
2N2381	7.0	13	PNP	T05-A
2N2382	7.0	13	PNP	T05-A
2N2383	1000	20(B)	PNP	T053-A
2N2384	1000	20(B)	PNP	T059-A
2N2387	.10	60	PNP	T018-A
2N2388	.01	150	NPN	T050-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} / I_{CES}	BETA	PNP NPN	DWG. NO.
2N2389	.01	35	NPN	T050-A
2N2390	.01	70	NPN	T050-A
2N2393	1.0	15	PNP	T050-A
2N2394	1.0	25	PNP	T050-A
2N2395	.01	20	NPN	T050-A
2N2396	.01	40	NPN	T050-A
2N2397	.10	8	NPN	T051-A
2N2398	10	11	PNP	T012-G
2N2399	10	11	PNP	T012-G
2N2400	3.0	30	PNP	T018-A
2N2401	1.5	50	PNP	T018-A
2N2402	1.5	60	PNP	T018-A
2N2405	.01	60(B)	NPN	T05-A
2N2410	.30	30	NPN	T05-A
2N2411	.01	11	PNP	T018-A
2N2412	.01	18	PNP	T018-A
2N2413	.10	30	NPN	T018-A
2N2415	5.0	15	PNP	T018-A
2N2416	5.0	10	PNP	T018-A
2N2417		C		
2N2417A		C		
JAN2N2417A		C		
2N2417B		C		
2N2418		C		
JAN2N2418A		C		
2N2418B		C		
2N2419		C		
2N2419A		C		
JAN2N2419A		C		
2N2419B		C		

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2420		C		
2N2420A		C		
JAN2N2420A		C		
2N2420B		C		
2N2421		C		
2N2421A		C		
JAN2N2421A		C		
2N2421B		C		
2N2422		C		
2N2422A		C		
JAN2N2422A		C		
2N2422B		C		
2N2423	500	20(B)	PNP	T03-C
2N2424	.10	30	PNP	T05-A
2N2425	.10	25	PNP	T05-A
2N2427	.50	6	NPN	T018-A
2N2428	10	40	PNP	T01-A
2N2429	10	13	PNP	T01-A
2N2430	10	35	NPN	T01-A
2N2431	10	30	PNP	T01-A
2N2431MP	10	30	PNP	T01-A
2N2432	.01	50	NPN	T018-A
2N2432A	.01	50	NPN	T018-4
JAN2N2432	.01	80	NPN	T018-A
2N2433	.001	35	NPN	T046-A
2N2434	.001	70	NPN	T046-A
2N2435	.001	45	NPN	T046-A
2N2436	.001	70	NPN	T046-A
2N2437	.001	20	NPN	T046-A
2N2438	.001	40	NPN	T046-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2439	.001	80	NPN	T046-A
2N2440	.001	70	NPN	T05-A
2N2443	.01	30	NPN	T05-A
2N2444	1000	75(B)	NPN	T03-C
2N2445	3000	20(B)	NPN	T041-A
2N2447	10	21	PNP	T030-A
2N2448	10	21	PNP	A148-A
2N2449	10	41	PNP	T030-A
2N2450	10	41	PNP	A148-A
2N2451	5.0	25	PNP	T024A
2N2452		C		
2N2453	.005	150	NPN	A113-A
2N2453A	.005	150	NPN	A113-A
2N2454		C		
2N2455	2.0	20	PNP	T05-A
2N2456	2.0	20	PNP	T018-A
2N2459	.002	40	PNP	T046-A
2N2460	.002	70	NPN	T046-A
2N2461	.002	120	NPN	T046-A
2N2462	.002	170	NPN	T046-A
2N2463	.002	40	NPN	T018-A
2N2464	.002	70	NPN	T018-A
2N2465	.002	120	NPN	T018-A
2N2466	.002	170	NPN	T018-A
2N2467	.10	30(B)	NPN	T05-A
2N2468	.10	30(B)	PNP	T05-A
2N2469	.15	30(B)	PNP	T05-A
2N2474		5	PNP	T05-A
2N2475	10	16	NPN	T05-A
2N2475/46	10	16	NPN	T046-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2475/51	10	16	NPN	T051-A
2N2476	.20	20	NPN	T05-A
2N2477	.20	40	NPN	T05-A
2N2478	2.0	30	NPN	T05-A
2N2479	4.0	30	NPN	T05-A
2N2480	.05	30	NPN	A113-A
2N2480A	.02	50	NPN	A113-A
2N2481		40	NPN	T018-A
JAN2N2481	.05	40	NPN	T018-A
2N2482	100	8	NPN	T018-A
2N2483	.01	40	NPN	T018-A
2N2484	.01	100	NPN	T018-A
2N2484A	.01	150	NPN	T018-A
JAN2N2484	10	250	NPN	T018-A
2N2485	1.0	3	NPN	T05-A
2N2486	1.0	3	NPN	T05-A
2N2487	3.0	20	PNP	T018-A
2N2488	3.0	20	PNP	T018-A
2N2489	2.5	20	PNP	T018-A
2N2490	2000	40(B)	PNP	T036-C
2N2491	2000	70(B)	PNP	T036-C
2N2492	2000	50(B)	PNP	T036-C
2N2493	2000	50(B)	PNP	T036-C
2N2494	6.0	8	PNP	T07-II
2N2495	6.0	8	PNP	T012-G
2N2496	6.0	8	PNP	T012-G
2N2501		150(A)	NPN	T018-A
2N2503		C		
2N2504		C		
2N2505		C		

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2506		C		
2N2507		C		
2N2508		C		
2N2509	10	13	NPN	T018-A
2N2510	10	150	NPN	T018-A
2N2511	10	240	NPN	T018-A
2N2512	5.0	40	PNP	T033-G
2N2514	20	60	PNP	T05-A
2N2515	.005	30	NPN	T046-A
2N2516	.005	60	NPN	T046-A
2N2518	.005	40	NPN	T046-A
2N2519	.005	80	NPN	T046-A
2N2520	.005	18	NPN	T046-A
2N2521	.005	36	NPN	T046-A
2N2522	.005	76	NPN	T046-A
2N2523	.002	20	NPN	T046-A
2N2524	.002	50	NPN	T046-A
2N2525		10(B)	NPN	T059-A
2N2526	3000	50(B)	PNP	T03-C
2N2527	3000	50(B)	PNP	T03-C
2N2528	3000	50(B)	PNP	T03-C
JAN2N2528	3000	50(B)	PNP	T03-C
2N2529	.05	6	NPN	T018-A
2N2530	.05	10	NPN	T018-A
2N2531	.05	20	NPN	T018-A
2N2532	.05	50	NPN	T018-A
2N 2533	.05	11	NPN	T018-A
2N2534	.05	33	NPN	T018-A
2N2535	.25	13	PNP	T061-A
2N2536	.25	13	PNP	T062-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2537	.25	20	NPN	T05-A
2N2538	.25	30	NPN	T05-A
2N2539	.25	20	NPN	T018-A
2N2540	.25	35	NPN	T018-A
2N2541	20	60	PNP	T05-A
2N2542		C		
2N2543		C		
2N2544		C		
2N2545		C		
2N2546		C		
2N2547		C		
2N2548		C		
2N2551	.10	15	NPN	T05-A
2N2552	125	20(B)	PNP	A136-A
2N2553	125	20(B)	PNP	A136-A
JAN2N2553	70	2.0	PNP	A136-A
2N2554	125	20(B)	PNP	A136-A
2N2555	125	20(B)	PNP	A136-A
JAN2N2555	70	2.0	PNP	A136-A
2N2556	125	20(B)	PNP	A137-A
2N2557	125	20(B)	PNP	A137-A
JAN2N2557	70	60(B)	PNP	A137-A
2N2558	125	20(B)	PNP	A137-A
2N2559	125	20(B)	PNP	A137-A
JAN2N2559	70	60(B)	PNP	A137-A
2N2560	125	20(B)	PNP	A136-A
2N2561	125	20(B)	PNP	A136-A
2N2562	125	20(B)	PNP	A136-A
2N2563	125	20(B)	PNP	A136-A
2N2564	125	20(B)	PNP	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2564/5	650	20(B)	PNP	T05-A
2N2565	125	20(B)	PNP	A110-A
2N2565/5	650	20(B)	PNP	T05-A
2N2566	125	20(B)	PNP	A110-A
2N2566/5	650	20(B)	PNP	T05-A
2N2567	125	20(B)	PNP	A110-A
2N2567/5	650	20(B)	PNP	T05-A
2N2569	.01	50	NPN	T018-A
2N2570	.01	50	NPN	T018-A
2N2573		C		
2N2574		C		
2N2575		C		
2N2576		C		
2N2577		C		
2N2578		C		
2N2579		C		
2N2580	5000	10(B)	NPN	T036-C
2N2580M	5000	10(B)	NPN	T036-C
2N2581	5000	25(B)	NPN	T036-C
2N2582	5000	10(B)	NPN	T036-C
2N2583	5000	25(B)	NPN	T036-C
2N2586	.002	80	NPN	T018-A
2N2590	.025	40	PNP	T046-A
2N2591	.025	70	PNP	T046-A
2N2592	.025	115	PNP	T046-A
2N2593	.025	160	PNP	T046-A
2N2594	.10	20(B)	NPN	T05-A
2N2594/TPT	.40	26	NPN	A130-B
2N2595	.025	20	PNP	T046-A
2N2596	.025	40	PNP	T046-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2597	.025	80	PNP	T046-A
2N2598	.025	20	PNP	T046-A
2N2599	.025	40	PNP	T046-A
2N2599A	.025	75	PNP	T046-A
2N2600	.025	80	PNP	T046-A
2N2600A	.025	50	PNP	T046-A
2N2601	.025	18	PNP	T046-A
2N2602	.025	36	PNP	T046-A
2N2603	.025	76	PNP	T046-A
2N2604	.010	60	PNP	T046-A
JAN2N2604	.04	350(A)	PNP	T046-A
2N2605	.010	150	PNP	T046-A
JAN2N2605	.04	600(A)	PNP	T046-A
2N2610	2.0	9	NPN	A101-A
2N2611	50	12(B)	NPN	A133-A
2N2612	15ma	10	PNP	T03-C
2N2613	5.0	120	PNP	T01-A
2N2614	5.0	100	PNP	T01-A
2N2615	.001	20	NPN	T018-A
2N2616	.01	16	NPN	T018-A
2N2617	.10	25	PNP	A108-A
2N2618	.25	30	NPN	T05-A
2N2618/46	.25	30	NPN	T046-A
2N2619		C		
2N2630	5.0	8	PNP	T018-A
2N2631	.01	7.5(B)	NPN	T039-A
JAN2N2631	.10	30(B)	NPN	T05-A
2N2632	.10	40(B)	NPN	T059-A
2N2633	.10	40(B)	NPN	T059-A
2N2634	.10	40(B)	NPN	T059-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2635		45	PNP	T018-A
2N2636	10ma	35(B)	PNP	T041-C
2N2637	10ma	35(B)	PNP	T041-C
2N2638	10ma	35(B)	PNP	T041-C
2N2639	.01	65	NPN	A113-A
2N2640	.01	65	NPN	A113-A
2N2641	.01	65	NPN	A113-A
2N2642	.01	130	NPN	A113-A
JAN2N2642	.01	130	NPN	T077-A
2N2643	.01	130	NPN	A113-A
2N2644	.01	130	NPN	A113-A
2N2645	.01	75	NPN	T018-A
2N2646		C		
2N2647		C		
2N2648	100	66	PNP	T05-A
2N2649	1.0	3	NPN	T05-A
2N2650	1.0	3	NPN	T05-A
2N2651	10	25	NPN	T018-A
2N2652	.01	50	NPN	A113-A
2N2652A	.002	50	NPN	A113-A
2N2653		C		
2N2654	8.0	16	PNP	T012-A
2N2656	.50	40	NPN	T018-A
2N2657	.10	40(B)	NPN	T05-A
2N2658	.10	40(B)	NPN	T05-A
2N2659	125	30(B)	PNP	A110-A
2N2660	125	30(B)	PNP	A110-A
2N2661	125	30(B)	PNP	A110-A
2N2662	125	30(B)	PNP	T05-A
2N2663	125	30(B)	PNP	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2664	125	30(B)	PNP	T05-A
2N2665	125	50(B)	PNP	A110-A
2N2666	125	50(B)	PNP	A110-A
2N2667	125	50(B)	PNP	A110-A
2N2668	125	50(B)	PNP	A136-A
2N2669	125	50(B)	PNP	A136-A
2N2670	125	50(B)	PNP	A136-A
2N2671	8.0	40	PNP	T012-G
2N2672	8.0	40	PNP	T039-A
2N2672A	8.0	13	PNP	T039-A
2N2679		C		
2N2679A		C		
2N2680		C		
2N2680A		C		
2N2681		C		
2N2681A		C		
2N2682		C		
2N2682A		C		
2N2683		C		
2N2683A		C		
2N2684		C		
2N2684A		C		
2N2685		C		
2N2685A		C		
2N2686		C		
2N2686A		C		
2N2687		C		
2N2688		C		
2N2689		C		
2N2690		C		

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2691	5000	30(B)	NPN	T041-C
2N2691A	5000	50(B)	NPN	T041-C
2N2692	.01	90	NPN	T018-A
2N2693	.002	80	NPN	T018-A
2N2694	.01	13	NPN	T018-A
2N2695	.025	30	NPN	T046-A
2N2696	.025	30	NPN	T046-A
2N2697	.10	40(B)	NPN	A144-A
2N2698	.10	40(B)	NPN	A144-A
2N2706	10	37	PNP	T01-A
2N2706MP	10	37	PNP	T01-A
2N2707	10	35	PNP/NPN	T01-A
2N2708	.01	180	NPN	T072-G
JAN2N2708	.01	30	NPN	T072-G
2N2710	.03	40	NPN	T018-A
2N2711	.50	30	NPN	T098-B
2N2712	.50	75	NPN	T098-B
2N2713	.50	30	NPN	T098-B
2N2714	.50	75	NPN	T098-B
2N2715	.50	10	NPN	T098-B
2N2716	.50	25	NPN	T098-B
2N2717	1.4	16	PNP	T018-A
2N2718	7.0	8	PNP	T05-A
2N2719		10	NPN	T018-A
2N2720	.01	30	NPN	A113-A
2N2721	.01	30	NPN	A113-A
2N2722	.001	100	NPN	A113-A
2N2723		1500	NPN	T072-M
2N2724		5000	NPN	T072-M
2N2725		1500	NPN	T072-M

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2726	1.0	.20	NPN	T05-A
2N2727	1.0	36	NPN	T05-A
2N2728	10ma	40(B)	PNP	T036-C
2N2729	.01	16	NPN	T046-A
2N2730	5000	15(B)	PNP	T036-C
2N2731	5000	15(B)	PNP	T036-C
2N2732	5000	15(B)	PNP	T036-C
2N2733	5000	15(B)	PNP	T059-B
2N2734	5000	15(B)	PNP	T059-B
2N2735	5000	15(B)	PNP	T059-B
2N2736	5000	15(B)	PNP	T059-B
2N2737	5000	15(B)	PNP	T059-B
2N2738	5000	15(B)	PNP	T059-B
2N2739	15ma	10(B)	NPN	T081-C
2N2740	15ma	10(B)	NPN	T081-C
2N2741	15ma	10(B)	NPN	T081-C
2N2742	15ma	10(B)	NPN	T081-C
2N2745	15ma	10(B)	NPN	T081-C
2N2746	15ma	10(B)	NPN	T081-C
2N2747	15ma	10(B)	NPN	T081-C
2N2748	15ma	10(B)	NPN	T081-C
2N2751	15ma	10(B)	NPN	T081-C
2N2752	15ma	10(B)	NPN	T081-C
2N2753	15ma	10(B)	NPN	T081-C
2N2754	15ma	10(B)	NPN	T081-C
2N2757	15ma	10(B)	NPN	T059-A
2N2758	15ma	10(B)	NPN	T059-A
2N2759	15ma	10(B)	NPN	T059-A
2N2760	15ma	10(B)	NPN	T059-A
2N2761	15ma	10(B)	NPN	T059-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2763	15ma	10(B)	NPN	T059-A
2N2764	15ma	10(B)	NPN	T059-A
2N2765	15ma	10(B)	NPN	T059-A
2N2766	15ma	10(B)	NPN	T059-A
2N2769	15ma	10(B)	NPN	T059-A
2N2770	15ma	10(B)	NPN	T059-A
2N2771	15ma	10(B)	NPN	T059-A
2N2772	15ma	10(B)	NPN	T059-A
2N2775	15ma	25	NPN	T062-A
2N2776	15ma	25	NPN	T062-A
2N2777	15ma	25	NPN	T062-A
2N2778	15ma	25	NPN	T062-A
2N2781	500		NPN	T08-A
2N2782	500		NPN	T08-A
2N2783	500	7.5(B)	NPN	T08-A
2N2784	.005	120(A)	NPN	T018-A
2N2784/KVT	.005	120(A)	NPN	A129-A
2N2784/TNT	.005	120(A)	NPN	A146-D
2N2784/TPT	.005	120(A)	NPN	A130-B
2N2784/46	.005	120(A)	NPN	T046-A
2N2784/51	.005	120(A)	NPN	T051-A
2N2785		2000	NPN	T072-M
2N2786	10	33	PNP	T039-A
2N2786A	10	33	PNP	T039-A
2N2787	10	30	NPN	T05-A
2N2788	10	75	NPN	T05-A
2N2789	10	150	NPN	T05-A
2N2790	.01	30	NPN	T018-A
2N2791	.01	75	NPN	T018-A
2N2792	.01	150	NPN	T018-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2793		50	PNP	T036-C
2N2795		100	PNP	T018-A
2N2796		60	PNP	T018-A
2N2797		80	PNP	T09-A
2N2798		50	PNP	T09-A
2N2799		50	PNP	T09-A
2N2800	.10	20	PNP	T05-A
2N2800/46	.10	30	PNP	T046-A
2N2800/51	.10	30	PNP	T051-A
2N2801	.10	30	PNP	T05-A
2N2801/46	.10	25	PNP	T046-A
2N2801/51	.10	25	PNP	T051-A
2N2802	.01	20	PNP	A113-A
2N2803	.01	20	PNP	A113-A
2N2804	.01	20	PNP	A113-A
2N2805	.01	40	PNP	A113-A
2N2806	.01	40	PNP	A113-A
2N2807	.01	40	PNP	A113-A
2N2808A	.01	6	NPN	T012-G
2N2809	.01	6	NPN	T012-G
2N2809A	.01	6	NPN	T012-G
2N2810	.01	6	NPN	T012-G
2N2810A	.01	6	NPN	T012-G
2N2811	.10	20(B)	NPN	T059-A
2N2812	.10	40(B)	NPN	T059-A
2N2813	.10	20(B)	NPN	T059-A
2N2814	.10	40(B)	NPN	T059-A
2N2815		10(B)	NPN	T059-A
2N2816		10(B)	NPN	T059-A
2N2817		10(B)	NPN	T059-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2818		10(B)	NPN	T059-A
2N2819		10 (B)	NPN	T059-A
2N2820		10(B)	NPN	T059-A
2N2821		10(B)	NPN	T059-A
2N2822		10(B)	NPN	T059-A
2N2823		10(B)	NPN	T059-A
2N2824		10(B)	NPN	T059-A
2N2825		10(B)	NPN	T059-A
2N2828	5000	20(B)	NPN	T05-A
2N2829		20(B)	NPN	T059-A
2N2831	.03	40	NPN	T018-A
2N2832	10ma	25(B)	PNP	T03-C
2N2833	10ma	25(B)	PNP	T03-C
2N2834	10ma	25(B)	PNP	T03-C
JAN2N2834	10ma	25(B)	PNP	T03-C
2N2835		30(B)	PNP	T066-C
2N2836	50	30(B)	PNP	T03-C
2N2837	.10	20	PNP	T018-A
2N2838	.10	30	PNP	T018-A
2N2840		C		
2N2841	(See SECTION II)			
2N2842	(See SECTION II)			
2N2843	(See SECTION II)			
2N2844	(See SECTION II)			
2N2845	.20	30	NPN	T018-A
2N2846	.20	30	NPN	T05-A
2N2847	.20	40	NPN	T018-A
2N2848	.20	40	NPN	T05-A
2N2849	.10	100	NPN	T05-A
2N2849-1		33	NPN	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2849-2		33	NPN	T026
2N2849-3		100	NPN	T060-A
2N2850	.10	40	NPN	T05-A
2N2850-1		13	NPN	T05-A
2N2850-2	40	13	NPN	T05-A
2N2850-3	40	40(B)	N PN	A 129
2N2851	.10	40(B)	NPN	T05-A
2N2851-1		40(B)	NPN	T05-A
2N2851-2	40	40(B)	NPN	T059-F
2N2851-3	40	40(B)	NPN	T060-A
2N2852	.10	20(B)	NPN	T05-A
2N2852-1		20(B)	NPN	T05-A
2N2852-2	20	20(B)	NPN	T059-F
2N2852-3	20	20(B)	NPN	T060-A
2N2853	.10	40(B)	NPN	T05-A
2N2853-1		40(B)	NPN	T05-A
2N2853-2	40	40(B)	NPN	T059-F
2N2853-3	40	40(B)	NPN	T060-A
2N2854	.10	100(B)	NPN	T05-A
2N2854-1	100	100(B)	NPN	T05-A
2N2854-2	100	100(B)	NPN	T059-F
2N2854-3	100	100(B)	NPN	T060-A
2N2855	.10	40(B)	NPN	T05-A
2N2855-1		40(B)	NPN	T05-A
2N2855-2	40	40(B)	NPN	T059-F
2N2855-3	40	40(B)	NPN	T060-A
2N2856	.10	20(B)	NPN	T05-A
2N2856-1		20(B)	NPN	T05-A
2N2856-2	20	20(B)	NPN	T059-F
2N2856-3	20	20(B)	NPN	T060-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2857	.01	50	NPN	T018-A
JAN2N2857	.10	220(A)	NPN	T072-G
2N2858		20	NPN	T05-A
2N2859		20	NPN	T05-A
2N2860		40	PNP	T018-A
2N2861	.01	50	PNP	T018-A
2N2862	.01	25	PNP	T018-A
2N2863	.50	20	NPN	T05-A
2N2864	.50	12	NPN	T05-A
2N2865	.01	20	NPN	T072-G
2N2866		20(B)	NPN	A142-A
2N2867		40(B)	NPN	A143-A
2N2868	.01	30	NPN	T05-A
2N2869		50(B)	PNP	T03-C
2N2870		50(B)	PNP	T03-C
2N2871	.10	15	PNP	A113-A
2N2872	.10	15	PNP	A113-A
2N2873	12	125	PNP	T072-A
2N2874	.01	7.5(B)	NPN	T08-A
2N2875	1.0	15(B)	PNP	A143-A
2N2876	.10		NPN	T060-A
JAN2N2876	.10	30(B)	NPN	A143-A
2N2877	.10	15(B)	NPN	T059-A
2N2878	.10	30(B)	NPN	T059-A
2N2879	.10	15(B)	NPN	T059-A
2N2880	.10	30(B)	NPN	T059-A
JAN2N2880	.10	30(B)	PNP	T059-A
2N2881		20(B)	PNP	T05-A
2N2882		20(B)	PNP	T05-A
2N2883	.50	20	NPN	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2884	.50	20	NPN	T05-A
2N2885	.025	10	NPN	T051-A
2N2886	.10	7	NPN	T05-A
2N2887		15(B)	NPN	T059-A
2N2890	50	30	NPN	T05-A
2N2891	50	50	NPN	T05-A
2N2892	.1	30(B)	NPN	T059-A
2N2893	.1	50(B)	NPN	T059-A
2N2894	.08	40	PNP	T018-A
2N2894A	10	40	PNP	T018-A
2N2895	.002	50	NPN	T018-A
2N2896	.01	50	NPN	T018-A
2N2897	.05	50	NPN	T018-A
2N2898	.002	50	NPN	T046-A
2N2899	.01	50	NPN	T046-A
2N2900	.05	50	NPN	T046-A
2N2903	.01	150	NPN	A113-A
2N2903A	.01	150	NPN	A113-A
2N2904	.02	25	PNP	T05-A
JAN2N2904	.02	25	PNP	T05-A
2N2904A	.01	40	PNP	T05-A
JAN2N2904A	.01	40	PNP	T05-A
2N2904/TPT	10	13	PNP	A130-B
2N2905	.02	50	PNP	T05-A
JAN2N2905	.02	50	PNP	T05-A
2N2905A	.01	100	PNP	T05-A
JAN2N2905A	.01	100	PNP	T05-A
2N2906	.02	25	PNP	T018-A
JAN2N2906	.02	25	PNP	T018-A
2N2906A	.01	40	PNP	T018-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
JAN2N2906A	.01	40	PNP	T018-A
2N2907	.02	30	PNP	T018-A
JAN2N2907	.02	50	PNP	T018-A
2N2907A	.01	100	PNP	T018-A
JAN2N2907A	.01	100	PNP	T018-A
2N2908		4	NPN	T053-A
2N2909	.01	30	NPN	T046-A
2N2910	.01	50	NPN	T077-A
2N2911		20(B)	NPN	T05-A
2N2912	10ma	200(B)	PNP	T047-A
2N2913	.01	60	NPN	A113-A
2N2914	.01	150	NPN	A113-A
2N2915	.01	150	NPN	A113-A
2N2915A	.01	150	NPN	A113-A
2N2916	.01	150	NPN	A113-A
2N2916A	.01	300	NPN	A113-A
2N2917	.01	60	NPN	A113-A
2N2918	.01	150	NPN	A113-A
2N2919	.002	60	NPN	A113-A
JAN2N2919	1.0	150	NPN	A113-A
2N2919A	.002na	150	NPN	A113-A
2N2920	1.0	150	NPN	A113-A
JAN2N2920	1.0		NPN	A113-A
2N2920A	2.0na	300	NPN	A113-A
2N2921	.50	35	NPN	T098-B
2N2922	.50	55	NPN	T098-B
2N2923	.50	30	NPN	T098-B
2N2924	.50	51	NPN	T098-B
2N2925	.50	71	NPN	T098-B
2N2926	.50	11	NPN	T098-B

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2927	.025	10	PNP	T05-A
2N2927/46	.025	10	PNP	T046-A
2N2927/51	.025	10	PNP	T051-A
2N2928	5.0	3	PNP	T012-G
2N2929	.005	3	PNP	T05-A
2N2931	.015	10	NPN	A149-A
2N2932	.015	23	NPN	A149-A
2N2933	.015	15	NPN	A149-A
2N2934	.015	10	NPN	A149-A
2N2935	.015	23	NPN	A149-A
2N2936			NPN	T077-A
2N2937			NPN	T077-A
2N2938		41	NPN	T052-A
2N2939	.025	20	NPN	T05-A
2N2940	.025	20	NPN	T05-A
2N2941	.025	20	NPN	T05-A
2N2942	25	21	PNP	T09-A
2N2943	25	15	PNP	T09-A
2N2944	.10	66	PNP	T046-A
2N2944A	1.0	100	PNP	T046-A
2N2945	.20	33	PNP	T046-A
2N2945A	2.0	70	PNP	T046-A
2N2946	.50	23	PNP	T046-A
2N2946A	5.0	50	PNP	T046-A
2N2947	1.0	2.5(B)	NPN	T03-C
2N2948	1.0	2.5(B)	NPN	T03-C
2N2949	.10	5(B)	NPN	A111-A
2N2950	.10	5 (B)	NPN	T060-A
2N2951	.10	20(B)	NPN	T05-A
2N2952	.50	20(B)	NPN	T018-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2953	5.0	66	PNP	T01-A
2N2955		14	PNP	T018-A
2N2956		38	PNP	T018-A
2N2957		43	PNP	T018-A
2N2958	.025	40	NPN	T05-A
2N2959	.025	100	NPN	T05-A
2N2960	25na	35	NPN	T05-A
2N2961	25na	30	NPN	T05-A
2N2962	5.0	6(B)	PNP	T060-A
2N2963	5.0	6(B)	PNP	T060-A
2N2964	5.0	6(B)	PNP	T060-A
2N2965	5.0	6(B)	PNP	T060-A
2N2968		15	PNP	T05-A
2N2969		15	PNP	T018-A
2N2970		15	PNP	T05-A
2N2971		10	PNP	T018-A
2N2972		60	NPN	T071-A
2N2973		150	NPN	T071-A
2N2974		60	NPN	T071-A
2N2975		150	NPN	T071-A
2N2976		60	NPN	T071-A
2N2977		150	NPN	T071-A
2N2978		60	NPN	T071-A
2N2979		150	NPN	T071-A
2N2980		25	NPN	T071-A
2N2991		15	NPN	T071-A
2N2982		15	NPN	T071-A
2N2983	.01	20(B)	NPN	T05-A
2N2984	.01	20(B)	NPN	T05-A
2N2985	10	40(B)	NPN	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N2986	10	40(B)	NPN	T05-A
2N2987	.03	25(B)	NPN	T05-A
2N2988	.03	25(B)	NPN	T05-A
2N2989	.03	60(B)	NPN	T05-A
2N2990	.03	60(B)	NPN	T05-A
2N2991	.03	25(B)	NPN	T060-A
2N2992	.03	25(B)	NPN	T060-A
2N2993	.03	60(B)	NPN	T060-A
2N2994	.03	60(B)	NPN	T060-A
2N2995	50	30(B)	NPN	T059-A
2N2996	100	66	NPN	T072-G
JAN2N2996	5.0	35	PNP	T072-G
2N2997	100	66	PNP	T072-G
JAN2N2997	5.0	50	PNP	T072-G
2N2998	100	66	PNP	T072-G
2N2999	100	33	PNP	T072-A
2N3001		C		
2N3002		C		
2N3003		C		
2N3004		C		
2N3005		C		
2N3006		C		
2N3007		C		
2N3008		C		
2N3009	.50	30	NPN	T052-A
2N3010	10	15	NPN	T018-A
2N3011	.40	30	NPN	T018-A
2N3012		10	PNP	T018-A
2N3013	.30	30	NPN	T052-A
JAN2N3013	40	35	NPN	T052-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3014	.30	30	NPN	T052-A
2N3015		30	NPN	T05-A
2N3016	.10	60(B)	NPN	T05-A
2N3017	.10	60(B)	NPN	A136-A
2N3018	.10	60(B)	NPN	T061-A
2N3019	.01	80	NPN	T05-A
2N3020	.01	30	NPN	T05-A
2N3021	.20	20(B)	PNP	T03-C
2N3022	.20	20(B)	PNP	T03-C
2N3023	.20	20(B)	PNP	T03-C
2N3024	.20	50(B)	PNP	T03-C
2N3025	.20	50(B)	PNP	T03-C
2N3026	.20	50(B)	PNP	T03-C
2N3027		C		
2N3028		C		
2N3029		C		
2N3030		C		
2N3031		C		
2N3032		C		
2N3033		C		
2N3034		C		
2N3035		C		
2N3036	.01	40	NPN	T05-A
2N3037	.01	30	NPN	T050-C
2N3038	.01	60	NPN	T050-C
2N3039	.025	20	NPN	T050-C
2N3040	.025	40	NPN	T050-C
2N3043	10	150	NPN	T089-A
2N3044	10	150	NPN	T089-A
2N3045	10	150	NPN	T089-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3046	10	60	NPN	T089-A
2N3047	10	60	NPN	T089-A
2N3048	10	60	NPN	T089-A
2N3049	.01	18	NPN	T089-A
2N3050	.01	18	PNP	T089-A
2N3051	.01	18	PNP	T089-A
2N3052	.05	20	NPN	T089-A
2N3053		25	NPN	T05-A
2N3054	1000	25(B)	NPN	T066-C
2N3055	5000	20(B)	NPN	T03-C
2N3056	.01	30	NPN	T046-A
2N3056A	.01	30	NPN	T046-A
2N3057	.01	33	NPN	T046-A
2N3057A	.01	80	NPN	T046-A
2N3058	.1na	40	PNP	T046-A
2N3059	.1na	1000	PNP	T046-A
2N3060	.005	30	PNP	T046-A
2N3061	.005	60	PNP	T046-A
2N3062	.01	20	PNP	T046-A
2N3063	.01	50	PNP	T046-A
2N3064	.01	15	PNP	T046-A
2N3065	.01	30	PNP	T046-A
2N3072	.01	25	PNP	T05-A
2N3073	.01	25	PNP	T018-A
2N2074	10	14	PNP	T012-A
2N3075	10	20	PNP	T012-G
2N3076		30(B)	PNP	T081-A
2N3077	.01	80	NPN	T018-A
2N3078	.01	25	NPN	T018-A
2N3079	5000	10(B)	NPN	T036-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3080	5000	10(B)	NPN	T036-C
2N3081	.01	30	PNP	T05-A
2N3081/46	.10	10	PNP	T046-A
2N3081/51	.01	10	PNP	T051-A
2N3082	.01	100	NPN	T077-B
2N3083	.01	100	NPN	T077-B
2N3091		C		
JAN2N3091		C		
2N3092		C		
2N3093		C		
JAN2N3093		C		
2N3094		C		
2N3095		C		
JAN2N3095		C		
2N3096		C		
2N3097		C		
JAN2N3097		C		
2N3098		C		
JAN2N3098		C		
2N3099		C		
JAN2N3099		C		
2N3100		C		
2N3101		C		
JAN2N3101		C		
2N3102		C		
2N3103		C		
JAN2N3103		C		
2N3104		C		
2N3105		C		
JAN2N3105		C		

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3106		C		
JAN2N3106		C		
2N3107	.01	60	NPN	T05-A
2N3108	.01	13	NPN	T05-A
2N3109	.01	60	NPN	T05-A
2N3110	.01	13	NPN	T05-A
2N3114	.01	25	NPN	T05-A
2N3115	.025	40	NPN	T018-A
2N3116	.025	400	NPN	T018-A
2N3118	.10	50(B)	NPN	T05-A
2N3119	.05	40(B)	NPN	T05-A
2N3120	.01	25	NPN	T05-A
2N3121	.01	25	PNP	T018-A
2N3122	.10	20	NPN	T05-A
2N3123	.01	33	NPN	T05-A
2N3124	20ma	50(B)	PNP	T041-C
2N3125	15ma	30(B)	PNP	T041-C
2N3126	3000	10(B)	PNP	T041-C
2N3127	5.0	125(A)	PNP	T072-G
JAN2N3127	5.0	20	PNP	T072-G
2N3128	.01	25	NPN	A126-A
2N3129	.01	100	NPN	A126-A
2N3130	.01	60	NPN	A126-A
2N3131	.025	30	NPN	A126-A
2N3132	5.0	13	PNP	T03-C
2N3133	.05	40	PNP	T05-A
2N3134	.05	100	PNP	T05-A
2N3135	.05	40	PNP	T018-A
2N3136	.05	100	PNP	T018-A
2N3137	.05	23	NPN	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3138	100	10(B)	NPN	T059-A
2N3139	100	10(B)	NPN	T059-A
2N3140	100	10(B)	NPN	T059-A
2N3141	100	10(B)	NPN	T059-A
2N3142	100	10(B)	NPN	T059-A
2N3143	100	10(B)	NPN	T059-A
2N3144	100	10(B)	NPN	T059-A
2N3145	100	10(B)	NPN	T059-A
2N3146	10ma	30(B)	PNP	T03-C
2N3147	10ma	30(B)	PNP	T03-C
2N3149	2000	10(B)	NPN	T059-A
2N3150	2000	10(B)	NPN	T059-A
2N3151	2000	10(B)	NPN	T059-A
2N3152	.05	13	NPN	T0102A
2N3153		3.0	NPN	T018-A
2N3154	100	60(B)	PNP	A150-A
2N3155	100	60(B)	PNP	A150-A
2N3156	100	60(B)	PNP	A150-A
2N3157	100	60(B)	PNP	A150-A
2N3158	100	30(B)	PNP	A150-A
2N3159	100	30(B)	PNP	A150-A
2N3160	100	30(B)	PNP	A150-A
2N3161	100	30(B)	PNP	A150-A
2N3163	10ma	12(B)	PNP	T03-C
2N3164	10ma	12(B)	PNP	T059-A
2N3165	10ma	12(B)	PNP	T059-A
2N3166	10ma	12(B)	PNP	T059-A
2N3167	10ma	12(B)	PNP	T053-C
2N3168	10ma	12(B)	PNP	T053-C
2N3169	10ma	12(B)	PNP	T053-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3170	10ma	12(B)	PNP	T053-C
2N3171	10 ma	12(B)	PNP	T03-C
2N3172	10ma	12(B)	PNP	T03-C
2N3173	l0ma	12(B)	PNP	T03-C
2N3174	10ma	12(B)	PNP	T03-C
2N3175	10ma	10(B)	PNP	T059-A
2N3176	10ma	10(B)	PNP	T059-A
2N3177	10ma	10(B)	PNP	T050-A
2N3178	10ma	10(B)	PNP	T059-A
2N3179	10ma	10(B)	PNP	T053-C
2N3180	10ma	10(B)	PNP	T053-C
2N3181	10ma	10(B)	PNP	T053-C
2N3182	10ma	10(B)	PNP	T053-C
2N3183	10ma	10(B)	PNP	T03-C
2N3184	10ma	10(B)	PNP	T03-C
2N3185	10ma	10(B)	PNP	T03-C
2N3186	10ma	10(B)	PNP	T03-C
2N3187	10ma	10(B)	PNP	T059-A
2N3188	10ma	10(B)	PNP	T059-A
2N3189	10ma	10(B)	PNP	T059-A
2N3190	10ma	10(B)	PNP	T059-A
2N3191	10ma	10(B)	PNP	T053-C
2N3192	10ma	10(B)	PNP	T053-C
2N3193	10ma	10(B)	PNP	T053-C
2N3194	10ma	10(B)	PNP	T053-C
2N3195	10ma	10(B)	PNP	T03-C
2N3196	10ma	10(B)	PNP	T03-C
2N3197	10ma	10(B)	PNP	T03-C
2N3198	10ma	10(B)	PNP	T03-C
2N3199	75	20(B)	PNP	T059-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3200	75	20(B)	PNP	T059-C
2N3201	75	20(B)	PNP	T059-C
2N3202	75	20(B)	PNP	T05-A
2N3203	75	20(B)	PNP	T05-A
2N3204	75	20(B)	PNP	T05-A
2N3205	75	20(B)	PNP	T059-A
2N3206	75	20(B)	PNP	T059-A
2N3207	75	20(B)	PNP	T059-A
2N3208	75	20(B)	PNP	T05-C
2N3209	.08	25	PNP	T018-C
2N3210	.01	120(A)	NPN	T018-C
2N3211		50	NPN	T018-C
2N3212	1000	30(B)	PNP	T037-A
2N3213	1000	30(B)	PNP	T037-A
2N3214	1000	30(B)	PNP	T037-A
2N3215	1000	25(B)	PNP	T037-A
2N3216	2.0	20	PNP	T05-A
2N3217	.001	10	PNP	T046-A
2N3218	.001	10	PNP	T046-A
2N3219	.001		PNP	T046-A
2N3220	10	20(B)	NPN	T059-A
2N3221	10	40(B)	NPN	T059-A
2N3222	10	20(B)	NPN	T059-A
2N3223	10	40(B)	NPN	T059-A
2N3224	.10	20	PNP	T05-A
2N3225	.10	13	PNP	T05-A
2N3226	200	20(B)	NPN	T03-C
2N3227	200	100	NPN	T018-A
2N3228		C		
2N3229	.001	5(B)	NPN	T0102-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3232	1000	18(B)	NPN	T03-A
2N3233	1000	18(B)	NPN	T03-A
2N3234	1000	18(B)	NPN	T03-A
2N3235	5000	20(B)	NPN	T03-A
2N3226	2000	17(B)	NPN	T03-A
2N3237	2000	12(B)	NPN	T03-A
2N3238	5000	8.5(B)	NPN	T03-A
2N3239	5000	8.5(B)	NPN	T03-A
2N3240	5000	8.5(B)	NPN	T03-A
2N3241A	.10	100	NPN	T0104-A
2N3242A	.01	125	NPN	T0104-A
2N3244	.05	50(B)	PNP	T05-A
2N3245	.05	30(B)	PNP	T05-A
2N3246	.001	150	NPN	T018-A
2N3247	.001	150	NPN	A126-A
2N3248	.05	50	PNP	T018-A
2N3249	.05	100	PNP	T018-A
2N3250	.02	50	PNP	T018-A
2N3250A	.02	50	PNP	T018-A
JAN2N3250A	.02	100	PNP	T018-A
2N3251	.02	100	PNP	T018-A
2N3251A	.02	100	PNP	T018-A
JAN2N3251A	.02	100	PNP	T018-A
2N3252	.05	30(B)	NPN	T05-A
2N3253	.05	25(B)	NPN	T05-A
JAN2N3253A	.50	25(B)	NPN	T05-A
2N3254		C		
2N3255		C		
2N3256		C		
2N3257		C		

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3258		C		
2N3259		C		
2N3260	2000	10(B)	NPN	T059-A
2N3261		20	NPN	T052-A
2N3262	.1	40(B)	NPN	T039-A
2N3263	20ma	25(B)	NPN	A123-A
2N3264	20ma	20(B)	NPN	A123-A
2N3265	20ma	25(B)	NPN	T059-B
2N3266	20ma	20(B)	NPN	T059-B
2N3267	5.0	15	PNP	T072-G
2N3268	.50	40	NPN	T05-A
2N3279	5.0	10	PNP	T017-D
2N3280	5.0	10	PNP	T017-D
2N3281	5.0	10	PNP	T017-D
2N3282	5.0	10	PNP	T017-D
2N3283	10	10	PNP	T017-D
2N3284	10	10	PNP	T017-D
2N3285	10	5.0	PNP	T072-G
2N3286	10	5.0	PNP	T072-G
2N3287	.01	15	NPN	T072-G
2N3288	.01	15	NPN	T072-G
2N3289	.01	10	NPN	T072-G
2N3290	.01	10	NPN	T072-G
2N3291	.10	10	NPN	T072-G
2N3292	.10	10	NPN	T072-G
2N3293	.10	10	NPN	T072-G
2N3294	.10	10	NPN	T072-G
2N3295	.10	20(B)	NPN	T05-A
2N3296	.10	5.0(B)	NPN	T060-A
2N3297	.001	2.5(B)	NPN	T03-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3298	.50	80	NPN	T018-A
2N3299	.01	20	NPN	T05-A
2N3300	.01	35	NPN	T05-A
2N3301	.01	25	NPN	T018-A
2N3302	.01	50	NPN	T018-A
2N3303	.30	20	NPN	T048-A
2N3304	.01	21	PNP	T018-A
2N3305	.05	13	PNP	T05-A
2N3306	.05	33	PNP	T05-A
2N3307	.01na	13	PNP	T024-D
2N3308	.01na	8	NPN	T024-D
2N3309	100	5(B)	NPN	T05-A
2N3310	.01	3	NPN	T033-G
2N3311	5000	60(B)	PNP	T036-C
2N3312	5000	60(B)	PNP	T036-C
2N3313	5000	60(B)	PNP	T036-C
2N3314	5000	100(B)	PNP	T036-C
2N3315	.5000	100(B)	PNP	T036-C
2N3316	5000	100(B)	PNP	T036-C
2N3317	.001	1.6	PNP	T018-A
2N3318	.001	1.9	PNP	T018-A
2N3319	.003	3.0	PNP	T018-A
2N3320	5.0	40	PNP	T018-A
2N3321	5.0	80	PNP	T018-A
2N3322	5.0	25	PNP	T018-A
2N3323	10	30	PNP	T018-A
2N3324	10	30	PNP	T018-A
2N3325	10	30	PNP	T018-A
2N3326	.01	35	NPN	T05-A
2N3327	.50	3	NPN	T060-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3337	.025	30	NPN	T072-G
2N3338	.025	30	NPN	T072-G
2N3339	.025	30	NPN	T072-G
2N3340	.001	40	NPN	T046-A
2N3341	.01	40	PNP	T046-A
2N3242	.02	30	PNP	T05-A
2N3343	.003	20	PNP	T05-A
2N3344	.002	25	PNP	T05-A
2N3345	.005	15	PNP	T05-A
2N3346	.005	25	PNP	T05-A
2N3347	.01	60	PNP	A113-A
2N3348	.01	60	PNP	A113-A
2N3349	.01	60	PNP	Al13-A
2N3350	.01	150	PNP	A113-A
2N3351	.01	150	PNP	A113-A
2N3352	.01	150	PNP	A113-A
2N3353		C		
2N3354		C		
2N3355		C		
2N3356		C		
2N3357		C		
2N3358		C		
2N3359		C		
2N3360		C		
2N3361		C		
2N3362		C		
2N3363		C		
2N3364		C		
2N3371	7.0	25	PNP	T018-A
2N3374	.05	10(B)	NPN	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3375	100	5 (B)	NPN	T060-A
JAN2N3375	.10	15(B)	NPN	T060-A
2N3388	2.0	60	NPN	T05-A
2N3389	2.0	60	NPN	T05-A
2N3390	.10	400	NPN	T098-B
2N3391	.10	250	NPN	T098-B
2N3391A	.10	250	NPN	T098-B
2N3392	..10	150	NPN	T098-B
2N3393	.10	90	NPN	T098-B
2N3394	.10	55	NPN	T098-B
2N3395	.10	150	NPN	T098-B
2N3396	.10	90	NPN	T098-B
2N3397	.10	55	NPN	T098-B
2N3398	.10	55	NPN	T098-B
2N3399	8.0	10	PNP	T072-G
2N3400	5.0	11	PNP	T09-A
2N3401	.10	4.0	PNP	T05-A
2N3402	.10	50	NPN	A127-A
2N3403	.10	116	NPN	A127-A
2N3404	.10	50	NPN	A127-A
2N3405	.10	116	NPN	A127-A
2N3407	.20	3	NPN	T012-A
2N3408	.40	3	PNP	T012-A
2N3409	.01	40	NPN	A113-A
2N3410	.01	40	NPN	A113-A
2N3411	.01	40	NPN	A113-A
2N3412	3.0	25	PNP	T05-A
2N3413	.10	10	PNP	T05-A
2N3414	.10	50	NPN	T098-B
2N3415	.10	100	NPN	T098-B

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3416	.10	50	NPN	T098-B
2N3417	.10	100	NPN	T098-B
2N3418	.50	20(B)	NPN	T05-A
2N3419	.50	20(B)	NPN	T05-A
2N3420	.50	40(B)	NPN	T05-A
2N3421	.50	40(B)	NPN	T05-A
2N3423	.01	20	NPN	A113-A
2N3424	.01	20	NPN	A113-A
2N3425	.03	20	NPN	A113-A
2N3426	100	20	NPN	T047-A
2N3427	50	200	PNP	T05-A
2N3428	50	350	PNP	T05-A
2N3429	1000	10(B)	NPN	A145-A
2N3430	1000	10(B)	NPN	A145-A
2N3431	1000	10(B)	NPN	A145-A
2N3432	1000	10(B)	NPN	A145-A
2N3433	1000	10(B)	NPN	A145-A
2N3434	1000	10(B)	NPN	A145-A
2N3435	.05	16	NPN	T05-A
2N3439	20	40(B)	NPN	T05-A
JAN2N3439	500	40	NPN	T05-A
2N3440	20	40(B)	NPN	T05-A
JAN2N3440	500	40	NPN	T05-A
2N3441	5000	20(B)	NPN	T066-C
JAN2N3441	1000	20	NPN	T066-C
2N3442	30ma	20	NPN	T03-C
JAN2N3442	1000	20	NPN	T03-C
2N3443	5.0	6	PNP	T05-A
2N3444	.50	20(B)	NPN	T05-A
JAN2N3444	500	20	NPN	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3445	100	20(B)	NPN	T03-C
2N3446	100	20(B)	NPN	T03-C
2N3447	100	40(B)	NPN	T03-C
2N3448	100	40(B)	NPN	T03-C
2N3449	3.0	20	PNP	T018-A
JAN2N3449	100	20	PNP	T018-A
2N3450	.20	13	NPN	T05-A
2N3461	3000	90(B)	PNP	T05-A
2N3462	10	150	NPN	T018-A
2N3463	.002	150	NPN	T018-A
2N3466	100ma	40(B)	PNP	T05-A
2N3467	.10	13	PNP	T05-A
JAN2N3467	.10	40(B)	PNP	T05-A
2N3468	.10	25(B)	PNP	T05-A
JAN2N3468	.10	25(B)	PNP	T05-A
2N3469	.10	100(B)	NPN	T05-A
2N3470	20ma	100(B)	NPN	T059-A
2N3471	20ma	100(B)	NPN	T059-A
2N3472	20ma	100(B)	NPN	T059-A
2N3473	20ma	100(B)	NPN	T059-A
2N3474	20ma	350(B)	NPN	T059-A
2N3475	20ma	350(B)	NPN	T059-A
2N3476	20ma	350(B)	NPN	T059-A
2N3477	20ma	350(B)	NPN	T059-A
2N3478	.02	25	NPN	T0104-G
2N3485	.02	40(B)	PNP	T046-A
2N3485A	.01	40	PNP	T046-A
2N3486	.02	100(B)	PNP	T046-A
2N3486A	.01	100	PNP	T046-A
2N3487	100	20(B)	NPN	T061-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3488	100	20(B)	NPN	T061-A
2N3489	100	15(B)	NPN	T061-A
2N3490	100	40(B)	NPN	T061-A
2N3491	100	40 (B)	NPN	T061-A
2N3492	100	30(B)	NPN	T061-A
2N3493	.005	40	NPN	T024-D
2N3494	.10	40	PNP	T05-A
2N3495	.10	40	PNP	T05-A
2N3496	.10	40	PNP	T018-A
2N3497	.10	40	PNP	T018-A
2N3498	.05	40(B)	NPN	T05-A
JAN2N3498	.50	40(B)	NPN	T05-A
2N3499	.05	100(B)	NPN	T05-A
JAN2N3499	.05	100(B)	NPN	T05-A
2N3500	.05	40(B)	NPN	T05-A
JAN2N3500	.05	40(B)	NPN	T05-A
2N3501	.05	100(B)	NPN	T05-A
JAN2N3501	.05	100(B)	NPN	T05-A
2N3502	.01	35	PNP	T05-A
2N3 503	.01	35	PNP	T05-A
2N3504	.01	35	PNP	T018-A
2N3505	.01	35	PNP	T05-A
2N3506	1.0	40(B)	NPN	T05-A
JAN2N3506	1.0	40(B)	NPN	T05-A
2N3507	1.0	30(B)	NPN	T05-A
JAN2N3507	1.0	30(B)	NPN	T05-A
2N3508	.20	40	NPN	T046-A
2N3509	.20	100	NPN	T046-A
2N3510	.025	25	NPN	T052-A
2N3511	.025	30	NPN	T052-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3512	.50	10	NPN	T05-A
2N3513	.02	25	NPN	A113-A
2N3514	.02	25	NPN	A124B
2N3515	.02	25	NPN	T089-A
2N3516	.02	25	NPN	A113-A
2N3517	.002	25	NPN	A124-B
2N3518	.002	25	NPN	T089-A
2N3519	.002	25	NPN	A124-B
2N3520	.002	25	NPN	T089-A
2N3521	.01	100	NPN	A113-A
2N3522	.01	100	NPN	A113-A
2N3523	.01	100	NPN	A124-B
2N3524	.01	100	NPN	T089-A
2N3526	1.0	10	NPN	T05-A
2N3527	.1na	13	PNP	T046-A
2N3528		C		
2N3529		C		
2N3530		C		
2N3531		C		
2N3532		C		
2N3533		C		
2N3534		C		
2N3535		C		
2N3536		C		
2N3537		C		
2N3538		C		
2N3539		C		
2N3540		C		
2N3541		C		
2N3543	10	10(B)	NPN	T03-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3544	.10	25	NPN	T018-A
2N3545	.01	40	PNP	T018-A
2N3546	.01	30	PNP	T018-A
2N3547	.025	100	PNP	T018-A
2N3548	.01	100	PNP	T018-A
2N3549	.01	100	PNP	T018-A
2N3550	.001	200	PNP	T018-A
2N3551	10ma	20(B)	NPN	A123-A
2N3552	10ma	20(B)	NPN	A123-A
2N3553	1000	10(B)	NPN	T039-A
JAN2N3553	100	15(B)	NPN	T039-G
2N3554	.50	25	NPN	T05-A
2N3555		C		
2N3556		C		
2N3557		C		
2N3558		C		
2N3559		C		
2N3560		C		
2N3561		C		
2N3562		C		
2N3563	.05	20	NPN	A116-A
2N3564	.05	20	NPN	A116-A
2N3565	.05	120	NPN	A116-A
2N3566	.05	150	NPN	A116-A
2N3567	.05	40	NPN	A116-A
2N3568	.05	40	NPN	A116-A
2N3569	.05	33	NPN	A116-A
2N3570	.01	20	NPN	T072-G
2N357 1	.01	20	NPN	T072-G
2N3572	.01	20	NPN	T072-G

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3576	.01	40	PNP	T018-A
2N3577	.10	4	NPN	T053-A
2N3579	.05	40	PNP	T046-A
2N3580	.05	80	PNP	T046-A
2N3581	.02	50	PNP	T046-A
2N3582	.02	100	PNP	T046-A
2N3583	10ma	40(B)	NPN	T066-C
2N3584	1000	8(B)	NPN	T066-C
2N3585	1000	8 (B)	NPN	T066-C
2N3598	5.0	20	PNP	T017-A
2N3589	1.0	30(B)	NPN	A133-A
2N3590	1.0	75(B)	NPN	A133-A
2N3591	1.0	30 (B)	NPN	A114-A
2N3592	1.0	75(B)	NPN	A114-A
2N3593	1.0	30(B)	NPN	T059-A
2N3594	1.0	75(B)	NPN	T059-A
2N3595	1.0	30(B)	NPN	T059-A
2N3596	1.0	75(B)	NPN	T059-A
2N3597	.10	75(B)	NPN	T063-A
2N3598	.10	75(B)	NPN	T063-A
2N3599	.10	75(B)	NPN	T063-A
2N3600	.01	200(A)	NPN	T072-A
2N3601	200	20	PNP	T05-A
2N3602	200	20	PNP	T05-A
2N3603	200	20	PNP	T05-A
2N3605	.50	30	NPN	T098-B
2N3605A	.025	30	NPN	T098-B
2N3606	.50	30	NPN	T098-B
2N3606A	.025	30	NPN	T098-B
2N3607	.50	30	NPN	T098-B

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} / I_{CES}	BETA	PNP NPN	DWG. NO.
2N3611	5000	35(B)	PNP	T03-C
2N3612	5000	35(B)	PNP	T03-C
2N3613	5000	60(B)	PNP	T03-C
2N3614	5000	60(B)	PNP	T03-C
2N3615	5000	30(B)	PNP	T03-C
2N3616	5000	30(B)	PNP	T03-C
2N3617	5000	45(B)	PNP	T03-C
2N3618	5000	45(B)	PNP	T03-C
2N3619	25	40(B)	PNP	T05-A
2N3620	25	40(B)	NPN	A136-A
2N3621	25	40(B)	NPN	T061-A
2N3622	25	40(B)	NPN	T061-A
2N3623	1.0	40(B)	NPN	T05-A
2N3624	1.0	40(B)	NPN	A136-A
2N3625	1.0	40(B)	NPN	T061-A
2N3626	1.0	40(B)	NPN	T061-A
2N3627	1.0	40(B)	NPN	T05-A
2N3628	1.0	40(B)	NPN	A136-A
2N3629	1.0	40(B)	NPN	T061-A
2N3630	1.0	40(B)	NPN	T061-A
2N3632	500	10(B)	NPN	T060-A
2N3633	.005	50	NPN	T018-A
2N3633/KVT	.005	150(A)	NPN	A129-A
2N3633/TNT	.005	150(A)	NPN	A146-D
2N3633/TPT	.005	150(A)	NPN	A130-B
2N3633/46	.005	150(A)	NPN	T046-A
2N3633/51	.005	150(A)	NPN	T051-A
2N3634	.10	50(B)	PNP	T05-A
JAN2N3634	.10	50(B)	PNP	T05-A
2N3635	.10	100(B)	PNP	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
JAN2N3635			PNP	T05-A
2N3636	.10	50(B)	PNP	T05-A
JAN2N3636	.10	50(B)	PNP	T05-A
2N3637	.10	100(B)	PNP	T05-A
JAN2N3637	.10	100(B)	PNP	T05-A
2N3638	.035	10	PNP	A116-A
2N3638A	.03	100	PNP	A116-A
2N3639	.03	25	PNP	A116-A
2N3640	.01	30	NPN	A116-A
2N3641	.05	40	NPN	A116-A
2N3642	.05	40	NPN	A116-A
2N3643	.05	100	NPN	A116-A
2N3644	.035	90	PNP	A116-A
2N3645	.035	90	PNP	A116-A
2N3646	.50	30	NPN	A116-A
2N3647	.025	150(A)	NPN	T05-A
2N3648	.025	40	NPN	T05-A
2N3649		C		
2N3650		C		
2N3651		C		
2N3652		C		
2N3653		C		
2N3654		C		
2N3655		C		
2N3656		C		
2N3657		C		
2N3658		C		
2N3659	.01	20(B)	NPN	T05-A
2N3660	.10	25(B)	PNP	T05-A
2N3661	.10	25(B)	PNP	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3662	.50	20	NPN	T05-A
2N3663	.50	20	NPN	T05-A
2N3664	.05	8.0	NPN	T0102-A
2N3665	.05	35(B)	NPN	T05-A
2N3666	.05	30(B)	NPN	T05-A
2N3667	5000	15(B)	NPN	T05-C
2N3668		C		
2N3669		C		
2N3670		C		
2N3671	.01	55	PNP	T05-A
2N3672	.01	55	PNP	T018-A
2N3673	.01	55	PNP	T046-A
2N3675	5.0	12(B)	NPN	T05-A
2N3676	5.0	12(B)	NPN	T05-A
2N3677	.001	4.0	PNP	T046-A
2N3678	.01	4.0	NPN	T05-A
2N3680	.01	300	NPN	A113-A
2N3681	.01	6	NPN	T072-G
2N3683	.05	30	NPN	T072-G
2N3688	.05	30	NPN	A116-A
2N3689	.05	30	NPN	A116-A
2N3690	.05	30	NPN	A116-A
2N3691	10	40	NPN	A116-A
2N3692	10	100	NPN	A116-A
2N3693	10	40	NPN	A116-A
2N3694	10	100	NPN	A116-A
2N3700	.01	80	NPN	T018-A
2N3701	.01	30	NPN	T018-A
2N3702	.10	60	NPN	T092-B
2N3703	.10	30	NPN	T092-B

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3704	.10	300(A)	NPN	T092-B
2N3705	.10	150(A)	NPN	T092-B
2N3706	.10	600(A)	NPN	T092-B
2N3707	.10	100	NPN	T092-B
2N3708	.10	45	NPN	T092-B
2N3709	.10	45	NPN	T092-B
2N3710	.10	90	NPN	T092-B
2N3711	.10	180	NPN	T092-B
2N3712	.10	25(B)	NPN	T05-A
2N3713	1000	25(B)	NPN	T03-C
2N3714	1000	25(B)	NPN	T03-C
2N3715	1000	50(B)	NPN	T03-C
2N3716	1000	50(B)	NPN	T03-C
2N3719	10	25(B)	NPN	T05-A
2N3720	10	25(B)	NPN	T05-A
2N3721	.10	60	NPN	T098-B
2N3722	.50	25	NPN	T05-A
2N3723	.50	25	NPN	T05-A
2N3724	1.7	60	NPN	T05-A
2N3724A	500	60(B)	NPN	T05-A
2N3725	1.7	60(B)	NPN	T05-A
2N3725A	500	60(B)	NPN	T05-A
2N3726	.01	135	PNP	A113-A
2N3727	.01	135	PNP	A113-A
2N3728	.01	50	NPN	A113-A
2N3729	.01	50	NPN	A113-A
2N3730	200	10(B)	PNP	T03-C
2N3731	200	15(B)	PNP	T03-C
2N3732	200	10(B)	PNP	T03
2N3733	500	10(B)	NPN	T060

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3734	.20	30(B)	NPN	T05-A
2N3735	.20	20(B)	NPN	T05-A
2N3736	1.0	35	NPN	T046-A
2N3737	.2	35	NPN	T046-A
2N3738	100	40(B)	NPN	T066-C
2N3739	100	40(B)	NPN	T066-C
2N3740	100	30(B)	PNP	T066-C
2N3741	100	30(B)	PNP	T066-C
2N3742	200	20(B)	NPN	T05-A
2N3743	.30	25(B)	PNP	T05-A
2N3744	.10	20(B)	NPN	T0111-Q
2N3745	.10	20(B)	NPN	T0111-Q
2N3746	.10	20(B)	NPN	T0111-Q
2N3747	.10	40(B)	NPN	T0111-Q
2N3748	.10	40(B)	NPN	T0111-Q
2N3749	.10	40(B)	NPN	T0111-Q
JAN2N3749	.40	40(B)	NPN	T0111-Q
2N3750	.10	100(B)	NPN	T0111-Q
2N3751	.10	100(B)	NPN	T0111-Q
2N3752	.10	100(B)	NPN	T0111-Q
2N3753		C		
2N3754		C		
2N3755		C		
2N3756		C		
2N3757		C		
2N3758		C		
2N3759		C		
2N3760		C		
2N3761		C		
2N3762	.10	30(B)	PNP	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3763	.10	20(B)	PNP	T05-A
2N3764	.10	75(B)	PNP	T046-A
2N3765	.10	35(B)	PNP	T046-A
2N3766	100	40(B)	NPN	T066-C
2N3767	100	40(B)	NPN	T066-C
2N3771	2000	15(B)	NPN	T03-A
2N3772	5000	15(B)	NPN	T03-A
2N3773	2000	15(B)	NPN	T03-A
2N3774	500	20(B)	PNP	T05-A
2N3775	500	20(B)	PNP	T05-A
2N3776	500	20(B)	PNP	T05-A
2N3777	500	10(B)	PNP	T05-A
2N3778	500	10(B)	PNP	T05-A
2N3779	500	10(B)	PNP	T05-A
2N3780	500	10(B)	PNP	T05-A
2N3781	500	10(B)	PNP	T05-A
2N3782	500	10(B)	PNP	T05-A
2N3783	5.0	20	PNP	T072-G
2N3784	5.0	20	PNP	T072-G
2N3785	5.0	15	PNP	T072-G
2N3788	5000	20(B)	NPN	T03-C
2N3789	5000	25(B)	PNP	T03-C
2N3790	5000	25(B)	PNP	T03-C
2N3791	5000	50(B)	PNP	T03-C
2N3792	5000	50(B)	PNP	T03-C
2N3793	.5	10	NPN	A 147 -A
2N3794	1000	12(B)	NPN	A147-A
2N3795	1000	12(B)	PNP	T05-A
2N3798	.01	125	PNP	T018-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3799	.01	250	PNP	T018-A
2N3800	.01	150	PNP	T071-A
2N3801	.01	300	PNP	T071-A
2N3802	.01	150	PNP	T071-A
2N3803	.01	300	PNP	T071-A
2N3804	.01	150	PNP	T071-A
2N3804A	.01	150	PNP	T071-A
2N3805	.01	300	PNP	T071-A
2N3805A	.01	300	PNP	T071-A
2N3806	.01	150	PNP	T071-A
2N3807	.01	300	PNP	T071-A
2N3808	.01	150	PNP	A113-A
2N3809	.01	300	PNP	A113-A
2N3810	.01	150	PNP	A113-A
2N3810A	.01	150	PNP	A113-A
JAN2N3810	.005	30	PNP	A113-B
2N3811	.01	100	PNP	A113-A
2N3811A	.01	300	PNP	A113-A
JAN2N3811	.005	30	PNP	A113-B
2N3812	.01	150	PNP	A125-A
2N3813	.01	300	PNP	A125-A
2N3814	.01	150	PNP	A125-A
2N3815	.01	300	PNP	A125-A
2N3816	.01	150	PNP	A125-A
2N3817	.01	300	PNP	A125-A
2N3818	1.0	5.0(B)	NPN	T060-A
2N3817	.01	300	PNP	A125-A
2N3825	.01	20	NPN	T092-A
2N3826	.10	40	NPN	T092-B
2N3827	.10	100	NPN	T092-B

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3828	.10	200(A)	NPN	T092-A
2N3829	.3	10	PNP	T052-A
2N3830	.5	30(B)	NPN	T05-A
2N3831	.5	35(B)	NPN	T05-A
2N3832	.01	125(A)	NPN	T072-A
2N3833	.02	6	NPN	A124-A
2N3834	.02	6	NPN	A124-A
2N3885	.02	6	NPN	A124-A
2N3838		100	NPN	T089-A
2N3839	.01	30	NPN	T072-G
2N3840	. 5na	50	PNP	T046-A
2N3841	.002	20	PNP	T018-A
2N3842	.020	10	PNP	T018-A
2N3843	.5	6	NPN	T098-B
2N3843A	.5	13	NPN	T098-B
2N3844	.5	35	NPN	T098-B
2N3844A	.5	70(A)	NPN	T098-B
2N3845	.5	23	NPN	T098-B
2N3845A	.5	23	NPN	T098-B
2N3846	10ma	40(B)	NPN	T063-A
2N3847	10ma	40(B)	NPN	T063-A
2N3848	10ma	40(B)	NPN	T063-A
2N3849	10ma	40(B)	NPN	T063-A
2N3850	.10	50(B)	NPN	T059-A
2N3851	.10	30(B)	NPN	T059-A
2N3852	.10	50(B)	NPN	T059-A
2N3853	.10	30(B)	NPN	T059-A
2N3854	.50	70(A)	NPN	T098-B
2N3854A	.40	70(A)	NPN	T098-B
2N3855	.50	120(A)	NPN	T098-B

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3855A	.50	120(A)	NPN	T098-B
2N3856	.50	200(A)	NPN	T098-B
2N3856A	.50	200(A)	NPN	T098-B
2N3857	.005	200(A)	PNP	T05-A
2N3858	.50	60	NPN	T098-B
2N3858A	.50	45	NPN	T098-B
2N3859	.50	100	NPN	T098-B
2N3859A	.50	75	NPN	T098-B
2N3860	.50	150	NPN	T098-B
2N3861	.10	30(B)	NPN	A133-A
2N3862	.05	50	NPN	T072-G
2N3863	1000	30(B)	NPN	T03-C
2N3864	1000	30(B)	NPN	T03-C
2N3865	1000	30(B)	NPN	T03-C
2N3866	100	10(B)	NPN	T039-A
2N3867	1.0	40(B)	PNP	T05-A
JAN2N3867	1.0	40(B)	PNP	T05-A
2N3868	1.0	35(B)	PNP	T05-A
JAN2N3868	1.0	30(B)	PNP	T05-A
2N3869	1.0	20(B)	NPN	T05-A
2N3876	30	25(B)	NPN	T081-B
2N3877	.5	20	NPN	T098-B
2N3877A	.5	20	NPN	T098-B
2N3878	25ma	50(B)	NPN	T066-C
2N3879	25ma	12(B)	NPN	T066-C
2N3880	.05	50	NPN	T072-G
2N3881	1.0	50	NPN	T05-A
2N3883	100	10	PNP	T05-A
2N3900	.1	170	NPN	T098-B
2N3900A	.1	170	NPN	T098-B

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3901	.1	350	NPN	T098-B
2N3902	250	10(B)	NPN	T03-C
JAN2N3902	250	20(B)	NPN	T03-C
2N3903	.05	50	NPN	T092-B
2N3904	.05	100	NPN	T092-B
2N3905	.05	50	PNP	T092-B
2N3906	.05	100	PNP	T092-B
2N3907	.01	120	NPN	A113-A
2N3908	.002	200	NPN	A113-A
2N3910	5na	40	PNP	T046-A
2N3911	.5na	60	PNP	T046-A
2.N3912	.5na	90	PNP	T046-A
2N3913	.5na	40	PNP	T018-A
2N3914	.5na	60	PNP	T018-A
2N3915	.5na	90	PNP	T018-A
2N3916	1000	40(B)	NPN	A151-A
2N3917	1000	30(B)	NPN	T03-C
2N3918	1000	100(B)	NPN	T03-C
2N3919	5000	40(B)	NPN	T03-C
2N3920	5000	100(B)	NPN	T03-C
2N3923	.01	20	NPN	T05-A
2N3924	100		NPN	T039-A
2N3925	100		NPN	T0102-A
2N3926	100		NPN	T060-A
2N3927	250		NPN	T060-A
2N3930	.01	80	PNP	T018-A
2N3931	.01	100	PNP	T039-G
2N3932	.01	50	NPN	A115-A
2N3933	.01	60	NPN	A115-A
2N3936		C		

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3937		C		
2N3938		C		
2N3939				
2N3940		C		
2N3941		30	NPN	T078-A
2N3942		26	NPN	T078-A
2N3943		30	NPN	T071-A
2N3944		26	NPN	T071-A
2N3945		40(B)	NPN	T05-A
2N3946	.01	50	NPN	T018-A
2N3947	.01	100	NPN	T018-A
2N3948	.1	15(B)	NPN	T039-A
2N3950	10ma		NPN	T060-A
2N3953	.1	40	NPN	T072-A
2N3959	.005	400(A)	NPN	T018-A
2N3960	.005	400(A)	NPN	T018-A
2N3961	1000		NPN	T0102-A
2N3962	.01	100	PNP	T018-A
2N3963	.01	100	PNP	T018-A
2N3964	.01	250	PNP	T018-A
2N3965	.01	250	PNP	T018-A
2N3973	10	30	NPN	T098-B
2N3974	10	50	NPN	T098-B
2N3975	10	30	NPN	T098-B
2N3976	10	50	NPN	T098-B
2N3977	.001	40	PNP	T046-A
2N3978	.001	30	PNP	T046-A
2N3979	.001	20	PNP	T046-A
2N3995	3.0	150	PNP	T039-G
2N3996	5.0	40(B)	NPN	T0111-G

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N3997	5.0	80(B)	NPN	T0111-G
2N3998	5.0	40(B)	NPN	T059-A
2N3999	5.0	80(B)	NPN	T059-A
2N4000	2.0	30(B)	NPN	T05-A
2N4001	2.0	40(B)	NPN	T05-A
2N4002	1000	20(B)	NPN	T063-A
2N4003	1000	20(B)	NPN	T063-A
2N4004	1000	30(B)	NPN	A123-A
2N4005	1000	30(B)	NPN	A123-A
2N4006	.1na	40	PNP	T046-A
2N4007	.3na	30	PNP	T046-A
2N4008	.4na	20	PNP	T046-A
2N4009	.1na	40	PNP	T046-A
2N4010	.1na	30	PNP	T046-A
2N4011	.3na	20	PNP	T046-A
2N4012	.10	6.0(B)	NPN	T060-A
2N4013	1.7	150(A)	NPN	T018-A
2N4014	1.7	150(A)	NPN	T018-A
2N4015	.01	135	PNP	A113-A
2N4016	.01	135	PNP	A113-A
2N4017	.01	100	PNP	A113-B
2N4018	.01	100	PNP	A113-B
2N4019	.01	250	PNP	A113-B
2N4020	.01	250	PNP	A113-A
2N4021	.01	100	PNP	A113-A
2N4022	.01	250	PNP	A113-A
2N4023	.01	250	PNP	A113-A
2N4024	.01	100	PNP	A113-A
2N4025	.01	250	PNP	A113-A
2N4026	.05	30	PNP	T018-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N4027	.05	30	PNP	T018-A
2N4028	.05	35	PNP	T018-A
2N4029	.05	75	PNP	T018-A
2N4030	.05	30	PNP	T05-A
2N4031	.05	30	PNP	T05-A
2N4032	.05	75	PNP	T05-A
2N4033	.05	75	PNP	T05-A
2N4034	.015	16	PNP	T018-A
2N4035	.015	50	PNP	T018-A
2N4036	100	40(B)	PNP	T05-A
2N4037	.25	50(B)	PNP	T05-A
2N4040	200	10(B)	NPN	A153-A
2N4041	200	10(B)	NPN	A153-A
2N4042			NPN	T070-A
2N4043			NPN	T070-A
2N4044			NPN	T070-A
2N4045			NPN	T070-A
2N4046	1.7	150(A)	NPN	T05-A
2N4047	1.7	150(A)	NPN	T05-A
2N4048	4000	60(B)	PNP	T036-C
2N4049	4000	60(B)	PNP	T036-C
2N4050	4000	60(B)	PNP	T036-C
2N4051	4000	80(B)	PNP	T036-C
2N4052	4000	80(B)	PNP	T036-C
2N4053	4000	80(B)	PNP	T036-C
2N4054	100	30(B)	NPN	A122-A
2N4055	100	30(B)	NPN	A122-A
2N4056	100	30(B)	NPN	A122-A
2N4057	100	30(B)	NPN	A122-A
2N4058	.1	100	PNP	T092-B

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N4059	.1	45	PNP	T092-B
2N4060	.1	45	PNP	T092-B
2N4061	.1	90	PNP	T092-B
2N4062	.1	180	PNP	T092-B
2N4063	20	40(B)	NPN	A133-A
2N4064	20	40(B)	NPN	A133-A
2N4068	.05	30	NPN	T0104-A
2N4069	50	30(B)	NPN	T05-A
2N4070	10	40(B)	NPN	T03-C
2N4071	.01ma	40(B)	NPN	T03-C
2N4072	.1	10(B)	NPN	T018-A
2N4073	.1	10(B)	NPN	T05-A
2N4074	.01	400(A)	NPN	T05-A
2N4075	100	30(B)	NPN	T059-A
2N4076	100	50(B)	NPN	T059-A
2N4077	25	50(B)	NPN	T059-A
2N4078		20(B)	PNP	T03-A
2N4079	25	50(B)	PNP	T01-C
2N4080	.01	20	PNP	T072-A
2N4081	.02	40	NPN	T0104-A
2N4099	.10	175	NPN	T070-A
2N4100	.10	175	NPN	T070-A
2N4104	.01	1400(A)	NPN	T018-A
2N4105	25	70(B)	NPN	T01-A
2N4106	25	70(B)	PNP	T01-A
2N4107	.025	70(B)	PNP	T01-A
2N4111	2000	40(B)	NPN	T03-C
2N4112	2000	100(B)	NPN	T03-C
2N4113	2000	40(B)	NPN	T03-C
2N4114	2000	100(B)	NPN	T03-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N4115	2000	40(B)	NPN	T059-A
2N4116	2000	100(B)	NPN	T059-A
2N4121	.025	50	PNP	A116-A
2N4122	.025	150	PNP	A116-A
2N4123	.05	50	NPN	T092-A
2N4124	.05	120	NPN	T092-A
2N4125	.05	50	PNP	T092-A
2N4126	.05	120	PNP	T092-A
2N4127	500	10(B)	NPN	A153-A
2N4128	1000	10(B)	NPN	A153-A
2N4130	20	10(B)	NPN	T03-C
2N4131	10	10(B)	NPN	T03-C
2N4132	10	10(B)	NPN	T037-A
2N4133	10	10(B)	NPN	T05-A
2N4134	.05	200(A)	NPN	T072-G
2N4135	.05	200(A)	NPN	T072-G
2N4136	10	35	NPN	T01-A
2N4137	30	13	NPN	T018-A
2N4138	.01	50	NPN	T046-A
2N4140	.05	120(A)	NPN	A116-A
2N4141	.05	300(A)	NPN	A116-A
2N4142	.05	120(A)	PNP	A116-A
2N4143	.05	300(A)	PNP	A116-A
2N4150	.1	40(B)	NPN	T05-A
2N4207	.01	50	PNP	T018-A
2N4208	.01	30	PNP	T018-A
2N4209	.01	50	PNP	T018-A
2N4210	500	20(B)	NPN	T063-A
2N4211	500	20(B)	NPN	T063-A
2N4225	1000	40(B)	NPN	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N4226	1000	40(B)	NPN	T05-A
2N4227	.05	150(A)	NPN	T05-A
2N4228	.05	150(A)	PNP	T05-A
2N4231		25(B)	NPN	T066-C
2N4232		25(B)	NPN	T066-C
2N4233		25(B)	NPN	T066-C
2N4234	100	30(B)	PNP	T05-A
2N4235	100	30(B)	PNP	T05-A
2N4236	100	30(B)	PNP	T05-A
2N4237	100	30	NPN	T05-A
2N4238	100	30	NPN	T05-A
2N4239	100	30	NPN	T05-A
2N4240	2000	6.0(B)	NPN	T066-C
2N4241	45	60(B)	PNP	T03-C
2N4241mp	45	60(B)	PNP	T01
2N4242	2000	40(B)	PNP	T03-C
2N4243	2000	40(B)	PNP	T03-C
2N4244	2000	40(B)	PNP	T03-C
2N4245	2000	60(B)	PNP	T03-C
2N4246	2000	60(B)	PNP	T03-C
2N4247	2000	60(B)	PNP	T03-C
2N4248	.01	50	PNP	A154-A
2N4249	.01	100	PNP	A154-A
2N4250	.01	250	PNP	A154-A
2N4251	1.0	100	NPN	T046-A
2N4252	.05	50	NPN	T072-G
2N4253	.05	30	NPN	T072-G
2N4254	.1	50	NPN	T092-A
2N4255	.1	30	NPN	T092-A
2N4256	.5	500(A)	NPN	T098-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N4259	.01	70	NPN	A115-A
2N4260	.005	25	PNP	T072-G
2N4261	.005	25	PNP	T072-G
2N4264	.1	40	NPN	T092-A
2N4265	.1	100	NPN	T092-A
2N4269	1.0	200(A)	NPN	T018-A
2N4270	1.0	200(A)	NPN	T05-A
2N4271	.05	20(B)	NPN	T05-A
2N4272	.1	50(B)	NPN	T05-A
2N4273	.1	20(B)	NPN	T066-A
2N4274	10	18	NPN	T072-G
2N4275	10	18	NPN	T072-G
2N4276	4000	60(B)	PNP	T03-C
2N4277	4000	80(B)	PNP	T03-C
2N4278	4000	60(B)	PNP	T03-C
2N4279	4000	80(B)	PNP	T03-C
2N4280	4000	60(B)	PNP	T03-C
2N4281	4000	80(B)	PNP	T03-C
2N4282	4000	60(B)	PNP	T03-C
2N4283	4000	80(B)	PNP	T03-C
2N4284	.10	600(A)	PNP	A147-A
2N4285	.01	600(A)	PNP	A147-A
2N4286	.05	600(A)	NPN	A147-A
2N4287	.01	600(A)	NPN	A147-A
2N4288	.05	600(A)	PNP	A147-A
2N4239	.01	600(A)	PNP	A147-A
2N4290	.20	600(A)	PNP	A147-A
2N4291	.20	600(A)	PNP	A147-A
2N4292	.50	20	NPN	A147-A
2N4293	.50	20	NPN	A147-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N4294	.40	120(A)	NPN	A147-A
2N4295	.10	120(A)	NPN	A147-A
2N4296	.10	50(B)	NPN	T066-C
2N4297	.10	75(B)	NPN	T066-C
2N4298	.10	25(B)	NPN	T066-C
2N4299	.10	50(B)	NPN	T066-C
2N4300	10	30(B)	NPN	T05-A
2N4301	10	30(B)	NPN	T061-A
2N4305	10	50(B)	NPN	T05-A
2N4306	10	50(B)	NPN	A138-A
2N4307	10	50(B)	NPN	T05-A
2N4308	10	50(B)	NPN	A138-A
2N4309	10	50(B)	NPN	T05-A
2N4310	10	40(B)	NPN	A138-A
2N4311	10	40(B)	NPN	T05-A
2N4312	10	40(B)	NPN	A138-A
2N4313	.05	30	PNP	A138-A
2N4314	.25	50(B)	PNP	T05-A
2N4315	.01	100	NPN	T077-A
2N4347	200ma	15(B)	NPN	T03-C
2N4348	200ma	15(B)	NPN	T03-C
2N4349	.10ma	20(B)	NPN	T05-A
2N4350	.10ma	10(B)	NPN	T05-A
2N4354	.50	25	PNP	A154-A
2N4355	.50	60	PNP	A154-A
2N4356	.50	25	PNP	A154-A
2N4357	.02	100	PNP	T018-A
2N4358	.02	100	PNP	T039-G
2N4359	.01	700(A)	PNP	T018-A
2N4383	.01	1000(A)	NPN	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N4384	.01	1000(A)	NPN	T018-A
2N4385	.01	1000(A)	NPN	T05-A
2N4386	.01	1000(A)	NPN	T018-A
2N4387	10	25(B)	PNP	T066-C
2N4388	10	25(B)	PNP	T066-C
2N4389	.10	60	PNP	A154-A
2N4390		20	NPN	T0104-A
2N4395	100	50(B)	NPN	T03-C
2N4396	100	40(B)	NPN	T03-C
2N4397	.02	40	NPN	T0104-A
2N4398	1000	15(B)	PNP	T03-A
2N4399	1000	15(B)	PNP	T03-A
2N4400	.10	20	NPN	T092-A
2N4401	.1	40	NPN	T092-A
2N4402	.10	30	PNP	T092-A
2N4403	.10	60	PNP	T092-A
2N4404	.025	40(B)	PNP	T039-G
2N4405	.025	100(B)	PNP	T039-G
2N4406	.025	30(B)	PNP	T039-G
2N4407	.025	80(B)	PNP	T039-G
2N4409	.01	133	NPN	T092-A
2N4410	.01	133	NPN	T092-A
2N4411	.005	40	PNP	T072-G
2N4412	.01	120	PNP	T05-A
2N4412A	.01	120	PNP	T05-A
2N4413	.01	120	PNP	T018-A
2N4413A	.01	120	PNP	T018-A
2N4414	.01	100	PNP	T05-A
2N4414A	.01	100	PNP	T05-A
2N4415	.01	100	PNP	T018-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N4415A	.01	100	PNP	T018-A
2N4418	.4	40	NPN	T092-A
2N4419	.4	30	NPN	T018-A
2N4420	.5	30	NPN	T092-A
2N4421	.5	25	NPN	T092-A
2N4422	.5	30	NPN	T092-A
2N4423	.08	40	PNP	T092-A
2N4424	.10	180	NPN	T098-B
2N4425	.10	180	NPN	A127-A
2N4427	20	10(B)	NPN	T039-A
2N4428	1000	20(B)	NPN	T039-A
2N4429	1000	20(B)	NPN	A153-A
2N4430	2000	20(B)	NPN	A153-A
2N4431	4000	20(B)	NPN	A153-A
2N4432	.01	115	NPN	T05-A
2N4432A	10	160(A)	NPN	T05-A
2N4433	.01	50	NPN	T072-J
2N4434		38	NPN	T072-A
2N4435		22	NPN	T072-A
2N4436	.05	40	NPN	A154-A
2N4437	..05	100	NPN	A154-A
2N4438	1.0	40(B)	NPN	T039-A
2N4439	1.0	100(B)	NPN	T039-A
2N4440	100	10(B)	NPN	T060-A
2N4449	.40	40	NPN	T046-A
2N4450	10	50	NPN	T046-A
2N4451	.08	40	PNP	T046-A
2N4452	.01	135	PNP	T046-A
2N4453	.01	40	PNP	T046-A
2N4851	2.0		PNP	T072-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N4853	.40		PNP	T072-A
2N4854		50	PNP	T078-A
2N4855		25	PNP	T078-A
2N4862	.10	20(B)	NPN	T05-A
2N4863	.10	10(B)	NPN	T05-A
2N4865	1.0	10(B)	NPN	T059-A
2N4866	1.0	10(B)	NPN	T059-A
2N4869A			PNP	T072-A
2N4870			PNP	T092-A
2N4871			PNP	T092-A
2N4872	.01	40	PNP	T018-A
2N4873	.40	50	NPN	T018-A
2N4874	.50	200(A)	NPN	T039-G
2N4875	.50	200(A)	NPN	T039-G
2N4876	.50	200(A)	NPN	T039-G
2N4878	.1na	225	NPN	T071-B
2N4879	.1na	175	NPN	T071-B
2N4880	.1na	100	NPN	T071-B
2N4888	.05	166	PNP	A154-A
2N4889	.01	400(A)	PNP	A154-A
2N4890	.25	50 (A)	PNP	T05-A
2N4891		C		
2N4892		C		
2N4893		C		
2N4894		C		
2N4895	1000	300(A)	NPN	T039-A
2N4896	1000	120(A)	NPN	T039-A
2N4897	1000	120(A)	NPN	T039-A
2N4898	100	20(B)	PNP	T066-C
2N4899	100	20(B)	PNP	T066-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N4900	100	20(B)	PNP	T066-C
2N4901	100	20(B)	PNP	T03-C
2N4902	100	20(B)	PNP	T03-C
2N4903	100	20(B)	PNP	T 03 -C
2N4904	100	25(B)	PNP	T03-C
2N4905	100	25(B)	PNP	T03-C
2N4906	100	25(B)	PNP	T03-C
2N4910	100	20(B)	NPN	T066-C
2N4911	100	20(B)	NPN	T066-C
2N4912	100	20(B)	NPN	T066-C
2N4913	1000	25(B)	NPN	T03-C
2N4914	1000	25(B)	NPN	T03-C
2N4915	1000	25(B)	NPN	T03-C
2N4916	.025	60	PNP	A119-A
2N4917	.025	150	PNP	A119-A
2N4918	100	20(B)	PNP	A119-A
2N4919	100	20(B)	PNP	A119-A
2N4920	100	20(B)	PNP	A119-A
2N4921	100	20(B)	NPN	A119-A
2N4922	100	20(B)	NPN	A119-A
2N4923	100	20(B)	NPN	A119-A
2N4924	.1	40(B)	NPN	T039-A
2N4925	.1	40(B)	NPN	T039-A
2N4926	.1	20(B)	NPN	T039-A
2N4927	.1	20(B)	NPN	T039-A
2N4928	.5	45	PNP	T039-A
2N4929	500	25(B)	PNP	T039-A
2N4930	1000	20(B)	PNP	T039-A
2N4931	1000	20(B)	PNP	T039-A
2N4932		10(B)	NPN	T060-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N4933		10(B)	NPN	T060-A
2N4934	.01	170(A)	NPN	T0104-G
2N4935	.01	200(A)	NPN	T0104-G
2N4936	.01	250(A)	NPN	T0104-G
2N4937	.1	16	PNP	A113-A
2N4938	.1	16	PNP	A113-A
2N4939		16	PNP	A113-A
2N4940	.02	16	PNP	T089-B
2N4941	.02	16	PNP	T089-B
2N4942	.02	16	PNP	T089-B
2N4943	.01	100	NPN	T05-A
2N4944	.05	40	NPN	A154-A
2N4945	.05	40	NPN	A154-A
2N4946	.05	100	NPN	A154-A
2N4947			PNP	T072-A
JAN2N4947			PNP	T072-A
2N4948			PNP	T072-A
JAN2N4948			PNP	T072-A
2N4949			PNP	T072-A
JAN2N4949			PNP	T072-A
2N4950	2000	10(B)	NPN	T059-A
2N4951	.05	60	NPN	T098-B
2N4952	.05	100	NPN	T098-B
2N4953	.05	200	NPN	T098-B
2N4954	.05	60	NPN	T098-B
2N4955	.01	1000 (A)	NPN	A113-A
2N4956	.01	1000(A)	NPN	A113-A
2N4957	.1	20	PNP	T072-G
2N4958	.1	20	PNP	T072-G
2N4959	.1	20	PNP	T072-G

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N4960	.01	60	NPN	T039-A
2N4961	.01	60	NPN	T039-A
2N4962	.01	60	NPN	T018-A
2N4963	.01	60	NPN	T018-A
2N4964	.025	300	PNP	T0106-A
2N4965	.025	100	PNP	T0106-A
2N4966	.025	500(A)	NPN	T0106-A
2N4967	.025	950(A)	NPN	T0106-A
2N4968	.05	500(A)	NPN	T0106-A
2N4969	.05	40	NPN	T0106-A
2N4970	.05	116	NPN	T0106-A
2N4971	.025	40	PNP	T0106-A
2N4972	.025	100	PNP	T0106-A
2N4974		5000	PNP	T012-G
2N4975		1000	PNP	T012-G
2N4976	5000	20(B)	NPN	A135-A
2N4980	.001	60	PNP	T046-A
2N4981	.003	40	PNP	T046-A
2N4982	.005	30	PNP	T046-A
2N4983		C		
2N4984		C		
2N4985		C		
2N4986		C		
2N4987		C		
2N4988		C		
2N4989		C		
2N4990		C		
2N4991		C		
2N4992		C		
2N4993		C		

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N4994	.1	40	NPN	T092-A
2N4995	.1	100	NPN	T092-A
2N4996	.1	50	NPN	T092-A
2N4997	.1	30	NPN	T092-A
2N4998	1000	90(B)	NPN	T059-A
2N4999	200	30(B)	PNP	T059-A
2N5000	1000	200(B)	NPN	T059-A
2N5001	200	70(B)	PNP	T059-A
2N5002	1600	30(B)	NPN	T059-A
2N5003	1000	30(B)	PNP	T059-A
2N5004	1000	70(B)	NPN	T059-A
2N5005	1000	70(B)	PNP	T059-A
2N5006	1000	30(B)	NPN	T059-A
2N5007	1000	30(B)	PNP	T059-A
2N5008	1000	70(B)	NPN	T059-A
2N5009	1000	70(B)	PNP	T059-A
2N5010	6.0	30(B)	NPN	T05-A
2N5011	6.0	30(B)	NPN	T05-A
2N5012	6.0	30(B)	NPN	T05-A
2N5013	12	30(B)	NPN	T05-A
2N5014	12	30(B)	NPN	T05-A
2N5015	12	30(B)	NPN	T05-A
2N5016		10(B)	NPN	T060-G
2N5017		10(B)	NPN	T060-G
2N5022	100	25(B)	PNP	T039-A
2N5023	.1	40(B)	PNP	T05-A
2N5024	.1	25	NPN	T072-G
2N5025	10	20(B)	NPN	T060-G
2N5026	10	20(B)	NPN	T060-G
2N5027	.25	50(B)	NPN	T098-B

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N5028	.25	100(B)	NPN	T098-B
2N5029	.25	13	NPN	T098-B
2N5030	.25	10	NPN	T098-B
2N5034	200ma	20(B)	NPN	A132-A
2N5035	200ma	20(B)	NPN	A132-A
2N5036	200ma	20(B)	NPN	A132-A
2N5037	200ma	20(B)	NPN	A132-A
2N5040	.05	10	PNP	A154-A
2N5041	.05	13	PNP	A154-A
2N5042	.05	13	PNP	T039-A
2N5043	6.0	150(A)	PNP	T072-G
2N5044	6.0	150(A)	PNP	T072-G
2N5048	1000	15(B)	NPN	T061-A
2N5049	1000	15(B)	NPN	T061-A
2N5053	.01	25	NPN	T072-G
2N5054	.01	25	NPN	T072-G
2N5055	.05	12	PNP	A154-A
2N5056	.05	12	PNP	T018-A
2N5057	.05	20	PNP	T018-A
2N5058	50	35(B)	NPN	T05-A
2N5059	50	30(B)	NPN	T05-A
2N5065	100	29	NPN	T048-A
2N5066	.001		NPN	T046-A
2N5067	1000	20(B)	NPN	T03-C
2N5068	1000	20(B)	NPN	T03-C
2N5069	1000	20(B)	NPN	T03-C
2N5070	10ma	10(B)	NPN	T060-A
2N5071	10ma	10(B)	NPN	T060-A
2N5074	1000	30(B)	NPN	T059-A
2N5075	1000	90(B)	NPN	T059-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N5076	1000	30(B)	NPN	T059-A
2N5077	1000	90(B)	NPN	T059-A
2N5079	.01	100(B)	NPN	T018-A
2N5080	.01	200(B)	NPN	T018-A
2N5083	1000	40(B)	NPN	T059-A
2N5084	1000	100(B)	NPN	T059-A
2N5085	1000	40(B)	NPN	T059-A
2N5086	.05	150	PNP	T092-A
2N5087	.05	250	PNP	T092-A
2N5088	.05	350	NPN	T092-A
2N5089	.05	450	NPN	T092-A
2N5090	20	10(B)	NPN	T060-A
2N5091	.005	20(B)	PNP	T05-A
2N5092	5000	15(B)	NPN	T05-A
2N5093	.005	20(B)	PNP	T05-A
2N5094	.005	20(B)	PNP	T05-A
2N5095	5000	15(B)	NPN	T05-A
2N5096	.005	20(B)	PNP	T05-A
2N5097	.005	15(B)	NPN	T05-A
2N5098	5.0	15(B)	NPN	T05-A
2N5099	5.0	15(B)	NPN	T05-A
2N5100	.005	20(B)	PNP	A133-A
2N5101	5000	15(B)	NPN	A133-A
2N5102		10(B)	NPN	T060-A
2N5106	.01	100	NPN	T039-G
2N5107	.01	100	NPN	T018-A
2N5108	1000		NPN	T039-G
2N5109	200	70(B)	NPN	T039-G
2N5110		15	PNP	T05-A
2N5111		15(B)	PNP	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N5112		15(B)	PNP	T059-A
2N5113		15(B)	PNP	T059-A
2N5126	.05	15	NPN	T0106-A
2N5127	.05	12	NPN	T0106-A
2N5128	.05	35	NPN	T0105-A
2N5129	.05	35	NPN	T0106-A
2N5130	.05	12	NPN	T0106-A
2N5131	.05	25	NPN	T0106-A
2N5132	.05	20	NPN	T0106-A
2N5133	.05	50	NPN	T0106-A
2N5134	.4	150(A)	NPN	T0106-A
2N5135	.3	50	NPN	T0105-A
2N5136	.1	20	NPN	T0105-A
2N5137	.1	20	NPN	T0106-A
2N5138	.05	40	PNP	T0106-A
2N5139	.05	40	PNP	T0106-A
2N5140	.05	140(A)	PNP	T0106-A
2N5141	.10	15	PNP	T0106-A
2N5142	.05	15	PNP	T0105-A
2N5143	.05	15	PNP	T0106-A
2N5144	1.7	30	NPN	T018-A
2N5145	1,7	30	NPN	T039-G
2N5146	.1	20	PNP	T086-A
2N5147	1000	30(B)	PNP	T039-G
2N5148	1000	30(B)	NPN	T039-G
2N5149	1000	30(B)	PNP	T039-G
2N5150	1000	70(B)	NPN	T039-G
2N5151	1000	25(B)	PNP	T039-G
2N5152	1000	30(B)	NPN	T039-G
2N5153	1000	25(B)	PNP	T039-G

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N5154	1000	70(B)	NPN	T039-G
2N5155	1000	25(B)	PNP	T03-C
2N5156	4000	25(B)	PNP	T03-C
2N5157	500	30(B)	NPN	T03-C
2N5160	1.0	10(B)	PNP	T05-A
2N5172	.1	33	NPN	T098-B
2N5174	.5	13	NPN	T098-B
2N5175	.5	18	NPN	T098-B
2N5176	.5	46	NPN	T098-B
2N5177	10ma	10(B)	NPN	A123
2N5178	20ma	10(B)	NPN	A123-D
2N5179	.02	25	NPN	T072-G
2N5180	.50	20	NPN	T0104-A
2N5181	.02	27	NPN	T0104-A
2N5182	.03	27	NPN	T0104-A
2N5183		10	NPN	T0104-A
2N5184		10	NPN	T0104-A
2N5185	5	25	NPN	T052-A
2N5186	5.0	25	NPN	T052-A
2N5187	4.5	30	NPN	T052-A
2N5188	.5	25	NPN	T039-A
2N5189	100	15	NPN	T05-A
2N5200	.01	45	NPN	T046-A
2N5201	.01	65	NPN	T046-A
2N5202	10ma	10(B)	NPN	T0G6-C
2N5208	.01	10	PNP	T092-A
2N5218	10ma	15(B)	NPN	T03-C
2N5232	.03	250	NPN	T098-B
2N5232A	.03	250	NPN	T098-B
2N5233	.03	100	NPN	T098-B

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N5234	.03	250	NPN	T098-B
2N5235	.03	400	NPN	T098-B
2N5236	.001	50	NPN	T039-G
2N5241	2500	5	NPN	T03-C
2N5242	.1	16	PNP	T0105-A
2N5243	.1	16	PNP	T0105-A
2N5244	.015	53	PNP	T018-A
2N5249	.03	400	NPN	T098-B
2N5249A	.03	400	NPN	T098-B
2N5262	100	40(B)	NPN	T05-A
2N5276	.01	10	NPN	T018-A
2N5279		40	NPN	T05-A
2N5280		40	NPN	A133-A
2N5281		20	PNP	T05-A
2N5282		20	PNP	T05-A
2N5284	1ma	30	NPN	T059-A
2N5285	1ma	70	NPN	T059-A
2N5286	1ma	30	PNP	T059-A
2N5287	1ma	70	PNP	T059-A
2N5288	1ma	30	NPN	T061-A
2N5289	1ma	70	NPN	T061-A
2N5290	1ma	30	PNP	T061-A
2N5291	1ma	70	PNP	T061-A
2N5293	500	30	NPN	T066-T
2N5294	500	30	NPN	T066-D
2N5295	500	15	NPN	T066-T
2N5296	500	15	NPN	T066-D
2N5297	500	15	NPN	T066-T
2N5298	500	15	NPN	T066-D
2N5301	1ma	20	NPN	T03-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N5302	1ma	20	NPN	T03-A
2N5303	1ma	20	NPN	T03-A
2N5304	10	10	NPN	T061-A
2N5309	.01	60	NPN	T098-B
2N5310	.01	100	NPN	T098-B
2N5312		10	PNP	T061-A
2N5313		10	NPN	T061-A
2N5314		10	PNP	T061-A
2N5315		10	NPN	T061-A
2N5316		10	PNP	T061-A
2N5317		10	NPN	T061-A
2N5318		10	PNP	T061-A
2N5319		10	NPN	T061-A
2N5320	0.5	15	NPN	T05-A
2N5321	5.0	20	NPN	T05-A
2N5322	0.5	15	PNP	T05-A
2N5323	5.0	20	PNP	T05-A
2N5324		10	PNP	T03-A
2N5325		10	PNP	T03-A
2N5332	.01	20	PNP	T046-A
2N5334	5.0	15	NPN	T039-A
2N5335	5.0	15	NPN	T039-A
2N5336	10	15	NPN	T039-A
2N5337	10	30	NPN	T039-A
2N5338	10	15	NPN	T039-A
2N5339	10	30	NPN	T039-A
2N5344	100	15	PNP	T066-A
2N5345	100	15	PNP	T066-A
2N5346	10	15	NPN	T059-A
2N5347	10	30	NPN	T059-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N5348	10	15	NPN	T059-A
2N5349	10	30	NPN	T059-A
2N5354	0.1	32	PNP	T098-B
2N5355	0.1	80	PNP	T098-B
2N5356	0.1	200	PNP	T098-B
2N5365	0.1	32	PNP	T098-B
2N5366	0.1	80	PNP	T098-B
2N5367	0.1	200	PNP	T098-B
2N5368	.05	20	NPN	T018-A
2N5369	.05	50	NPN	T018-A
2N5370	.05	75	NPN	T018-A
2N5371	.05	20	NPN	T018-A
2N5372	.05	20	PNP	T018-A
2N5373	.05	50	PNP	T018-A
2N5374	.05	100	PNP	T018-A
2N5375	.05	20	PNP	T018-A
2N5376	.01	120	NPN	T018-F
2N5377	.01	100	NPN	T018-F
2N5378	.01	120	PNP	T018-F
2N5379	.01	100	PNP	T018-F
2N5380	.05	35	NPN	T018-F
2N5381	.05	70	NPN	T018-F
2N5382	.05	40	PNP	T018-F
2N5383	.05	80	PNP	T018-F
2N5384	10	2	PNP	T0111-G
2N5385	10	2	PNP	T0111-A
2N5386	10	2	PNP	T061-A
2N5387	1ma	10	NPN	T061-A
2N5388	1ma	10	NPN	T061-A
2N5389	1ma	10	NPN	T061-A

BI-POLAR BI TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N5399	.01	30	NPN	T046-A
2N5400	.10	30	PNP	T092-A
2N5404		7	PNP	T05-A
2N5405		7	PNP	T05-A
2N5406		12	PNP	T05-A
2N5407		12	PNP	T05-A
2N5408		7	PNP	T0111-A
2N5409		7	PNP	T0111-A
2N5410		12	PNP	T0111-A
2N5411		12	PNP	T0111-A
2N5413	1.0	10	NPN	T039-A
2N5414	1.0	10	NPN	T039-A
2N5415		30	PNP	T05-A
2N5416		30	PNP	T05-A
2N5418	.01	25	NPN	T098-B
2N5419	.01	70	NPN	T098-B
2N5420	.01	150	NPN	T098-B
2N5427	10	15	NPN	T066-A
2N5428	10	30	NPN	T066-A
2N5429	10	15	NPN	T066-A
2N5430	10	30	NPN	T066-A
2N5435	200	7	PNP	T03-A
2N5436	200	7	PNP	T03-A
2N5437	200	7	PNP	T03-A
2N5438	200	12	PNP	T03-A
2N5439	200	12	PNP	T03-A
2N5440	200	12	PNP	T03-A
2N5447	0.1	60	PNP	T018-A
2N5448	0.1	30	PNP	T018-A
2N5449	0.1	100	NPN	T018-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N5450	0.1	50	NPN	T018-A
2N5451	0.1	30	NPN	T018-A
2N5477	10	15	NPN	T059-A
2N5478	10	30	NPN	T059-A
2N5479	10	15	NPN	T059-A
2N5480	10	30	NPN	T059-A
2N5487		40	NPN	T05-A
2N5488		40	NPN	T05-A
2N5490	2ma	7	NPN	T0220-D
2N5491	2ma	7	NPN	T066-T
2N5492	500	7	NPN	T0220-D
2N5493	500	7	NPN	T066-T
2N5494	500	7	NPN	T220-D
2N5495	500	7	NPN	T066-T
2N5496	500	7	NPN	T220-D
2N5497	500	7	NPN	T066-T
2N5550	0.1	50	NPN	T092-A
2N5551	.05	50	NPN	T092-A
2N5552		1.0	NPN	T05-A
2N5575	5	4	NPN	T03-C
2N5578	5	4	NPN	T03-C
2N5581	.01	30	NPN	T046-A
2N5582	.01	50	NPN	T046-A
2N5583	.05	20	PNP	T039-A
2N5589	1ma	5	NPN	A154-R
2N5590	1ma	5	NPN	A155-R
2N5591	1ma	5	NPN	A155-R
2N5597		35	PNP	T066-C
2N5598		15	NPN	T066-C
2N5599		15	PNP	T066-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N5600		15	NPN	T066-C
2N5601		35	PNP	T066-C
2N5602		35	NPN	T066-C
2N5603		15	PNP	T066-C
2N5604		15	NPN	T066-C
2N5605		35	PNP	T066-C
2N5606		35	NPN	T066-C
2N5607		15	PNP	T066-C
2N5608		15	NPN	T066-C
2N5609		35	PNP	T066-C
2N5610		35	NPN	T066-C
2N5611		15	PNP	T066-C
2N5612		15	NPN	T066-C
2N5613		35	PNP	T03-C
2N5614		35	NPN	T03-C
2N5615		15	PNP	T03-C
2N5616		15	NPN	T03-C
2N5617		35	PNP	T03-C
2N5618		35	NPN	T03-C
2N5619		15	PNP	T03-C
2N5620		15	NPN	T03-C
2N5621		35	PNP	T03-C
2N5622		35	NPN	T03-C
2N5623		15	PNP	T03-C
2N5624		15	NPN	T03-C
2N5625		35	PNP	T03-C
2N5626		35	NPN	T03-C
2N5627		15	PNP	T03-C
2N5628		15	NPN	T03-C
2N5629	1ma	9	NPN	T03-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N5630	1ma	7	NPN	T03-C
2N5631	1ma	5	NPN	T03-C
2N5632	1ma	9	NPN	T03-C
2N5633	1ma	7	NPN	T03-C
2N5634	1ma	5	NPN	T03-C
2N5635	100	5	NPN	A157-R
2N5636	1ma	5	NPN	A157-R
2N5637	1ma	5	NPN	A158-R
2N5641	1ma	5	NPN	A157-R
2N5642	1ma	5	NPN	A158-R
2N5643	1ma	5	NPN	A158-R
2N5644	100	15	NPN	A158-R
2N5645	500	15	NPN	A158-R
2N5646	1ma	9	NPN	A158-R
2N5655	10	25	NPN	A159-B
2N5656	10	25	NPN	A159-B
2N5657	10	25	NPN	A159-B
2N5660	0.2	40	NPN	T066-C
2N5661	0.2	40	NPN	T066-C
2N5662	0.2	40	NPN	T05-A.
2N5663	0.2	40	NPN	T05-A
2N5664	1.0	20	NPN	T066-C
2N5665	1.0	20	NPN	T066-C
2N5666	1.0	20	NPN	T05-A
2N5667	1.0	20	NPN	T05-A
2N5671		8	NPN	T03-C
2N5672		8	NPN	T03-C
2N5677	1.0	10	PNP	T061-A
2N5678	2.0	10	PNP	T063-A
2N5679	1.0	40	PNP	T05-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N5680	1.0	40	PNP	T05-A
2N5681	1.0	40	NPN	T05-A
2N5682	1.0	40	NPN	T05-A
2N5683	2ma	5	PNP	T03-C
2N5684	2ma	5	PNP	T03-C
2N5685	2ma	5	NPN	T03-C
2N5686	2ma	5	NPN	T03-C
2N5692	200	7	PNP	T03-C
2N5693	200	7	PNP	T03-C
2N5694	200	7	PNP	T03-C
2N5695	200	7	PNP	T03-C
2N5696	200	7	PNP	T03-C
2N5729	1ma	15	NPN	T05-A
2N5730	1ma	15	NPN	T059-A
2N5731	1ma	15	NPN	T061-A
2N5732	1ma	15	NPN	T03-C
2N5733	1ma	15	NPN	T061-A
2N5734	1ma	15	NPN	T03-C
2N5737		7	PNP	T03-C
2N5738		7	PNP	T03-C
2N5739		7	PNP	T066-C
2N5740		7	PNP	T066-C
2N5741		7	PNP	T03-C
2N5742		7	PNP	T03-C
2N5743		7	PNP	T066-C
2N5744		7	PNP	T066-C
2N5745	1ma	20	PNP	T03-C
2N5758	1ma	9	NPN	T03-C
2N5759	1ma	7	NPN	T03-C
2N5760	1ma	5	NPN	T03-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N5763	.025	7	PNP	T018-A
2N5781		7	PNP	T05-A
2N5782		7	PNP	T05-A
2N5783		7	PNP	T05-A
2N5784		7	NPN	T05-A
2N5785		7	NPN	T05-A
2N5786		7	NPN	T05-A
2N5804		7	NPN	T03-A
2N5805		7	NPN	T03-A
2N5810	0.1	60	NPN	A156-A
2N5811	0.1	60	PNP	A156-A
2N5812	0.1	150	NPN	A156-A
2N5813	0.1	150	PNP	A156-A
2N5814	0.1	60	NPN	A156-A
2N5815	0.1	60	PNP	A156-A
2N5816	0.1	100	NPN	A156-A
2N5817	0.1	100	PNP	A156-A
2N5818	0.1	150	NPN	A156-A
2N5819	0.1	150	PNP	A156-A
2N5820	0.1	60	NPN	A156-A
2N5821	0.1	60	PNP	A156-A
2N5822	0.1	100	NPN	A156-A
2N5823	0.1	100	PNP	A156-A
2N5824	.05	60	NPN	A156-A
2N5825	.05	100	NPN	A156-A
2N5826	.05	150	NPN	A156-A
2N5827	.05	250	NPN	A156-A
2N5828	.05	400	NPN	A156-A
2N5829	0.1	20	PNP	T072-G
2N5835	.01	25	NPN	T072-G

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N5836	10	25	NPN	T072-G
2N5837	10	25	NPN	T072-G
2N5838		10	NPN	T03-C
2N5839		10	NPN	T03-C
2N5840		10	NPN	T03-C
2N5841	.02	25	NPN	T072-G
2N5842	.02	25	NPN	T072-G
2N5845	0.5	50	NPN	T092-A
2N5845A	0.5	50	NPN	T092-A
2N5846	500	5	NPN	T0102-A
2N5847	1ma	5	NPN	A160-R
2N5848	1ma	2	NPN	A160-R
2N5849	1ma	2	NPN	A160-R
2N5859	.25	15	NPN	T039-A
2N5861	0.3	12	NPN	T039-A
2N5862	2ma	3	NPN	A160-R
2N5864	0.5	50	PNP	T039-A
2N5865	0.2	40	PNP	T039-A
2N5867	100	20	PNP	T03-C
2N5868	100	20	PNP	T03-C
2N5869	100	20	NPN	T03-C
2N5870	100	20	NPN	T03-C
2N5871	250	20	PNP	T03-C
2N5872	250	20	PNP	T03-C
2N5873	250	20	NPN	T03-C
2N5874	250	20	NPN	T03-C
2N5875	500	20	PNP	T03-C
2N5876	500	20	PNP	T03-C
2N5877	500	20	NPN	T03-C
2N5878	500	20	NPN	T03-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N5879	500	20	PNP	T03-C
2N5880	500	20	PNP	T03-C
2N5881	500	20	NPN	T03-C
2N5882	500	20	NPN	T03-C
2N5883	1ma	20	PNP	T03-C
2N5884	1ma	20	PNP	T03-C
2N5885	1ma	20	NPN	T03-C
2N5886	1ma	20	NPN	T03-C
2N5887	60	8	PNP	T066-C
2N5888	60	8	PNP	T066-C
2N5889	60	15	PNP	T066-C
2N5890	60	15	PNP	T066-C
2N5891	60	15	PNP	T066-C
2N5892	60	15	PNP	T066-C
2N5893	60	30	PNP	T066-C
2N5894	60	30	PNP	T066-C
2N5895	60	30	PNP	T066-C
2N5896	60	30	PNP	T066-C
2N5897	60	50	PNP	T066-C
2N5898	60	50	PNP	T066-C
2N5899	60	50	PNP	T066-C
2N5900	60	50	PNP	T066-C
2N5901	60	90	PNP	T066-C
2N5926		3	NPN	T063-A
2N5954		25	PNP	T066-C
2N5955		25	PNP	T066-C
2N5956		25	PNP	T066-C
2N5957		10	NPN	T061-A
2N5958		10	PNP	T061-A
2N5959		10	NPN	T061-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N5960		10	PNP	T061-A
2N5967		10	PNP	T063-A
2N5968		10	NPN	T063-A
2N5969		10	PNP	T063-A
2N5970		10	NPN	T03-A
2N5971		25	NPN	T03-A
2N5972		15	NPN	T03-A
2N5973		15	NPN	T03-A
2N5974		20	PNP	A159-B
2N5975		20	PNP	A159-B
2N5976		20	PNP	A159-B
2N5977		20	NPN	A159-B
2N5978		20	NPN	A159-B
2N5979		20	NPN	A159-B
2N5980		10	PNP	A159-B
2N5981		10	PNP	A159-B
2N5982		10	PNP	A159-B
2N5983		10	NPN	A159-B
2N5984		10	NPN	A159-B
2N5985		10	NPN	A159-B
2N5986		15	PNP	A159-B
2N5987		15	PNP	A159-B
2N5988		15	PNP	A159-B
2N5989		15	NPN	A159-B
2N5990		15	NPN	A159-B
2N5991		15	NPN	A159-B
2N5998	.03	150	NPN	T098-B
2N5999	.03	150	PNP	T098-B
2N6000	.01	70	NPN	A153-A
2N6001	.01	85	PNP	A153-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N6002	.01	175	NPN	A153-A
2N6003	.01	235	PNP	A153-A
2N6004	.01	70	NPN	A153-A
2N6005	.01	85	PNP	A153-A
2N6006	.01	175	NPN	A153-A
2N6007	.01	235	PNP	A153-A
2N6008	.03	250	NPN	T098-B
2N6009	.03	250	PNP	T098-B
2N6010	.01	65	NPN	A153-A
2N6011	.01	90	PNP	A153-A
2N6012	.01	155	NPN	A153-A
2N6013	.01	225	PNP	A153-A
2N6014	.01	65	NPN	A153-A
2N6015	.01	90	PNP	A153-A
2N6016	.01	155	NPN	A153-A
2N6017	.01	225	PNP	A153-A
2N6029	2ma	8	PNP	T03-A
2N6030	2ma	7	PNP	T03-A
2N6031	2ma	5	PNP	T03-A
2N6032		3	NPN	T03-
2N6033		3	NPN	T03-
2N6034	500	250	PNP	A159-B
2N6035	500	250	PNP	A159-B
2N6036	500	250	PNP	A159-B
2N6037	500	250	NPN	A159-B
2N6038	500	250	NPN	A159-B
2N6039	500	250	NPN	A159-B
2N6046		7	NPN	T066-C
2N6047		7	NPN	T066-C
2N6048		7	NPN	T066-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N6049		13	PNP	T066-C
2N6060	500	7	NPN	T063-A
2N6061	500	7	PNP	T063-A
2N6062	500	7	NPN	T063-A
2N6063	500	7	PNP	T063-A
2N6067	0.5	40	PNP	T092-A
2N6076	.01	100	PNP	T098-B
2N6077		6	NPN	T066-C
2N6078		6	NPN	T066-C
2N6079		6	NPN	T066-C
2N6080	250	5	NPN	A158-R
2N6081	250	5	NPN	A158-R
2N6082	1ma	5	NPN	A158-R
2N6083	1ma	5	NPN	A158-R
2N6084	1ma	5	NPN	A158-R
2N6094	250	5	PNP	A161-R
2N6095	500	5	PNP	A161-R
2N6096	1ma	5	PNP	A161-R
2N6097	2.5ma	5	PNP	A161-R
2N6098		15	NPN	T0220-C
2N6099		15	NPN	T0220-B
2N6100		15	NPN	T0220-C
2N6101		15	NPN	T0220-B
2N6102		15	NPN	T0220-C
2N6103		15	NPN	T0220-B
2N6106		10	PNP	T0220-C
2N6107		10	PNP	T0220-B
2N6108		10	PNP	T0220-C
2N6109		10	PNP	T0220-B
2N6110		10	PNP	T0220-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{co} I_{CES}	BETA	PNP NPN	DWG. NO.
2N6111		10	PNP	T0220-B
2N6121		12	NPN	T0220-D
2N6122		12	NPN	T0220-D
2N6123		12	NPN	T0220-D
2N6124		12	PNP	T0220-D
2N6125		12	PNP	T0220-D
2N6126		12	PNP	T0220-D
2N6127		10	PNP	T061-A
2N6128		10	NPN	T061-A
2N6129		7	NPN	T0220-D
2N6130		7	NPN	T0220-D
2N6131		7	NPN	T0220-D
2N6132		7	PNP	T0220-D
2N6133		7	PNP	T0220-D
2N6134		7	PNP	T0220-D
2N6136		10	NPN	A160-R
2N6166	3ma	2.5	NPN	A161-R
2N6175	50	25	NPN	T05-A
2N6176	50	25	NPN	T05-A
2N6177	20	25	NPN	T05-A
2N6178		15	NPN	T05-A
2N6179		30	NPN	T05-A
2N6180		15	PNP	T05-A
2N6181		20	PNP	T05-A
2N6182	10	15	PNP	T059-A
2N6183	10	30	PNP	T059-A
2N6184	10	15	PNP	T059-A
2N6185	10	30	PNP	T059-A
2N6186	10	15	PNP	T059-A
2N6187	10	30	PNP	T059-A

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N6188	10	15	PNP	T059-A
2N6189	10	30	PNP	T059-A
2N6190	10	15	PNP	T039-A
2N6191	10	30	PNP	T039-A
2N6192	10	15	PNP	T039-A
2N6193	10	30	PNP	T039-A
2N6211		5	PNP	T066-C
2N6212		5	PNP	T066-C
2N6213		5	PNP	T066-C
2N6214		5	PNP	T066-C
2N6215		5	NPN	T063-A
2N6226	1ma	9	PNP	T03-C
2N6227	1ma	7	PNP	T03-C
2N6228	1ma	5	PNP	T03-C
2N6229	1ma	9	PNP	T03-C
2N6230	1ma	7	PNP	T03-C
2N6231	1ma	5	PNP	T03-C
2N6233	100	25	NPN	T066-C
2N6234	100	25	NPN	T066-C
2N6235	100	25	NPN	T066-C
2N6246		7	PNP	T03-B
2N6247		7	PNP	T03-B
2N6248		7	PNP	T03-B
2N6249		3	NPN	T03-C
2N6250		3	NPN	T03-C
2N6251		3	NPN	T03-C
2N6253		1	NPN	T03-C
2N6254		2	NPN	T03-C
2N6255	250	5	NPN	T03-A
2N6257	4ma	20	NPN	T03-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N6258	1ma	20	NPN	T03-C
2N6259		5	NPN	T03-C
2N6260		25	NPN	T066-C
2N6261		25	NPN	T066-C
2N6262	1ma	5	NPN	T03-C
2N6263		25	NPN	T066-C
2N6264		25	NPN	T066-C
2N6274		25	NPN	T03-C
2N6275		25	NPN	T03-C
2N6276		25	NPN	T03-C
2N6277		25	NPN	T03-C
2N6278		25	NPN	T063-A
2N6279		25	NPN	T063-A
2N6280		25	NPN	T063-A
2N6281		25	NPN	T063-A
2N6288		20	NPN	T0220-D
2N6289		20	NPN	T0220-D
2N6290		20	NPN	T0220-D
2N6291		20	NPN	T0220-D
2N6292		20	NPN	T0220-D
2N6293		20	NPN	T0220-D
2N6302	2ma	5	NPN	T03-C
2N6304	.01	25	NPN	T072-G
2N6305	.01	25	NPN	T072-G
2N6306		5	NPN	T03-C
2N6307		5	NPN	T03-C
2N6308		5	NPN	T03-C
2N6312	50	20	PNP	T066-C
2N6313	50	20	PNP	T066-C
2N6314	50	20	PNP	T066-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N6315	250	20	NPN	T066-C
2N6316	250	20	NPN	T066-C
2N6317	250	20	PNP	T066-C
2N6318	250	20	PNP	T066-C
2N6338	10	25	NPN	T03-C
2N6339	10	25	NPN	T03-C
2N6340	10	25	NPN	T03-C
2N6341	10	25	NPN	T03-C
2N6354	5ma	7	NPN	T03-C
2N6359		5	NPN	T03-C
2N6360		5	NPN	T03-C
2N6366	5ma	5	NPN	T0102-A
2N6371		5	NPN	T03-C
2N6372		25	NPN	T066-C
2N6373		25	NPN	T066-C
2N6374		25	NPN	T066-C
2N6377		25	PNP	T03-C
2N6378		25	PNP	T03-C
2N6379		25	PNP	T03-C
2N6380		25	PNP	T063-A
2N6381		25	PNP	T063-A
2N6382		25	PNP	T063-A
2N6389	.02	25	NPN	T072-A
2N6461	.05	20	NPN	T039-A
2N6462	.05	20	NPN	T039-A
2N6463	.05	20	NPN	T039-A
2N6464	.05	20	NPN	T039-A
2N6467		12	PNP	T066-C
2N6468		12	PNP	T066-C
2N6469		10	PNP	T03-C

BI-POLAR TRANSISTOR DATA - Continued

TYPE NO.	I_{CO} I_{CES}	BETA	PNP NPN	DWG. NO.
2N6470		10	NPN	T03-C
2N6471		10	NPN	T03-C
2N6472		10	NPN	T03-C
2N6473		15	NPN	T0220-D
2N6474		5	NPN	T0220-D
2N6475		5	PNP	T0220-D
2N6476		5	PNP	T0220-D
2N6477		12	NPN	T0220-D
2N6478		12	NPN	T0220-D
2N6486		7	NPN	T0220-B
2N6487		7	NPN	T0220-B
2N6488		7	NPN	T0220-B
2N6489		7	NPN	T0220-B
2N6490		7	NPN	T0220-B
2N6491		7	NPN	T0220-B
2N6496		5	NPN	T03-C

Section III. FIELD EFFECT TRANSISTOR DATA

TYPE NO.	G_M (MIN)	CHANNEL	DWG. NO.
2N2386	210	P	T05-DA
2N2497	420	P	T05-DA
JAN2N2497	420	P	T05-DA
2N2498	630	P	T05-DA
JAN2N2498	630	P	T05-DA
2N2499	580	P	T05-DA
JAN2N2499	580		T05-DA
2N2500	462	P	T05-DA
JAN2N2500	462		T05-DA
2N2606	83	P	T018-DA
JAN2N2606	248	P	T018-DA
2N2607	264	P	T018-DA
JAN2N2607	264	P	T018-DA
2N2608	680	P	T018-DA
JAN2N2608	680	P	T018-DA
2N2609	1440	P	T018-DA
JAN2N2609	1440	P	T018-DA
2N2841	48	P	T018-DA
2N2842	135	P	T018-DA
2N2843	415	P	T018-DA
2N2844	1120	P	T018-DA
2N3066	272	N	T018-DB
2N3067	231	N	T018-DB
2N3068	160	N	T018-DB
2N3069	570	N	T018-DB
2N3070	540	N	T018-DB
2N3071	386	N	T018-DB
2N3084	276	N	T05-DD
2N3085	276	N	T018-DD
2N3086	276	N	T05-DD

FIELD EFFECT TRANSISTOR DATA - Continued

TYPE NO.	G_M (MIN)	CHANNEL	DWG. NO.
2N3087	276	N	T018-DD
2N3088	150	N	T05-DD
2N3088A	216	N	T05-DD
2N3089	150	N	T018-DD
2N3089A	216	N	T018-DD
2N3112	40	P	T018-DA
2N3113	40	P	A155
2N3277	80	P	T033-DG
2N3278	120	P	T033-DG
2N3328	80	P	T072-DG
2N3329	670	P	T072-DG
2N3330	865	P	T072-DG
2N3331	520	P	T072-DG
2N3332	660	P	T072-DG
2N3333	432	P	T089-A
2N3334	432	P	T089-A
2N3335	432	P	T089-A
2N3336	432	P	T089-A
2N3365	276	N	T018-DB
2N3366	192	N	T018-DB
2N3367	80	N	T018-DB
2N3368	571	N	T018-DB
2N3369	430	N	T018-DB
2N3370	240	N	T018-DB
2N3376	608	P	T072-DG
2N3377	640	P	A155
2N3378	1200	P	T072-DG
2N3379	1200	P	A155
2N3380	240	P	T072-DG
2N3381	1200	P	A155

FIELD EFFECT TRANSISTOR DATA - Continued

TYPE NO.	G_M (MIN)	CHANNEL	DWG. NO.
2N3382	225	P	T072-DG
2N3383	3600	P	A155
2N3384	6000	P	T072-DG
2N3385	6000	P	A155
2N3386	6000	P	T072-DG
2N3387	6000	P	A155
2N3436	1250	N	T018-DB
2N3437	885	N	T018-DB
2N3438	615	N	T018-DB
2N3452	154	N	T072-DH
2N3453	115	N	T072-DH
2N3454	80	N	T072-DH
2N3455	234	N	T072-DH
2N3456	231	N	T072-DH
2N3457	120	N	T072-DH
2N3458	1250	N	T018-DB
2N3459	885	N	T018-DB
2N3460	615	N	T018-DB
2N3465	320	N	T05-DD
2N3466	320	N	T018-DD
2N3573	80	P	T018-DG
2N3574	160	P	T072-DG
2N3575	240	P	T072-DG
2N3578	960	P	T018-DA
2N3608		IP	T018-DB
2N3610		IP	T072-DM
2N3631	1120	IN	T018-DA
2N3684		N	T072-DH
2N3685	1200	N	T072-DH
2N3686	800	N	T072-DH

FIELD EFFECT TRANSISTOR DATA - Continued

TYPE NO.	G_M (MIN)	CHANNEL	DWG. NO.
2N3687	400	N	T072-DH
2N3695	800	P	T072-DG
2N3696	600	IP	T072-DG
2N3697	400	IP	T072-DG
2N3698	200	P	T072-DG
2N3796	657	IN	T018-DN
2N3797	511	IN	T018-DN
2N3819	520	N	T092-DA
2N3820	560	P	T092-DA
2N3821	1080	N	T072-DH
JAN2N3821	2400	N	T072-DH
2N3822	1740	N	T072-DH
JAN2N3822	1400	N	T072-DH
2N3823	520	N	T072-DH
JAN2N3823	520	N	T072-DH
2N3824		N	T072-DH
2N3882	800	IP	T072-DD
2N3909	650	P	T072-DG
2N3921	1000	N	T071-DB
2N3922	1000	N	T071-DB
2N3934	225	N	T089-A
2N3954	800	N	T071-DB
2N3955	800	N	T071-DB
2N3956	800	N	T071-DB
2N3957	800	N	T071-DB
2N3958	800	N	T071-DB
2N3966		N	T072-DH
2N3967	505	N	T072-DH
2N3967A	505	N	T072-DH
2N3968	935	N	T072-DH

FIELD EFFECT TRANSISTOR DATA - Continued

TYPE NO.	G_M (MIN)	CHANNEL	DWG. NO.
2N3968A	935	N	T072-DH
2N3969	705	N	T072-DH
2N3969A	705	N	T072-DH
2N3970		N	T018-DB
2N3971		N	T018-DB
2N3972		N	T018-DB
2N3993	1260	P	T072-DG
2N3994	2320	P	T072-DG
2N4038	1200	IN	T072-DR
2N4039	1200	IN	T072-DR
2N4065	200	IP	T072-DM
2N4066	2400	IP	T076
2N4067	2400	IP	T076
2N4089	534	P	T072-DH
2N4090	640	P	T072-DH
2N4091		N	T018-DB
2N4092		N	T018-DB
2N4093		N	T018-DB
2N4094		N	T018-DB
2N4095		N	T018-DB
2N4117	560	N	T072-DH
2N4117A	560	N	T072-DH
2N4118	640	N	T072-DH
2N4118A	640	N	T072-DH
2N4119	800	N	T072-DH
2N4119A	800	N	T072-DH
2N4120	266	IP	T072-DM
2N4139	910	N	T018-DB
2N4193	2546	N	T018-DB
2N4220	720	N	T072-DJ

FIELD EFFECT TRANSISTOR DATA - Continued

TYPE NO.	G_M (MIN)	CHANNEL	DWG. NO.
2N4220A	720	N	T072-DJ
2N4221	1160	N	T072-DJ
2N4221A	1160	N	T072-DJ
2N4222	950	N	T072-DJ
2N4222A	950	N	T072-DJ
2N4223	700	N	T072-DJ
2N4224	600	N	T072-DJ
2N4267	2400	I P	T072-DM
2N4268	4000	I P	T072-DM
2N4302	730	N	A116-DB
2N4303	860	N	A116-DB
2N4304	380	N	A116-DB
2N4338	480	N	T018-DB
2N4339	640	N	T018-DB
2N4340	1040	N	T018-DB
2N4341	1600	N	T018-DB
2N4342	400	P	A154-DB
2N4343	400	P	A154-DB
2N4352		I P	T072-DG
2N4353	800	I P	T072-DM
2N4360	400	P	A154-DB
2N4381	1000	P	T018-DG
2N4382	400	P	T072-DA
2N4391		N	T018-DB
2N4392		N	T018-DB
2N4393		N	T018-DB
2N4416	975	N	T072-DG
2N4416A	975	N	T072-DH
2N4417	3600	N	T072-DG
2N4445		N	T046-DD

FIELD EFFECT TRANSISTOR DATA - Continued

TYPE NO.	G_M (MIN)	CHANNEL	DWG. NO.
2N4446		N	T046-DD
2N4447		N	T046-DD
2N4448		N	T046-DD
2N4856		N	T018-DB
JAN2N4856		N	T018-DB
2N4857		N	T018-DB
JAN2N4857		N	T018-DB
2N4858		N	T018-DB
JAN2N4858		N	T018-DB
2N4859		N	T018-DB
JAN2N4859		N	T018-DB
2N4860		N	T018-DB
JAN2N4860		N	T018-DB
2N4861		N	T018-DB
JAN2N4861		N	T018-DB
2N4867	560	N	T072-DH
2N4867A	560	N	T072-DH
2N4868	800	N	T072-DH
2N4868A	800	N	T072-DH
2N4869	1040	N	T072-DH
2N4869A	1040	N	T072-DH
2N4881	260	N	T05-DB
2N4882	379	N	T05-DB
2N4883	259	N	T05-DB
2N4884	378	N	T05-DB
2N4885	259	N	T05-DB
2N4886	378	N	T05-DB
2N4977		N	T018-DB
2N4978		N	T018-DB
2N4979		N	T018-DB

FIELD EFFECT TRANSISTOR DATA - Continued

TYPE NO.	G_M (MIN)	CHANNEL	DWG. NO.
2N5018		P	T018-DA
2N5019		P	T018-DA
2N5020	800	P	T018-DA
2N5021	1200	P	T018-DA
2N5033	800	P	A154-DB
2N5045	1080	N	T089-A
2N5046	1080	N	T089-A
2N5047	1080	N	T089-A
2N5078	520	N	T072-DG
2N5103	3600	N	T072-DH
2N5104	1600	N	T072-DH
2N5158		N	T046-DJ
2N5159		N	T046-DJ
2N5163		N	T0106-DB
2N5196	1600	N	T071-DB
2N5197	800	N	T071-DB
2N5198	800	N	T071-DB
2N5199	800	N	T071-DB
2N5245	3600	N	A116-DD
2N5246	2400	N	A116-DD
2N5247	1800	N	A116-DD
2N5248	2400	N	T092-DA
2N5277	825	N	T05-DB
2N5288	330	N	T060-DN
2N5358	660	N	T072-DJ
2N5359	730	N	T072-DJ
2N5360	700	N	T072-DJ
2N5361	570	N	T072-DJ
2N5362	540	N	T072-DJ
2N5363	350	N	T072-DJ

FIELD EFFECT TRANSISTOR DATA - Continued

TYPE NO.	G_M (MIN)	CHANNEL	DWG. NO.
2N5364	270	N	T072-DJ
2N5391	930	N	T018-DB
2N5392	1000	N	T018-DB
2N5393	1230	N	T018-DB
2N5394	1360	N	T018-DB
2N5395	1215	N	T018-DB
2N5396	945	N	T018-DB
2N5397	240	N	T072-DH
2N5398	110	N	T072-DH
2N5432		N	T052-DJ
2N5433		N	T052-DJ
2N5434		N	T052-DJ
2N5452	380	N	T071-DB
2N5453	380	N	T071-DB
2N5454	380	N	T071-DB
2N5457	380	N	T092-DD
2N5458	345	N	T092-DD
2N5459	240	N	T092-DD
2N5460	380	P	T092-DB
2N5461	345	P	T092-DB
2N5462	240	P	T092-DB
2N5463	380	P	T092-DB
2N5464	345	P	T092-DB
2N5465	240	P	T092-DB
2N5471		P	T072-DG
2N5472		P	T072-DG
2N5473	90	P	T072-DG
2N5474	125	P	T072-DG
2N5475	132	P	T072-DG
2N5476	150	P	T072-DG

FIELD EFFECT TRANSISTOR DATA - Continued

TYPE NO.	G_M (MIN)	CHANNEL	DWG. NO.
2N5484	114	N	T092-DD
2N5485	735	N	T092-DD
2N5486	320	N	T092-DD
2N5515	280	N	T071-DB
2N5516	280	N	T071-DB
2N5517	280	N	T071-DB
2N5518	280	N	T071-DB
2N5519	280	N	T071-DB
2N5520	280	N	T071-DB
2N5521	280	N	T071-DB
2N5522	280	N	T071-DB
2N5523	280	N	T071-DB
2N5524	280	N	T071-DB
2N5543	158	N	T039-DB
2N5544	158	N	T039-DB
2N5545	390	N	T071-DB
2N5546	390	N	T071-DB
2N5547	390	N	T071-DB
2N5548		P	A116-DG
2N5549		N	T018-DB
2N5555		N	T092-DD
2N5556	825	N	T072-DH
2N5557	570	N	T072-DH
2N5558	315	N	T072-DH
2N5561	420	N	T071-DB
2N5562	420	N	T071-DB
2N5563	420	N	T071-DB
2N5564	300	N	T071-DB
2N5565	300	N	T071-DB
2N5566	300	N	T071-DB

FIELD EFFECT TRANSISTOR DATA - Continued

TYPE NO.	G_M (MIN)	CHANNEL	DWG. NO.
2N5639		N	T092-DD
2N5640		N	T092-DD
2N5647	216	N	T072-DH
2N5648	264	N	T072-DH
2N5649	275	N	T072-DH
2N5653		N	T092-DD
2N5654		N	T092-DD
2N5668	570	N	T092-DD
2N5669	420	N	T092-DD
2N5670	240	N	T092-DD
2N5716	150	N	T092-DD
2N5717	265	N	T092-DD
2N5718	220	N	T092-DD
2N5797	47	P	T092-DB
2N5798	74	P	T092-DB
2N5799	107	P	T092-DB
2N5800	142	P	T092-DB
2N5902	51	N	T078-DB
2N5903	51	N	T078-DB
2N5904	51	N	T078-DB
2N5905	51	N	T078-DB
2N5906	51	N	T078-DB
2N5907	51	N	T078-DB
2N5908	51	N	T078-DB
2N5909	51	N	T078-DB
2N5911	125	N	T078-DB
2N5912	125	N	T078-DB
2N5949	350	N	A116-DB
2N5950	455	N	A116-DB
2N5951	560	N	A116-DB

FIELD EFFECT TRANSISTOR DATA - Continued

TYPE NO.	G_M (MIN)	CHANNEL	DWG. NO.
2N5952	540	N	A116-DB
2N5953	760	N	A116-DB
2N6449	105	N	T039-DB
2N6450	105	N	T039-DB
2N6451	1200	N	T072-DH
2N6452	1200	N	T072-DH
2N6453		N	T072-DH
2N6454		N	T072-DH

SECTION IV. DIODE AND RECTIFIER DATA

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N2lB	a	JAN1N25WA	a	1N45	410
1N21C	a	1N26	a	1N46	1500
1N2ID	a	JAN1N26	a	1N47	500
1N21E	a	1N26A	a	1N48	833
1N21F	a	1N26B	a	1N49	200
1N21G	a	JAN1N26B	a	1N50	80
1N2lWD	a	1N26C	a	1N51	1600
1N21WE	a	1N28J	a	1N52	150
JAN1N21WE	a	LN31	a	1N52A	100
1N21WF	a	JAN1N31	a	1N53	a
1N21WG	a	1N31A	a	JAN1N53	a
JAN1N21WG	a	JAN1N31A	a	1N53A	a
1N23A	a	1N32	a	1N53B	a
1N23B	a	JAN1N32	a	JAN1N53B	a
1N23C	a	JAN1N32A	a	1N53C	a
1N23D	a	1N34	30	1N53D	a
1N23E	a	1N34A	30	1N54	7.0
1N23F	a	1N34AS	500	1N54A	7.0
1N23G	a	1N35	10	1N55	800
1N23WD	a	1N36	100	1N55A	500
1N23WE	a	1N38	6.0	1N55B	500
JAN1N23WE	a	1N38A	6.0	1N56	300
1N23WF	a	1N38B	6.0	1N56A	300
1N23WG	a	1N39	100	1N57	500
JAN1N23WG	a	1N39A	65	1N57A	500
1N25	a	1N39B	100	1N58	600
JAN1N25	a	1N40	35	1N58A	600
1N25A	a	1N41	35	1N59	800
JAN1N125W	a	1N42	a	1N60	200
1N25B	a	1N43	.02	1N60A	60
1N25WA	a	1N44	1000		

DIODE AND RECTIFIER DATA - Continued

TYPE NO	IR	TYPE	IR	TYPE	IR
1N60C	67	JAN1N78B	a	1N97A	8.0
1N60S	67	1N78C	a	1N98	100
1N61	300	JAN1N78C	a	1N98A	100
1N62	700	1N78D	a	1N99	50
1N63	50	1N78E	a	1N99A	5.0
1N63A	50	1N78F	a	1N100	50
1N64	25	1N79	a	1N100A	50
1N64A	25	1N81	10	1N101	10
1N65	200	1N81A	10	1N102	3.0
1N66	50	1N82	a	1N103	750
1N66A	50	1N82A	a	1N104	750
1N67	5.0	JAN1N82A	a	1N105	a
1N67A	50	1N82G	a	1N107	200
1N68	625	1N83	30	1N108	200
1N68A	625	1N84	750	1N109	a
1N69	50	1N86	50	1N111	25
1N69A	30	1N87	30	1N112	50
1N70	25	1N87A	10	1N113	25
1N70A	25	1N87S	220	1N114	50
1N71	300	1N87T	.10	1N115	100
1N72	a	1N88	75	1N116	100
1N73	a	1N89	100	1N116A	100
1N74	50	1N90	500	IN117	100
1N75	50	1N91	175	1N117A	100
1N76	a	1N92	118	1N118	100
1N76A	a	1N93	75	1N118A	100
1N76C	a	JAN1N93A	400	1N119	16ma
1N78	a	1N95	500	1N120	32ma
JAN1N78	a	1N96	500	1N126	850
1N78A	a	1N96A	500	1N126A	50
1N78B	a	1N97	100	1N127	300

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N127A	25	1N194A	10	1N226A	a
1N128	10	1N195	80	1N227A	a
1N128A	10	1N196	40	1N228A	a
1N132	a	1N198	50	1N229A	a
1N133	300	1N198A	50	1N230A	a
1N134	a	1N198B	50	1N231A	a
1N135	850	1N198M	3.0	1N232A	a
1N137A	.03	1N200	.50	1N233A	a
1N137B	.03	1N201	.50	1N234A	a
1N138A	.01	1N202	.50	1N235A	a
1N138B	.01	1N203	.50	1N230	a
1N139	1500	1N204	.50	1N237	a
1N140	300	1N205	.10	1N238	a
1N141	50	1N206	.10	1N239	a
1N142	100	1N207	.10	1N248	10
1N143	100	1N208	.10	1N248A	10
1N144	200	1N209	.10	1N248B	10
1N145	100	1N210	.10	1N248C	10
1N147A	a	1N211	1.0	1N249	10
1N149	a	1N212	1.0	1N249A	10
1N150	a	1N213	1.0	1N249B	10
1N151	300	1N214	1.0	JAN1N249B	10
1N152	10	1N215	1.0	1N249C	10
1N153	150	1N216	5.0	1N250	10
1N156	a	1N217	5.0	1N250A	10
1N158	100	1N218	5.0	1N250B	10
1N160	a	1N219	5.0	JAN1N250B	10
1N175	50	1N220	5.0	1N250C	10
1N191	25	1N221	5.0	1N251	.20
1N192	250	1N222	5.0	JAN1N251	.10
1N194	60	1N225A	a	1N251A	10

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N252	.10	1N286A	a	1N305	2.0
1N252A	10	1N287	1500	1N306	2.0
1N253	10	1N288	350	1N307	5.0
JAN1N253	10	1N289	50	1N308	500
1N254	10	1N290	100	1N309	100
JAN1N254	10	1N291	100	1N310	20
1N255	10	1N292	200	1N312	50
JAN1N255	10	1N294	10	1N313	10
1N256	10	1N294A	10	1N314	1.0
JAN1N256	20	1N295	200	1N315	6000
1N263	a	1N295A	200	1N316	10
JAN1N263	a	1N295S	800	1N316A	1.0
1N265	30ma	1N295X	11	1N317	10
1N266	30ma	1N297	10	1N317A	1.0
1N267	50ma	1N297A	10	1N318	10
1N268	850	1N298	250	1N318A	1.0
1N270	100	1N298A	10	1N319	10
JAN1N270	100	1N299	200	1N319A	1.0
1N273	20	1N300	.001	1N320	10
1N276	20	1N300A	.001	1N320A	2.0
JAN1N276	20	1N300B	.001	1N321	10
1N277	250	1N301	.01	1N321A	2.0
JAN1N277	400	1N301A	.01	1N322	10
1N277M	3.0	1N301B	.01	1N322A	2.0
1N278	125	1N302	.01	1N323	10
1N279	200	1N302A	.01	1N323A	1.0
1N281	30	1N302B	.01	1N324	10
1N282	1.0	1N303	.01	1N324A	1.0
1N283	20	1N303A	.01	1N325	10
1N285	a	1N303B	.01	1N325A	1.0
1N286	a	1N304	2.0	1N326	10

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N326A	1.0	1N354	.10	1N378	a
1N327	10	1N355	5.0	1N379	.50
1N327A	2.0	1N358	a	1N380	.50
1N328	10	1N358A	a	1N381	.50
1N328A	2.0	JAN1N358A	a	1N382	,50
1N329	10	1N359	10	1N383	.10
1N329A	2.0	1N359A	1.0	1N384	,10
1N330	.03	1N360	10	1N385	.10
1N331	.01	1N360A	1.0	1N386	.10
1N332	10	1N361	10	1N387	.10
1N333	10	1N361A	1.0	1N388	.10
1N334	10	1N362	10	1N389	1.0
1N335	10	1N362A	1.0	1N390	1.0
1N336	10	1N363	10	1N391	1.0
1N337	10	1N363A	2.0	1N392	1.0
1N338	10	1N364	10	1N393	1.0
1N339	10	1N364A	2.0	1N394	5.0
1N340	10	1N365	10	1N411B	10
1N341	10	1N365A	2.0	1N412B	10
1N342	10	1N367	a	1N413B	10
1N343	10	1N368	38	1N415B	a
1N344	10	1N369	a	1N415C	a
1N345	10	1N369A	a	1N415D	a
1N346	10	1N370	a	1N415E	a
1N347	10	1N371	a	1N415F	a
1N348	10	1N372	a	1N415G	a
1N349	10	1N373	a	1N416B	a
1N350	.03	1N374	a	1N416C	a
1N351	.03	1N375	a	1N416D	a
1N352	.05	1N376	a	1N416E	a
1N353	.10	1N377	a	1N416F	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N416G	a	1N444B	1.75	1N460	1.0
1N417	120	1N445	2.0	1N460A	1.0
1N418	120	1N445B	2.0	1N460B	1.0
1N419	180	1N446	a	1N461	.50
1N429	a	1N447	60	1N461A	.50
JAN1N429	a	1N448	30	1N461AM	.50
1N430	a	1N449	30	1N461M	.50
1N430A	a	1N450	50	1N462	.50
JAN1N430A	a	1N451	150	1N462A	.50
1N430B	a	1N452	30	1N462AM	.50
JAN1N430B	a	1N453	30	1N462M	.50
1N431	1.0	1N454	50	1N463	.50
1N432	1.0	1N455	30	1N463A	.50
1N432A	1.0	1N456	.025	1N463AM	.50
1N432B	1.0	1N456A	.025	1N463M	.50
1N433	2.0	1N456AM	.025	1N464	.50
1N433A	2.0	1N457	.025	1N464A	.50
1N433B	2.0	JAN1N457	.025	1N464AM	.50
1N434	4.0	1N457A	.025	1N464M	.50
1N434A	4.0	1N457AM	.025	1N465	a
1N434B	4.0	1N457M	.025	1N466	a
1N435	300	1N458	.025	1N467	a
1N440	.30	JAN1N458	.025	1N468	a
1N440B	.30	1N458A	.025	1N469	a
1N441	.75	1N458AM	.025	1N470	a
1N441B	.75	1N458M	.025	1N471	a
1N442	1.0	1N459	.025	1N472	a
1N442B	1.0	JAN1N459	.025	1N473	a
1N443	1.5	1N459A	.025	1N474	a
1N443B	1.5	1N459AM	.025	1N475	a
1N444	1.75	1N459M	.025	1N476	180

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N477	180	1N485BM	.025	1N531	7.5
1N478	155	1N485C	.005	1N532	10
1N479	155	1N485M	.25	1N533	15
1N480	16ma	1N486	.25	1N534	17.5
1N482	.25	1N486.4	.05	1N535	20
1N482A	.025	1N486AM	.025	1N536	10
1N482AM	.025	1N486B	.05	1N537	10
IN482B	.025	JAN1N486B	.025	1N538	10
1N482BM	.025	1N486BM	.025	JAN1N538	10
1N482C	.005	1N486M	.25	1N539	10
1N482M	.25	1N487	.25	1N540	10
1N483	.25	1N487A	.10	JAN1N540	10
1N483A	.025	1N487AM	.10	1N541	18
1N483AM	.025	1N487B	.025	1N542	18
1N483B	.025	1N487BM	.025	1N543	100
JAN1N483B	.025	1N487M	.25	1N543A	100
1N483BM	.025	1N488	.25	1N547	10
1N483C	.005	1N488A	.10	JAN1N547	10
1N483M	.25	1N488AM	.10	1N548	10
1N484	.25	1N488B	.10	1N549	10
1N484A	.025	1N488BM	.025	1N550	.50
1N484AM	.025	1N488M	.25	1N551	1.0
1N484B	.025	1N490	250 ma	1N552	1.5
1N484BM	.025	1N497	20	1N553	2.5
1N484C	.005	1N498	25	1N554	3.5
1N484M	.25	1N499	30	1N555	5.0
1N485	.25	1N500	40	1N560	15
1N485A	.025	1N501	20	JAN1N560	5.0
1N485AM	.025	1N502	20	1N561	15
1N485B	.025	1N527	50	JAN1N561	5.0
JAN1N485B	.025	1N530	3.0	1N562	15

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N563	20	1N607A	1.0	1N628	1.0
1N566	200	1N608	25	1N628A	.10
1N567	150	1N608A	1.0	1N628M	1.0
1N568	100	1N609	25	1N629	1.0
1N569	50	1N609A	1.0	1N629A	.10
1N570	50	1N610	25	1N629M	1.0
1N571	12.5	1N610A	1.0	1N630	a
1N588	50	1N611	25	1N630A	a
1N589	50	1N611A	1.0	1N631	a
1N590	100	1N612	25	1N632	120
1N591	100	1N612A	1.5	1N633	120
1N596	25	1N613	25	1N634	35
1N597	25	1N613A	2.0	1N635	175
1N598	25	1N614	25	1N636	10
1N599	25	1N614A	2.5	1N643	1.0
1N599A	1.0	1N616	18	JAN1N643	1.0
1N600	25	1N617	11	1N643A	1.0
1N600A	1.0	1N618	7.0	1N643AM	1.0
1N601	25	1N619	.08	1N643M	1.0
1N601A	1.0	1N619M	8.0	1N645	.20
1N602	25	1N622	.16	JAN1N645	.025
1N602A	1.0	1N622M	.20	1N645A	.20
1N603	25	1N625	1.0	1N645B	.005
1N603A	1.0	1N625A	.10	1N646	.20
1N604	25	1N625M	1.0	1N647	.20
1N604A	1.5	1N626	1.0	JAN1N647	.025
1N605	25	1N626A	.10	1N648	.20
1N605A	2.0	1N626M	1.0	1N649	.20
1N606	25	1N627	1.0	JAN1N649	.05
1N606A	2.5	1N627A	1.0	1N658	.05
1N607	25	1N627M	1.0	JAN1N658	.05

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N658A	.03	1N668	a	1N697	2.0
1N656AM	.025	1N669	a	JAN1N697	2.0
1N658M	.05	1N670	a	1N698	1.0
1N659	5.0	1N671	a	1N699	12.0
1N659A	.03	1N672	a	1N701	a
1N659AM	25	1N673	1.0	1N702	a
1N659M	5.0	1N674	a	1N703	a
1N660	5.0	1N675	a	1N704	a
JAN1N660	5.0	1N676	1.0	1N705	a
1N660A	.03	1N676M	1.0	1N706	a
1N660AM	.025	1N677	1.0	1N707	a
1N660M	5.0	1N678	1.0	1N708	a
1N661	10	1N678M	1.0	1N709	a
JAN1N661	10	1N679	1.0	1N710	a
1N661A	.03	1N681	5300	1N711	a
1N661AM	.025	1N682	10	1N712	a
1N661M	10	1N683	10	1N713	a
1N662	1.0	1N684	10	1N714	a
JAN1N662	1.0	1N685	20	1N715	a
1N662A	1.0	1N686	10	1N716	a
1N662AM	20	1N687	10	1N717	a
1N662M	20	1N689	10	1N718	a
1N663	5.0	1N690	.25	1N719	a
JAN1N663	1.0	1N691	.25	1N720	a
1N663A	.10	JAN1N691	.10	1N721	a
1N663AM	.10	1N692	.25	1N722	a
1N663M	.10	1N693	.25	1N723	a
1N664	a	1N695	2.0	1N724	a
1N665	a	1N695A	2.0	1N725	a
1N666	a	1N696	.015	1N726	a
1N667	a	JAN1N696	.015	1N727	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N728	a	JAN1N752A	a	1N765	a
1N729	a	1N753	a	1N765-1	a
1N730	a	JAN1N753A	a	1N765-2	a
1N731	a	1N754	a	1N766	a
1N732	a	JAN1N754A	a	1N766-1	a
1N733	a	1N755	a	1N766-2	a
1N734	a	JAN1N755A	a	1N766-3	a
1N735	a	1N756	a	1N767	a
1N736	a	JAN1N756A	a	1N767-1	a
1N737	a	1N757	a	1N767-2	a
1N738	a	JAN1N757A	a	1N767-3	a
1N739	a	1N758	a	1N768	a
1N740	a	JAN1N758A	a	1N768-1	a
1N741	a	1N759	a	1N768-2	a
1N742	a	JAN1N759A	a	1N768-3	a
1N743	a	1N760	7.0	1N769	a
1N744	a	1N761	a	1N769-1	a
1N745	a	1N761-1	a	1N769-2	a
1N746	a	1N761-2	a	1N769-3	a
JAN1N746A	a	1N762	a	1N769-4	a
1N747	a	1N762-1	a	1N770	15
JAN1N747A	a	1N762-2	a	1N771	25
1N748	a	1N763	a	1N771A	25
JAN1N748A	a	1N763-1	a	1N771B	25
1N749	a	1N763-2	a	1N772	50
JAN1N749A	a	1N763-3	a	1N772A	50
1N750	a	1N764	a	1N773	10
JAN1N750A	a	1N764-1	a	1N773A	10
1N751	a	1N764-2	a	1N774	15
JAN751A	a	1N764-3	a	1N774A	15
1N752	a	1N764-4	a	1N775	20

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N776	200	1N800	5.0	JAN1N816	a
1N777	16	1N800M	5.0	1N817	20
1N778	.50	1N801	5.0	1N818	.25
1N778M	.50	1N801M	1.0	1N818M	.25
1N779	.50	1N802	5.0	1N821	a
1N779M	.50	1N802M	5.0	JAN1N821	a
1N781	5.0	1N803	5.0	1N821A	a
1N781A	5.0	1N803M	5.0	1N822	a
1N788	7.0	1N804	10	1N822A	a
1N789	1.0	1N804M	10	1N823	a
1N789M	1.0	1N805	100	JAN1N823	a
1N790	5.0	1N806	.50	1N823A	a
1N790M	5.0	1N806M	5.0	1N824	a
1N791	5.0	1N807	.05	1N824A	a
1N791M	5.0	1N807M	.05	1N825	a
1N792	5.0	1N808	1.0	JAN1N825	a
1N792M	5.0	1N808M	1.0	1N825A	a
1N793	1.0	1N809	.05	1N826	a
1N793M	1.0	1N809M	1.0	1N826A	a
1N794	5.0	1N810	1.0	1N827	a
1N794M	5.0	1N811	1.0	JAN1N827	a
1N795	5.0	1N811M	1.0	1N827A	a
1N795M	5.0	1N812	.10	1N828	a
1N796	5.0	1N812M	1.0	1N828A	a
1N796M	5.0	1N813	.01	1N829	a
1N797	1.0	1N813M	1.0	JAN1N829	a
1N797M	1.0	1N814	.01	1N829A	a
1N798	5.0	1N814M	1.0	1N830	a
1N798M	5.0	1N815	.50	1N830A	a
1N799	5.0	1N815M	.50	JAN1N830A	a
1N799M	5.0	1N816	a	1N831	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N831A	a	1N846	20	1N877	20
JAN1N831A	a	1N847	20	1N878	20
1N831B	a	1N848	20	1N879	20
1N831C	a	1N849	20	1N880	20
1N832	a	1N850	20	1N881	20
1N832A	a	1N851	20	1N882	20
1N832B	a	1N852	20	1N883	20
1N832C	a	1N853	20	1N884	20
1N833	a	1N854	20	1N885	20
1N833A	a	1N855	20	1N886	20
1N835	200	1N856	20	1N887	20
1N837	a	1N857	20	1N888	20
1N837A	.10	1N858	20	1N889	20
1N837AM	.10	1N859	20	1N890	.025
1N837M	.10	1N860	20	1N890M	.03
1N838	a	1N861	20	1N891	.10
1N838M	.10	1N862	20	1N891M	.10
1N839	a	1N863	20	1N892	.10
1N839M	.10	1N864	20	1N892M	.10
1N840	.10	1N865	20	1N893	.10
1N840M	.10	1N866	20	1N893M	,10
1N841	.10	1N867	20	1N897	.10
1N841M	.10	1N868	20	1N898	.50
1N842	.10	1N869	20	1N899	.10
1N842M	.10	1N870	20	1N900	.10
1N843	.10	1N871	20	1N901	.50
1N843M	.10	1N872	20	1N902	1.0
1N844	.10	1N873	20	1N903	.10
1N844M	.10	1N874	20	1N903A	.10
1N845	.10	1N875	20	1N903AM	.10
1N845M	.10	1N876	20	1N903M	.10

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N904	.10	1N914B	.025	JAN1N935B	a
1N904A	.10	1N914M	.025	1N936	a
1N904AM	.10	1N915	.025	1N936A	a
1N904M	.10	1N916	.025	1N936B	a
1N905	.10	1N916A	.025	1N937	a
1N905A	.10	1N916AM	.025	1N937A	a
1N905AM	.10	1N916B	.025	1N937B	a
1N905M	.10	1N916M	.025	JAN1N937B	a
1N906	.10	1N917	.05	1N938	a
1N906A	.10	1N918	a	1N938A	a
1N906AM	.10	1N919	,50	1N938B	a
1N906M	.10	1N920	.25	JAN1N938B	a
1N907	.10	1N921	.25	1N939	a
1N907A	.10	1N922	.25	1N939A	a
1N907AM	.10	1N923	.25	1N939B	a
1N907M	.10	1N924	.025	JAN1N939B	a
1N908	.10	1N925	1.0	1N940	a
1N908A	.10	1N926	.10	1N940A	a
1N908AM	.10	1N927	.10	1N940B	a
1N908M	.10	1N928	.10	JAN1N940B	a
1N909	10	1N928M	.10	1N941	a
1N910	10	1N929	100	1N941A	a
1N911	10	1N930	100	1N941B	a
1N912	a	1N931	100	JAN1N941B	a
1N912M	a	1N932	100	1N942	a
1N913	a	1N933	10	1N942A	a
1N913M	a	JAN1N933	.05	1N942B	a
1N914	.025	1N934	.025	1N943	a
JAN1N914	5.0	1N935	a	1N943A	a
1N914A	.025	1N935A	a	1N943B	a
1N914AM	.025	1N935B	a	JAN1N943B	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N944	a	JAN1N964B	a	JAN1N980B	a
1N944A	a	1N965	a	1N981	a
1N944B	a	JAN1N965B	a	JAN1N981B	a
JAN1N944B	a	1N966	a	1N982	a
1N945	a	JAN1N966B	a	JAN1N982B	a
1N9454	a	1N967	a	1N983	a
1N945B	a	JAN1N967B	a	JAN1N983B	a
JAN1N945B	a	1N968	a	1N984	a
1N946	a	JAN1N968B	a	JAN1N984B	a
1N946A	a	1N969	a	1N985	a
1N946B	a	JAN1N969B	a	JAN1N985B	a
1N947	2.0	1N970	a	1N986	a
1N948	.25	JAN1N970B	a	JAN1N986B	a
1N949	10	1N971	a	1N987	a
1N950	a	1N972	a	JAN1N987B	a
1N951	a	JAN1N972B	a	1N988	a
1N952	a	1N973	a	JAN1N988B	a
1N953	a	JAN1N973B	a	1N989	a
1N954	a	1N974	a	JAN1N989B	a
1N955	a	JAN1N974B	a	1N990	a
1N956	a	1N975	a	JAN1N990B	a
1N957	a	JAN1N975B	a	1N991	a
1N958	a	1N976	a	JAN1N991B	a
1N959	a	JAN1N976B	a	1N992	a
1N960	a	1N977	a	JAN1N992B	a
1N961	a	JAN1N977B	a	1N993	1.0
1N962	a	1N978	a	1N994	30
JAN1N962B	a	JAN1N978B	a	1N995	10
1N963	a	1N979	a	JAN1N995	10
JAN1N963B	a	JAN1N979B	a	1N996	15
1N964	a	1N980	a	1N997	.03

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N998	.001	1N1057	1000	JAN1N1084	5.0
1N999	.001	1N1058	1000	1N1084A	10
1N1028	200	1N1059	1000	1N1085	2000
1N1029	200	1N1060	1000	1N1085A	.025
1N1030	200	1N1061	1000	1N1086	2000
1N1031	200	1N1062	1000	1N1086A	.025
1N1032	200	1N1063	1000	1N1087	2000
1N1033	200	1N1064	1000	1N1087A	.025
1N1034	200	1N1065	1000	1N1088	2000
1N1035	200	1N1066	1000	1N1088A	.025
1N1036	200	1N1067	1000	1N1089	10ma
1N1037	200	1N1068	1000	1N1090	2000
1N1038	200	1N1069	1000	1N1091	1000
1N1039	200	1N1070	1000	1N1092	1000
1N1040	200	1N1071	1000	1N1093	9
1N1041	200	1N1072	1000	1N1095	10
IN1042	200	1N1073	1000	1N1096	10
1N1043	200	1N1074	1000	1N1100	10
1N1044	200	1N1075	1000	1N1101	10
1N1045	200	1N1076	20	1N1102	10
1N1046	200	1N1077	20	1N1103	10
1N1047	200	1N1078	20	1N1104	10
1N1048	200	1N1079	20	1N1105	10
1N1049	200	1N1080	20	1N1108	2000
1N1050	200	1N1081	2000	1N1109	2000
1N1051	200	1N1081A	10	1N1110	2000
1N1052	1000	1N1082	2000	1N1111	2000
1N1053	1000	1N1082A	10	1N1112	2000
1N1054	1000	1N1083	2000	1N1113	2000
1N1055	1000	1N1083A	10	1N1115	1000
1N1056	1000	1N1084	2000	1N1116	10

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N1117	10	1N1142	38	1N1175	40ma
1N1118	10	1N1143	38	1N1176	40ma
1N1119	10	1N1143A	38	1N1177	40ma
1N1120	10	1N1144	38	1N1178	40ma
1N1124	10	1N1145	38	1N1179	100ma
1N1124A	10	1N1146	38	1N1180	100ma
JAN1N1124A	5.0	1N1147	38	1N1181	100ma
1N1125	10	JAN1N1147	10	1N1182	100ma
1N1125A	10	1N1148	38	1N1183	20
1N1126	10	1N1149	38	1N1183A	10
1N1126A	10	JAN1N1149	100	1N1184	20
JAN1N1126A	5.0	1N1150	200	JAN1N1184	10
1N1127	10	1N1150A	2000	1N1184A	10
1N1127A	10	1N1157	25ma	1N1185	20
1N1128	10	1N1158	25ma	1N1185A	10
1N1128A	10	1N1159	25ma	1N1186	20
JAN1N1128A	1500	1N1160	25ma	JAN1N1186	20
1N1130	50	1N1161	40ma	1N1186A	10
JAN1N1130	15	1N1162	40ma	1N1187	20
1N1131	50	1N1163	40ma	1N1187A	15
JAN1N1131	15	1N1164	40ma	1N1188	20
1N1132	a	1N1165	100ma	JAN1N1188	20
1N1133	38	1N1166	100ma	1N1188A	15
1N1134	38	1N1167	100ma	1N1189	20
1N1135	38	1N1168	100ma	1N1189A	15
1N1136	38	1N1169	300	1N1190	20
1N 1137	38	1N1169A	100	JAN1N1190	20
1N1138	38	1N1171	25ma	1N1190A	15
1N1139	38	1N1172	25ma	1N1191	10
1N1140	38	1N1173	25ma	1N1191A	10
1N1141	38	1N1174	25ma	1N1192	10

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N1192A	10	1N1204A	10	1N1224	500
1N1193	10	JAN1N1204A	3000	1N1224A	50
1N1193A	10	1N1204B	10	1N1224B	300
1N1194	10	1N1205	10	1N1225	500
1N1194A	10	1N1205A	10	1N1225A	50
1N1195	10	1N1205B	10	1N1225B	300
1N1195A	10	1N1206	10	1N1226	500
1N1196	10	1N1206A	10	1N1226A	50
1N1196A	10	JAN1N1206A	10	1N1226B	300
1N1197	10	1N1206B	10	1N1227	500
1N1197A	10	1N1217	500	1N1227A	50
1N1198	10	1N1217A	50	1N1227B	10
1N1198A	10	1N1217B	300	1N1228	500
JAN1N1198A	5.0	1N1218	500	1N1228A	50
1N1199	10	1N1218A	50	1N1228B	10
1N1199A	10	1N1218B	300	1N1229	500
1N1199B	10	1N1219	500	1N1229A	.50
1N1200	10	1N1219A	50	1N1229B	10
1N1200A	10	1N1219B	300	1N1230	500
1N1200B	10	1N1220	500	1N1230A	50
1N1201	10	1N1220A	50	1N1230B	10
1N1201A	10	1N1220B	300	1N1231	500
1N1201B	10	1N1221	500	1N1231A	50
1N1202	10	1N1221A	50	1N1231B	10
1N1202A	10	1N1221B	300	1N1232	500
JAN1N1202A	3000	1N1222	500	1N1232A	50
1N1202B	10	1N1222A	50	1N1232B	10
1N1203	10	1N1222B	300	1N1233	500
1N1203A	10	1N1223	500	1N1233A	50
1N1203B	10	1N1223A	50	1N1233B	10
1N1204	10	1N1223B	300	1N1234	500

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N1234A	50	1N1266A	100ma	1N1317	a
1N1234B	10	1N1267	100ma	1N1318	a
1N1235	500	1N1267A	100ma	1N1319	a
1N1235A	50	1N1268	100ma	1N1320	a
1N1235B	10	1N1269A	100ma	1N1321	a
1N1236	500	1N1269	100ma	1N1322	a
1N1236A	50	1N1269A	100ma	1N1323	a
1N1236B	10	1N1270	100ma	1N1324	a
1N1237	2000	1N1270A	100ma	1N1325	a
1N1238	2000	1N1281	40 ma	1N1326	a
1N1239	2000	1N1282	40ma	1N1327	a
1N1251	10	1N1283	40ma	1N1329	10
1N1252	10	1N1284	40ma	1N1330	50ma
1N1253	10	1N1285	40ma	1N1331	16
1N1254	10	1N1286	40ma	1N1332	50ma
1N1255	10	1N1287	40ma	1N1333	50ma
1N1255A	10	1N1291	40ma	1N1334	50ma
1N1256	10	1N1292	40ma	1N1335	50ma
1N1257	10	1N1293	40ma	1N1336	50ma
1N1258	10	1N1294	40ma	1N1341	10ma
1N1259	10	1N1295	40ma	1N1341A	10
1N1260	10	1N1296	40ma	1N1341B	20
1N1261	10	1N1297	40ma	1N1342	10ma
1N1262	2000	1N1301	10	1N1342A	10
1N1263	100ma	1N1302	10	1N1342B	20
1N1263A	100ma	1N1304	10	1N1343	10ma
1N1264	100ma	1N1306	10	1N1343A	10
1N1264A	100ma	1N1313	a	1N1343B	20
1N1265	100ma	1N1314	a	1N1344	10ma
1N1265A	100ma	1N1315	a	1N1344A	10
1N1266	100ma	1N1316	a	1N1344B	20

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N1345	10ma	1N1370	a	1N1417	a
1N1345A	10	1N1371	a	1N1418	a
1N1345B	20	1N1372	a	1N1419	a
1N1346	10ma	1N1373	a	1N1420	a
1N1346A	10	1N1374	a	1N1421	a
1N1346B	20	1N1375	a	1N1422	a
1N1347	10ma	1N1376	50ma	1N1423	a
1N1347A	10	1N1377	50ma	1N1424	a
1N1347B	20	1N1378	50ma	1N1425	a
1N1349	10ma	1N1379	50ma	1N1428	a
1N1348A	10	1N1380	50ma	1N1429	a
1N1348B	20	1N1381	50ma	1N1430	a
1N1351	a	1N1382	50ma	1N1431	a
1N1352	a	1N1396	10	1N1432	a
1N1353	a	1N1397	10	1N1433	a
1N1354	a	1N1398	10	1N1434	10
1N1355	a	1N1399	10	1N1435	10
1N1356	a	1N1400	10	1N1436	10
1N1357	a	1N1401	10	1N1437	10
1N1358	a	1N1402	10	1N1438	10
1N1359	a	1N1403	10	1N1440	10
1N1360	a	1N1406	10	1N1441	10
1N1361	a	1N1407	10	1N1442	10
1N1362	a	1N1408	10	1N1443	500
1N1363	a	1N1409	10	1N1443A	50
1N1364	a	1N1410	10	1N1443B	10
1N1365	a	1N1411	10	1N1444	500
1N1366	a	1N1412	10	1N1444A	50
1N1367	a	1N1413	10	1N1444B	10
1N1368	a	1N1415	2.0	1N1446	2000
1N1369	a	1N1416	a	1N1447	2000

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N1448	2000	1N1487	10	1N1530	a
1N1449	2000	1N1488	10	1N1530A	a
1N1450	5000	1N1489	10	JAN1N1530A	a
1N1451	5000	1N1490	10	1N1537	50
1N1452	5000	1N1491	10	1N1538	50
1N1453	5000	1N1492	10	1N1539	50
1N1454	5000	1N1507	a	1N1540	50
1N1455	20ma	1N1507A	a	1N1541	50
1N1456	20ma	1N1508	a	1N1542	50
1N1457	20ma	1N1508A	a	1N1543	50
1N1458	20ma	1N1509	a	1N1544	50
1N1459	20ma	1N1510	a	1N1551	10
1N1460	20ma	1N1511	a	1N1552	10
1N1461	20ma	1N1512	a	1N1553	10
1N1462	.05	1N1513	a	1N1554	10
1N1463	.05	1N1514	a	1N1555	10
1N1464	.05	1N1515	a	1N1556	10
1N1465	.05	1N1516	a	1N1557	10
1N1466	40ma	1N1517	a	1N1558	10
1N1467	40ma	1N1518	a	1N1559	10
1N1468	40ma	1N1518A	a	1N1560	10
1N1469	40ma	1N1519	a	1N1563	5.0
1N1478	75ma	1N1520	a	1N1563A	1.5
1N1479	75ma	1N1521	a	1N1564	5.0
1N1480	75ma	1N1522	a	1N1564A	1.5
1N1481	75ma	1N1523	a	1N1565	5.0
1N1482	a	1N1524	a	1N1565A	1.5
1N1483	a	1N1525	a	1N1566	5.0
1N1484	a	1N1526	a	1N1566A	1.5
1N1485	a	1N1527	a	1N1567	5.0
1N1486	24	1N1528	a	1N1567A	1.5

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N1568	5.0	1N1606	a	1N1626	15
1N1568A	1.5	1N1607	a	1N1626A	15
1N1575	5.0	1N1608	a	1N1627	27
1N1576	5.0	1N1609	a	1N1628	27
1N1577	5.0	lN1610	a	1N1628	27
1N1578	5.0	1N1611	a	1N1629	27
1N1581	10	1N1611A	a	1N1630	27
1N1582	10	1N1611B	a	1N1631	27
1N1583	10	1N1612	10	1N1632	27
1N1584	10	1N1612A	10	1N1633	27
1N1585	10	1N1613	10	1N1634	27
1N1586	10	1N1613A	10	1N1635	108
1N1587	10	1N1614	10	1N1636	108
1N1588	a	JAN1N1614	50	1N1637	108
1N1589	a	1N1614A	10	1N1638	108
1N1590	a	1N1615	10	1N1639	108
1N1591	a	JAN1N1615	50	1N1640	240
1N1592	a	1N1615A	10	1N1641	240
1N1593	a	1N1616	10	1N1642	240
1N1594	a	JAN1N1616	50	1N1644	10
lN1595	a	1N1616A	10	1N1645	10
1N1596	a	1N1617	5000	1N1646	10
1N1597	a	1N1618	5000	1N1647	10
1N1598	a	1N1619	5000	1N1648	10
1N1599	a	1N1620	5000	1N1649	10
1N1600	a	1N1621	5000	1N1650	10
1N1601	a	1N1622	5000	1N1651	10
1N1602	a	1N1623	5000	1N1652	10
1N1603	a	1N1624	5000	1N1653	10
1N1604	a	1N1625	15	1N1660	10
1N1605	a	1N1625A	15	1N1661	10

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N1662	10	1N1710	10	JAN1N1742A	a
1N1663	10	1N1711	10	1N1743	a
1N1664	10	1N1712	10	1N1744	a
1N1665	10	1N1730	10	1N1745	25
1N1666	10	1N1730A	1.0	1N1746	25
1N1670	50ma	1N1731	10	1N1747	25
1N1671	50ma	1N1731A	1.0	1N1748	25
1N1672	50ma	JAN1N1731A	100	1N1749	25
1N1673	50ma	1N1732	10	1N1750	25
1N1674	50ma	1N1732A	1.0	1N1751	25
1N1675	50ma	1N1733	10	1N1752	25
1N1676	50ma	1N1733A	1.0	1N1753	25
JAN1N1682	25ma	JAN1N1733A	100	1N1754	25
1N1692	10	1N1734	10	1N1755	25
1N1693	10	1N1734A	1.0	1N1756	25
1N1694	10	JAN1N1734A	100	1N1757	25
1N1695	10	1N1735	a	1N1758	25
1N1696	10	1N1736	a	1N1759	25
1N1697	10	1N1736A	a	1N1760	25
1N1698	25	1N1737	a	1N1761	25
1N1699	25	1N1737A	a	1N1762	25
1N1700	25	1N1738	a	1N1763	100
1N1701	10	1N1738A	a	1N1763A	10
1N1702	10	1N1739	a	1N1764	10
1N1703	10	1N1739A	a	1N1764A	500
1N1704	10	1N1740	a	1N1765	a
1N1705	10	1N1740A	a	1N1766	a
1N1706	10	1N1741	a	1N1767	a
1N1707	10	1N1741A	a	1N1768	a
1N1708	10	1N1742	a	1N1769	a
1N1709	10	1N1742A	a	1N1770	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N1771	a	1N1802	a	1N1824C	a
1N1772	a	1N1803	a	1N1825	a
1N1773	a	1N1804	a	1N1825C	a
1N1774	a	1N1805	a	1N1826	a
1N1775	a	1N1806	a	1N1826C	a
1N1776	a	1N1807	a	1N1827	a
1N1777	a	1N1808	a	1N1827C	a
1N1778	a	1N1809	a	1N1828	a
1N1779	a	1N1810	a	1N1828C	a
1N1780	a	1N1811	a	1N1829	a
1N1781	a	1N1812	a	1N1829C	a
1N1782	a	1N1813	a	1N1830	a
1N1783	a	1N1814	a	1N1830C	a
1N1784	a	1N1815	a	1N1831	a
1N1785	a	1N1816	a	1N1831C	a
1N1786	a	1N1816C	a	1N1832	a
1N1787	a	1N1817	a	1N1832C	a
1N1788	a	1N1817C	a	1N1833	a
1N1789	a	1N1818	a	1N1833C	a
1N1790	a	1N1818C	a	1N1834	a
1N1791	a	1N1819	a	1N1834C	a
1N1792	a	1N1819C	a	1N1835	a
1N1793	a	1N1820	a	1N1835C	a
1N1794	a	1N1820C	a	1N1836	a
1N1795	a	1N1821	a	1N1836C	a
1N1796	a	1N1821C	a	1N1838	a
1N1797	a	1N1822	a	1N1839	a
1N1798	a	1N1822C	a	1N1840	5.0
1N1799	a	1N1823	a	1N1841	a
1N1800	a	1N1823C	a	1N1842	a
1N1801	a	1N1824	a	1N1843	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N1844	a	1N1899	a	1N1934	a
1N1845	120	1N1900	a	1N1935	a
1N1846	a	1N1901	a	1N1936	a
1N1847	a	1N1902	a	1N1937	a
1N1848	a	1N1903	2	1N1938	a
1N1849	a	1N1904	a	1N1939	a
1N1850	a	1N1907	10	1N1940	a
1N1875	a	1N1908	10	1N1941	a
1N1876	a	1N1909	10	1N1942	a
1N1877	a	1N1910	10	1N1943	a
1N1878	a	1N1911	10	1N1944	a
1N1879	a	1N1912	10	1N1945	a
1N1880	a	1N1913	10	1N1946	a
1N1881	a	1N1914	10	1N1947	a
1N1882	a	1N1915	10	1N1948	a
1N1883	a	1N1916	10	1N1949	a
1N1884	a	1N1917	10	1N1950	a
1N1885	a	1N1918	10	1N1951	a
1N1886	a	1N1919	10	1N1952	a
1N1887	a	1N1920	10	1N1953	a
1N1888	a	1N1921	10	1N1954	a
1N1889	a	1N1922	10	1N1955	a
1N1890	a	1N1923	10	1N1956	a
1N1891	a	1N1924	10	1N1957	a
1N1892	a	1N1927	a	1N1958	a
1N1893	a	1N1928	a	1N1959	a
1N1894	a	1N1929	a	1N1960	a
1N1895	a	1N1930	a	1N1961	a
1N1896	a	1N1931	a	1N1962	a
1N1897	a	1N1932	a	1N1963	a
1N1898	a	1N1933	a	1N1964	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N1965	a	1N2010	a	1N2034-1	a
1N1981	a	1N2010C	a	1N2034-2	a
1N1982	a	1N2011	a	1N2034-3	a
1N1983	a	1N2011C	a	1N2035	a
1N1984	a	1N2012	a	1N2035-1	a
1N1985	a	1N2012C	a	1N2035-2	a
1N1986	a	1N2013	1.0	1N2035-3	a
1N1987	a	1N2014	1.0	1N2035-4	a
1N1988	a	1N2015	1.0	1N2036	a
1N1989	a	1N2016	1.0	1N2036-1	a
1N1990	a	1N2017	1.0	1N2036-2	a
1N1991	a	1N2018	1.0	1N2037	a
1N1992	a	1N2019	1.0	1N2037-1	a
1N1993	a	1N2020	1.0	1N2037-2	a
1N1994	a	1N2021	10	1N2037-3	a
1N1995	a	1N2022	10	1N2038	a
1N1996	a	1N2023	10	1N2038-1	a
1N1997	a	1N2024	10	1N2038-2	a
1N1998	a	1N2025	10	1N2038-3	a
1N1999	a	1N2026	10	1N2039	a
1N2000	a	1N2027	1.0	1N2039-1	a
1N2001	a	1N2028	1.0	1N2039-2	a
1N2002	a	1N2029	1.0	1N2039-3	a
1N2003	a	1N2030	1.0	1N2040	a
1N2004	a	1N2031	1.0	1N2040-1	a
1N2005	a	1N2032	a	1N2040-2	a
1N2006	a	1N2032-1	a	1N2040-3	a
1N2007	a	1N2032-2	a	1N2040-4	a
1N2008	a	1N2033	a	1N2041	a
1N2008C	a	1N2033-1	a	1N2041-1	a
1N2009	a	1N2033-2	a	1N2041-2	a
1N2009C	a	1N2034	a	1N2041A	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N2041B	a	1N2046-1	a	1N2057	10
1N2041C	a	1N2046-2	a	1N2058	10
1N2042	a	1N2046-3	a	1N2059	10
1N2042-1	a	1N2046A	a	1N2060	10
1N2042-2	a	1N2046B	a	1N2061	10
1N2042A	a	1N2046C	a	1N2062	10
1N2042B	a	1N2047	a	1N2063	10
1N2042C	a	1N2047-1	a	1N2064	10
1N2043	a	1N2047-2	a	1N2065	10
1N2043-1	a	1N2047-3	a	1N2066	10
1N2043-2	a	1N2047A	a	1N2067	10
1N2043-3	a	1N2047B	a	1N2068	10
1N2043A	a	1N2047C	a	1N2069	10
1N2043B	a	1N2048	a	1N2069A	5.0
1N2043C	a	1N2048-1	a	1N2070	10
1N2044	a	1N2048-2	a	1N2070A	5.0
1N2044-1	a	1N2048-3	a	1N2071	10
1N2044-2	a	1N2048A	a	1N2071A	5.0
1N2044-3	a	1N2048B	a	1N2072	10
1N2044-4	a	1N2048C	a	1N2073	10
1N2044A	a	1N2049	a	1N2074	10
1N2044B	a	1N2049-1	a	1N2075	10
1N2044C	a	1N2049-2	a	1N2076	10
1N2044D	a	1N2049-3	a	1N2077	10
1N2045	a	1N2049-4	a	1N2078	10
1N2045-1	a	1N2049A	a	1N2079	10
1N2045-2	a	1N2049B	a	1N2080	350
1N2045A	a	1N2049C	a	1N2081	350
1N2045B	a	1N2054	13	1N2082	350
1N2045C	a	1N2055	13	1N2083	350
1N2046	a	1N2056	13	1N2084	350

DIODE AND RECTIFER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N2085	350	1N2130	10	1N2152	4.0
1N2086	350	1N2130A	10	1N2152A	1.0
1N2090	10	1N2131	10	1N2153	4.0
1N2091	10	1N2131A	10	JAN1N2153	50
1N2092	10	1N2132	10	1N2153A	1.0
1N2093	10	1N2132A	10	1N2154	10
1N2094	10	1N2133	10	1N2155	10
1N2095	10	1N2133A	10	1N2156	10
1N2096	10	1N2134	10	1N2157	10
1N2102	a	1N2134A	10	1N2158	10
1N2103	300	1N2135	10	1N2159	10
1N2104	300	1N2135A	10	1N2160	10
1N2105	300	JAN1N2135A	10	1N2163	a
1N2106	300	1N2136	10	1N2164	a
1N2107	300	1N2136A	10	1N2165	a
1N2108	300	1N2137	10	1N2166	a
1N2109	300	1N2137A	10	1N2167	a
1N2110	300	1N2138	10	1N2168	a
1N2111	300	1N2138A	10	1N2169	a
1N2112	300	1N2139	25	1N2170	a
1N2113	300	JAN1N2146	1.0	1N2171	a
1N2114	300	1N2147	4.0	1N2172	10
1N2115	10	1N2147A	1.0	JAN1N2172	25ma
1N2116	10	1N2148	4.0	1N2173	10
1N2117	1.0	1N2148A	1.0	JAN1N2173	25ma
1N2127	a	1N2149	4.0	1N2174	10
1N2127A	a	1N2149A	1.0	JAN1N2174	25ma
1N2128	10	1N2150	4.0	1N2175	a
1N2128A	10	1N2150A	1.0	JAN1N2175	a
1N2129	10	1N2151	4.0	1N2214	a
1N2129A	10	1N2151A	1.0	1N2216	10

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N2217	a	1N2235	10	1N2250A	10
1N2218	10	1N2235A	10	1N2251	10
1N2219	10	1N2236	10	1N2251A	10
1N2220	10	1N2236A	10	1N2252	10
1N2221	10	1N2237	10	1N2252A	10
1N2222	10	1N2237A	10	1N2253	10
1N2222A	10	1N2238	10	1N2253A	10
1N2223	10	1N2238A	10	1N2254	10
1N2223A	10	1N2239	10	1N2254A	10
1N2224	10	1N2239A	10	1N2255	10
1N2224A	10	1N2240	10	1N2255A	10
1N2225	10	1N2240A	10	1N2256	10
1N2225A	10	1N2241	10	1N2256A	10
1N2226	10	1N2241A	10	1N2257	10
1N2226A	10	1N2242	10	1N2257A	10
1N2227	10	1N2242A	10	1N2258	10
1N2227A	10	1N2243	10	1N2258A	10
1N2228	10	1N2243A	10	1N2259	10
1N2228A	10	1N2244	10	1N2259A	10
1N2229	10	1N2244A	10	1N2260	10
1N2229A	10	1N2245	10	1N2260A	10
1N2230	10	1N2245A	10	1N2261	10
1N2230A	10	1N2246	10	1N2261A	10
1N2231	10	1N2246A	10	1N2262	10
1N2231A	10	1N2247	10	1N2262A	10
1N2232	10	1N2247A	10	1N2263	10
1N2232A	10	1N2248	10	1N2263A	10
1N2233	10	1N2248A	10	1N2264	10
1N2233A	10	1N2249	10	1N2264A	10
1N2234	10	1N2249A	10	1N2265	10
1N2234A	10	1N2250	10	1N2265A	10

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N2266	10	1N2293	10	1N2367B	1.0
1N2267	10	1N2293A	10	1N2368	1.0
1N2268	10	1N2326	a	1N2368A	1.0
1N2269	10	1N2327	1.5	1N2368B	1.0
1N2270	10	1N2328	1.5	1N2369	1.0
1N2271	10	1N2348	a	1N2369A	1.0
1N2272	10	1N2349	100	1N2369B	1.0
1N2273	10	1N2350	a	1N2370	1.0
1N2274	10	1N2357	1.0	1N2370A	1.0
1N2275	10	1N2358	1.0	1N2370B	1.0
1N2276	10	1N2359	1.0	1N2371	1.0
1N2277	10	1N2360	1.0	1N2371A	1.0
1N2278	10	1N2361	1.0	1N2371B	1.0
1N2279	10	JAN1N2361	5.0	1N2372	10
1N2280	10	1N2362	1.0	1N2373	10
1N2281	10	1N2362A	1.0	1N2374	10
1N2282	10	1N2362B	1.0	1N2375	10
1N2283	10	1N2363	1.0	1N2376	10
1N2284	10	1N2363A	1.0	1N2377	10
1N2285	10	1N2363B	1.0	1N2378	10
1N2286	10	1N2364	1.0	1N2379	10
1N2287	10	1N2364A	1.0	1N2380	10
1N2288	10	1N2364B	1.0	1N2381	10
1N2289	10	1N2365	1.0	1N2382	10
1N2289A	10	1N2365A	1.0	1N2382A	1.0
1N2290	10	1N2365B	1.0	1N2383	10
1N2290A	10	1N2366	1.0	1N2383A	1.0
1N2291	10	1N2366A	1.0	1N2384	10
1N2291A	10	1N2366B	1.0	1N2384A	1.0
1N2292	10	1N2367	1.0	1N2385	10
1N2292A	10	1N2367A	1.0	1N2385A	1.0

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N2387	a	1N2419	10	1N2450	10
1N2389	10	1N2420	10	1N2451	10
1N2390	10	1N2421	10	1N2452	10
1N2391	10	1N2422	10	1N2453	10
1N2392	10	1N2423	10	1N2454	10
1N2393	10	1N2424	10	1N2455	10
1N2394	10	1N2425	10	1N2456	10
1N2395	10	1N2426	10	1N2457	10
1N2396	10	1N2427	10	1N2458	10
1N2397	10	1N2428	10	1N2459	10
1N2398	10	1N2429	10	1N2460	10
1N2399	10	1N2430	10	1N2461	10
1N2400	10	1N2431	10	1N2462	10
1N2401	10	1N2432	10	1N2463	10
1N2402	10	1N2433	10	1N2464	10
1N2403	10	1N2434	10	1N2465	10
1N2404	10	1N2435	10	1N2466	10
1N2405	10	1N2436	10	1N2467	10
1N2406	10	1N2437	10	1N2468	10
1N2407	10	1N2438	10	1N2469	10
1N2408	10	1N2439	10	1N2482	10
1N2409	10	1N2440	10	1N2483	10
1N2410	10	1N2441	10	1N2484	10
1N2411	10	1N2442	10	1N2485	1000
1N2412	10	1N2443	10	1N2486	1000
1N2413	10	1N2444	10	1N2487	1000
1N2414	10	1N2445	10	1N2488	1000
1N2415	10	1N2446	10	1N2489	1000
1N2416	10	1N2447	10	1N2490	1000
1N2417	10	1N2448	10	1N2491	10
1N2418	10	1N2449	10	1N2492	10

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N2493	10	1N2523	2.0	1N2555	10
1N2494	10	1N2524	4.0	1N2556	10
1N2495	10	1N2525	4.0	1N2557	4.0
1N2496	10	1N2526	4.0	1N2558	4.0
1N2497	10	1N2527	4.0	1N2559	4.0
1N2498	a	1N2528	4.0	1N2560	4.0
1N2498C	a	1N2529	4.0	1N2561	1.0
1N2499	a	1N2530	4.0	1N2562	1.0
1N2499C	a	1N2531	4.0	1N2563	1.0
1N2500	a	1N2532	4.0	1N2564	1.0
1N2500C	a	1N2533	4.0	1N2565	10
1N2501	20	1N2534	4.0	1N2566	10
1N2502	20	1N2535	1.0	1N2567	10
1N2503	20	1N2536	1.0	1N2568	10
1N2504	20	1N253 7	1.0	1N2569	10
1N2505	20	1N2538	1.0	1N2570	10
1N2506	20	1N2539	1.0	1N2571	10
1N2507	20	1N2540	1.0	1N2572	10
1N2508	20	1N2541	1.0	1N2573	10
1N2509	a	1N2542	1.0	1N2574	10
1N2510	a	1N2543	1.0	1N2575	10
1N2512	2.0	1N2544	1.0	1N2576	8.0
1N2513	2.0	1N2545	1.0	1N2577	8.0
1N2514	2.0	1N2546	10	1N2578	8.0
1N2515	2.0	1N2547	10	1N2579	8.0
1N2516	2.0	1N2548	10	1N2580	8.0
1N2517	2.0	1N2549	10	1N2581	8.0
1N2518	2.0	1N2550	10	1N2582	8.0
1N2519	2.0	1N2551	10	1N2583	8.0
1N2520	2.0	1N2552	10	1N2584	8.0
1N2521	2.0	1N2553	10	1N2585	8.0
1N2522	2.0	1N2554	10	1N2586	8.0

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N2587	2.0	1N2618	10	1N2656	10
1N2588	2.0	1N2619	10	1N2659	10
1N2589	2.0	1N2620	a	1N2662	10
1N2590	2.0	1N2620A	a	1N2664	10
1N2591	2.0	1N2620B	a	1N2666	10
1N2592	2.0	1N2621	a	1N2667	10
1N2593	2.0	1N2621A	a	1N2668	10
1N2594	2.0	1N2621B	a	1N2669	10
1N2595	2.0	1N2622	a	1N2673	10
1N2596	2.0	1N2622A	a	1N2677	10
1N2597	2.0	1N2622B	a	1N2681	10
1N2598	20	1N2623	a	1N2685	10
1N2599	20	1N2623A	a	1N2687	10
1N2600	20	1N2623B	a	1N2689	10
1N2601	20	1N2624	a	1N2690	10
1N2602	20	1N2624A	a	1N2691	10
1N2603	20	1N2624B	a	1N2692	10
1N2604	20	1N2630	350	1N2694	10
1N2605	20	1N2631	350	1N2696	10
1N2606	20	1N2632	350	1N2698	10
1N2607	20	1N2633	350	1N2700	10
1N2608	20	1N2634	350	1N2701	10
1N2609	10	1N2635	350	1N2702	10
1N2610	10	1N2636	350	1N2705	10
1N2611	10	1N2637	350	1N2708	10
1N2612	10	1N2638	10	1N2711	10
1N2613	10	1N2641	10	1N2714	10
1N2614	10	1N2644	10	1112717	10
1N2615	10	1N2647	10	1N2720	10
1N2616	10	1N2650	10	1N2722	10
1N2617	10	1N2653	10	1N2723	10

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N2724	10	1N2770	a	1N2799	10
1N2725	10	1N2770A	a	1N2800	10
1N2728	10	1N2771	a	1N2801	2.0
1N2731	10	1N2772	4.0	1N2802	a
1N2734	10	1N2773	4.0	1N2804	a
1N2737	10	1N2774	4.0	JAN1N2804B	a
1N2738	10	1N2775	4.0	1N2805	a
1N2739	10	1N2776	4.0	JAN1N2805B	a
1N2740	10	1N2777	4.0	1N2806	a
1N2742	10	1N2778	4.0	JAN1N2806B	a
1N2744	10	1N2779	4.0	1N2807	a
1N2746	10	1N2780	4.0	JAN1N2807B	a
1N2748	10	1N2781	4.0	1N2808	a
1N2749	10	1N2782	a	JAN1N2808B	a
1N2750	10	1N2783	a	1N2809	a
1N2753	10	1N2784	10	JAN1N2809B	a
1N2756	10	1N2785	10	1N2810	a
1N2759	1.0	1N2786	10ma	JAN1N2810B	a
1N2762	10	1N2787	10ma	1N2811	a
1N2763	10	1N2788	10	JAN1N2811B	a
1N2764	10	1N2789	10	1N2812	a
1N2765	a	1N2790	a	1N2813	a
1N2765A	a	1N2791	.012	JAN1N2813B	a
1N2766	a	1N2792	a	1N2814	a
1N2766A	a	JAN1N2792	a	JAN1N2814B	a
1N2767	a	1N2793	10	1N2815	a
1N2767A	a	1N2794	10	1N2816	a
1N2768	a	1N2795	10	JAN1N2816B	a
1N2768A	a	1N2796	10	1N2817	a
1N2769	a	1N2797	10	1N2818	a
1N2769A	a	1N2798	10	JAN1N2818B	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N2819	a	1N2836	a	1N2860	1.0
JAN1N2819B	a	JAN1N2836B	a	1N2860A	10
1N2820	a	1N2837	a	1N2861	1.0
JAN1N2820B	a	JAN1N2837B	a	1N2861A	10
1N2821	a	1N2838	a	1N2862	1.0
1N2822	a	JAN1N2838B	a	1N2862A	10
JAN1N2822B	a	1N2839	a	1N2863	1.0
1N2823	a	1N2840	a	1N2863A	10
JAN1N2823B	a	JAN1N2840B	a	1N2864	1.0
1N2824	a	1N2841	a	1N2864A	10
JAN1N2824B	a	JAN1N2841B	a	1N2865	50
1N2825	a	1N2842	a	1N2866	50
JAN1N2825B	a	JAN1N2842B	a	1N2878	.50
1N2826	a	1N2843	a	1N2879	.50
JAN1N2826B	a	JAN1N2843B	a	1N2880	.50
1N2827	a	1N2844	a	1N2881	.50
JAN1N2827B	a	JAN1N2844B	a	1N2882	.50
1N2828	a	1N2845	a	1N2883	.50
1N2829	a	JAN1N2845B	a	1N2884	.50
JAN1N2829B	a	1N2846	a	1N2885	.50
1N2830	a	JAN1N2846B	a	1N2886	.50
1N2831	a	1N2847	10	1N2887	.50
JAN1N2831B	a	1N2848	10	1N2888	.50
1N2832	a	1N2849	10	1N2889	.50
JAN1N2832B	a	1N2850	10	1N2890	.50
1N2833	a	1N2851	10	1N2891	.50
JAN1N2833	a	1N2852	10	1N2892	.50
1N2834	a	1N2858	1.0	1N2893	.50
JAN1N2834B	a	1N2858A	10	1N2894	.50
1N2835	a	1N2859	1.0	1N2895	.50
JAN1N2835B	a	1N2859A	10	1N2896	.50

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N2897	.50	1N2927	a	JAN1N2972B	a
1N2898	.50	1N2927A	a	1N2973	a
1N2899	.50	1N2928	a	JAN1N2973B	a
1N2900	.50	1N2928A	a	1N2974	a
1N2901	.50	1N2929	a	JAN1N2974B	a
1N2902	.50	1N2929A	a	1N2975	a
1N2903	.50	1N2930	a	JAN1N2975B	a
1N2904	.50	1N2930A	a	1N2976	a
1N2905	.50	1N2931	a	JAN1N2976B	a
1N2906	.50	1N2931A	a	1N2977	a
1N2907	.50	1N2932	a	JAN1N2977B	a
1N2908	.50	1N2932A	a	1N297/3	a
1N2909	.50	1N2933	a	1N2979	a
1N2910	.50	1N2933A	a	JAN1N2979B	a
1N2911	.50	1N2934	a	1N2980	a
1N2912	.50	1N2934A	a	JAN1N2980B	a
1N2913	.50	1N2937	a	1N2981	a
1N2914	.50	1N2938	a	1N2982	a
1N2915	.50	1N2939	a	JAN1N2982B	a
1N2916	.50	1N2939A	a	1N2983	a
1N2917	.50	1N2940	a	1N2984	a
1N2918	.50	1N2940A	a	JAN1N2984B	a
1N2919	.50	1N2941	a	1N2985	a
1N2920	.50	1N2941A	a	JAN1N2985B	a
1N2921	.50	1N2969	a	1N2986	a
1N2922	.50	1N2969A	a	JAN1N2986B	a
1N2923	.50	1N2970	a	1N2987	a
1N2924	.50	JAN1N2970B	a	1N2988	a
1N2925	.50	1N2971	a	JAN1N2988B	a
1N2926	a	JAN1N2971B	a	1N2989	a
1N2926A	a	1N2972	a	JAN1N2989B	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N2990	a	JAN1N3007B	a	1N3024	a
JAN1N2990B	a	1N3008	a	JAN1N3024B	a
1N2991	a	JAN1N3008B	a	1N3025	a
JAN1N2991B	a	1N3009	a	JAN1N3025B	a
1N2992	a	JAN1N3009B	a	1N3026	a
JAN1N2992B	a	1N3010	a	JAN1N3026B	a
1N2993	a	1N3011	a	1N3027	a
JAN1N2993B	a	JAN1N3011B	a	JAN1N3027B	a
1N2994	a	1N3012	a	1N3028	a
1N2995	a	JAN1N3012B	a	JAN1N3028B	a
JAN1N2995B	a	1N3013	a	1N3029	a
1N2996	a	1N3014	a	JAN1N3029B	a
1N2997	a	JAN1N3014B	a	1N3030	a
JAN1N2997B	a	1N3015	a	JAN1N3030B	a
1N2998	a	JAN1N3015B	a	1N3031	a
1N2999	a	1N3016	a	JAN1N3031B	a
JAN1N2999B	a	JAN1N3016B	a	1N3032	a
1N3000	a	1N3017	a	JAN1N3032B	a
JAN1N3000B	a	JAN1N3017B	a	1N3033	a
1N3001	a	1N3018	a	JAN1N3033B	a
JAN1N3001B	a	JAN1N3018B	a	1N3034	a
1N3002	a	1N3019	a	JAN1N3034B	a
JAN1N3002B	a	JAN1N3019B	a	1N3035	a
1N3003	a	1N3020	a	JAN1N3035B	a
JAN1N3003B	a	JAN1N3020B	a	1N3036	a
1N3004	a	1N3021	a	JAN1N3036B	a
JAN1N3004B	a	JAN1N3021B	a	1N3037	a
1N3005	a	1N3022	a	JAN1N3037B	a
JAN1N3005B	a	JAN1N3022B	a	1N3038	a
1N3006	a	1N3023	a	JAN1N3038B	a
1N3007	a	JAN1N3023B	a	1N3039	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
JAN1N3039B	a	1N3058	10	1N3083	200
1N3040	a	1N3059	10	1N3084	200
JAN1N3040B	a	1N3060	10	1N3085	25ma
1N3041	a	1N3061	10	1N3086	17ma
JAN1N3041B	a	1N3062	.10	1N3087	17ma
1N3042	a	1N3062M	.10	1N3088	17ma
JAN1N3042B	a	1N3063	.10	1N3089	17ma
1N3043	a	1N3064	.10	1N3090	17ma
JAN1N3043B	a	JAN1N3064	.10	1N3091	16ma
1N3044	a	1N3064M	.10	1N3092	12
JAN1N3044B	a	1N3065	.10	1N3097	20
1N3045	a	1N3066	.10	1N3098	a
JAN1N3045B	a	1N3066M	.10	1N3099	a
1N3046	a	1N3067	.10	1N3100	a
JAN1N3046B	a	1N3068	.10	1N3101	a
1N3047	a	1N3069	.10	1N3102	a
JAN1N3047B	a	1N3069M	.50	1N3103	a
1N3048	a	1N3070	.10	1N3104	a
JAN1N3048B	a	JAN1N3070	.10	1N3105	a
1N3049	a	1N3071	.10	1N3106	50
JAN1N3049B	a	1N3072	1.0	1N3107	50
1N3050	a	1N3073	500	1N3109	50
JAN1N3050B	a	1N3074	500	1N3110	20
1N3051	a	1N3075	500	1N3111	120
JAN1N3051B	a	1N3076	500	1N3112	a
1N3052	10	1N3077	500	1N3118	a
1N3053	10	1N3078	500	1N3121	150
1N3054	10	1N3079	500	1N3122	15
1N3055	10	1N3080	500	1N3123	.10
1N3056	10	1N3081	500	1N3124	.10
1N3057	10	1N3082	200	1N3125	14

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N3128	a	1N3163	16	1N3188	.30
1N3129	a	1N3164	16	1N3189	5.0
1N3130	a	JAN1N3164	10	JAN1N3189	5.0
1N3138	a	1N3165	16	1N3190	5.0
1N3139	10	1N3166	16	JAN1N3190	5.0
1N3140	10	1N3167	16	1N3191	5.0
1N3141	10	1N3168	16	JAN1N3191	5.0
1N3142	10	JAN1N3168	10	1N3193	5.0
1N3143	a	1N3169	16	1N3194	5.0
1N3146	100	1N3170	16	1N3195	5.0
1N3147	1.0	JAN1N3170	10	1N3196	5.0
1N3148	a	1N3171	63	1N3197	1.0
1N3149	a	1N3171A	16	1N3198	a
1N3149A	a	1N3172	63	1N3199	a
1N3150	a	1N3172A	16	1N3200	a
1N3151	a	1N3173	63	1N3201	a
1N3 154	a	1N3173A	16	1N3202	a
JAN1N3154	a	1N3174	63	1N3203	50
1N3154A	a	1N3174A	16	1N3204	50
1N3155	a	1N3175	113	1N3205	a
JAN1N3155	a	1N3176	113	1N3206	.03
1N3156	a	1N3177	113	JAN1N3206	.025
JAN1N3156	a	1N3179	10	1N3207	.05
1N3156A	a	1N3180	5.0	JAN1N3207	.05
1N3157	a	1N3181	a	1N3208	1000
JAN1N3157	a	1N3182	a	1N3209	1000
1N3157A	a	1N3183	.30	1N3210	1000
1N3159	3.0	1N3184	.30	1N3211	1000
1N3 160	10	1N3185	.30	1N3212	1000
1N3161	16	1N3186	.30	1N3213	1.0
1N3162	16	1N3187	.30	1N3214	1.0

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N3223	20	1N3256	5.0	1N3283	1.0
1N3225	33	1N3257	.03	1N3284	1.0
1N3227	10	1N3258	.03	1N3285	1.0
1N3228	10	1N3260	13	1N3286	1.0
1N3229	10	1N3261	13	1N3287	a
1N3230	10	1N3262	13	1N3287W	15
1N3231	10	1N3263	13	JAN1N3287W	a
1N3232	10	JAN1N3263	15ma	1N3288	19
1N3233	10	1N3264	13	1N3288A	10
1N3234	10	1N3265	13	1N3289	10
1N3235	10	1N3266	13	JAN1N3289	10
1N3236	10	1N3267	13	1N3289A	19
1N3237	10	JAN1N3267	12ma	1N3290	10
1N3238	10	1N3268	13	1N3290A	19
1N3239	10	1N3269	13	1N3291	10
1N3240	10	JAN1N3269	20ma	1N3291A	19
1N3241	10	1N3270	13	JAN1N3291	10
1N3242	10	1N3271	13	1N3292	10
1N3243	10	JAN1N3271	12ma	1N3292B	12
1N3244	10	1N3272	13	1N3293	10
1N3245	10	1N3273	13	JAN1N3293	12
1N3246	10	JAN1N3273	15ma	1N3293A	10
1N3247	10	1N3274	13	1N3294	10
1N3248	10	1N3275	13	JAN1N3294	10
1N3249	10	1N3276	13	1N3294A	10
1N3250	10	1N3277	5.0	1N3295	10
1N3251	10	1N3278	5.0	JAN1N3295	10
1N3252	10	1N3279	5.0	1N3295A	10
1N3253	5.0	1N3280	5.0	1N3296	10
1N3254	5.0	1N3281	5.0	JAN1N3296	10
1N3255	5.0	1N3282	1.0	1N3296A	10

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	IR	TYPE	I_R
1N3297A	10	JAN1N3320B	a	1N3338	a
1N3298	.20	1N3321	a	JAN1N3338B	a
1N3298A	.20	JAN1N3321B	a	1N3339	a
1N3305	a	1N3322	a	JAN1N3339B	a
JAN1N3305B	a	1N3323	a	1N3340	a
1N3306	a	JAN1N3323B	a	JAN1N3340B	a
JAN1N3306B	a	1N3324	a	1N3341	a
1N3307	a	JAN1N3324B	a	1N3342	a
JAN1N3307B	a	1N3325	a	JAN1N3342B	a
1N3308	a	JAN1N3325B	a	1N3343	a
JAN1N3308B	a	1N3326	a	JAN1N3343B	a
1N3309	a	JAN1N3326B	a	1N3344	a
JAN1N3309B	a	1N3327	a	JAN1N3344B	a
1N3310	a	JAN1N3327B	a	1N3345	a
JAN1N3310B	a	1N3328	a	1N3346	a
1N3311	a	JAN1N3328B	a	JAN1N3346B	a
JAN1N3311B	a	1N3329	a	1N3347	a
1N3312	a	1N3330	a	JAN1N3347B	a
JAN1N3312B	a	JAN1N3330B	a	1N3348	a
1N3313	a	1N3331	a	1N3349	a
1N3314	a	1N3332	a	JAN1N3349B	a
JAN1N3314B	a	JAN1N3332B	a	1N3350	a
1N3315	a	1N3333	a	JAN1N3350B	a
JAN1N3315B	a	1N3334	a	1N3353	a
1N3316	a	JAN1N3334B	a	1N3392	a
1N3317	a	1N3335	a	1N3393	a
JAN1N3317B	a	JAN1N3335B	a	1N3394	a
1N3318	a	1N3336	a	1N3395	a
1N3319	a	JAN1N3336B	a	1N3396	a
JAN1N3319B	a	1N3337	a	1N3397	a
1N3320	a	JAN1N3337B	a	1N3398	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N3399	a	1N3430	a	1N3503A	a
1N3400	a	1N3431	a	1N3504	a
1N3401	a	1N3432	a	1N3504A	a
1N3402	a	1N3464	.20	1N3506	a
1N3403	a	1N3465	20	1N3507	a
1N3404	a	1N3466	15	1N3508	a
1N3405	a	1N3467	15	1N3509	a
1N3406	a	1N3468	60	1N3510	a
1N3407	a	1N3469	15	1N3511	a
1N3408	a	1N3470	30	1N3512	a
1N3409	a	1N3471	.02	1N3513	a
1N3410	a	1N3477	a	1N3514	a
1N3411	a	1N3482	a	1N3515	a
1N3412	a	1N3483	10	1N3516	a
1N3413	a	1N3484	4.0	1N3517	a
1N3414	a	1N3486	50	1N3518	a
1N3415	a	1N3487	50	1N3519	a
1N3416	a	1N3488	a	1N3520	a
1N3417	a	1N3491	10	1N3521	a
1N3418	a	1N3492	10	1N3522	a
1N3419	a	1N3493	10	1N3523	a
1N3420	a	1N3494	10	1N3524	a
1N3421	a	1N3495	10	1N3525	a
1N3422	a	1N3496	a	1N3521	a
1N3423	a	1N3497	a	1N3527	a
1N3424	a	1N3498	a	1N3528	a
lN3425	a	1N3499	a	1N3529	a
1N3420	a	1N3500	a	1N3530	a
1N3427	a	1N3501	a	1N3531	a
1N3428	a	1N3502	a	1N3532	a
1N3429	a	1N3503	a	1N3533	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N3534	a	1N3564	1.0	1N3586	75ma
1N3537	a	1N3565	25	1N3587	75ma
1N3539	a	1N3567	.05	1N3588	75ma
1N3539A	a	1N3568	1.0	1N3589	75ma
1N3540	a	1N3569	10	1N3590	75ma
1N3540A	a	1N3570	10	1N3591	75ma
1N3541	a	1N3571	10	1N3592	4.0
1N3541A	a	1N3572	10	1N3593	.03
1N3542	a	1N3573	10	1N3594	.10
1N3542A	a	1N3574	10	1N3595	.001
1N3543	a	1N3575	.75ma	JAN1N3595	.001
1N3543A	a	1N3576	.75ma	1N3596	.10
1N3544	1.0	1N3577	.75ma	1N3597	.10
1N3545	.20	1N3578	.75ma	1N3598	.10
1N3546	.20	1N3579	.75ma	1N3599	.10
1N3547	.20	1N3580	a	1N3600	.10
1N3548	.20	1N3580A	a	JAN3600	.10
1N3549	.20	1N3580B	a	1N3601	.10
1N3550	2.0	1N3581	a	JAN1N3601	.10
1N3551	a	1N3581A	a	1N3602	.10
1N3552	a	1N3581B	a	1N3603	.10
1N3553	a	1N3582	a	1N3604	.05
1N3554	a	1N3582A	a	1N3605	.05
1N3555	‘a	1N3582B	a	1N3606	.05
1N3556	a	1N3583	a	JAN1N3606	.05
1N3557	a	1N3583A	a	1N3607	.05
1N3559	20	1N3583B	a	1N3608	.05
1N3560	a	1N3584	a	1N3611	10
1N3561	a	1N3584A	a	JAN1N3611	5.0
1N3562	a	1N3584B	a	1N3612	10
1N3563	5.0	1N3585	75ma	JAN1N3612	5.0

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N3613	10	JAN1N3647	5.0	1N3671	a
JAN1N3613	5.0	1N3648	500	1N3671A	10
1N3614	10	1N3649	200	1N3672	a
JAN1N3614	5.0	JAN1N3649	5.0	1N3672A	10
1N3615	10	1N3650	200	1N3673	a
1N3616	10	JAN1N3650	5.0	1N3673A	10
1N3617	10	1N3653	.025	1N3675	a
1N3618	10	1N3654	.025	1N3676	a
1N3619	10	1N3655(1)	a	1N3677	a
1N3620	10	1N3655A(1)	a	1N3678	a
1N3621	10	JAN1N3655A	a	1N3679	a
1N3622	10	1N3655B(1)	a	1N3680	a
1N3623	10	1N3656	10	1N3681	a
1N3624	10	1N3657	10	1N3682	a
1N3625	.50	1N3658	10	1N3683	a
1N3626	1000	1N3659		1N3684	a
1N3627	a	1N3660	10	1N3685	a
1N3628	a	1N3661	10	1N3686	a
1N3639	10	1N3662	10	1N3687	a
1N3640	10	1N3663	10	1N3688	a
1N3641	10	1N3664	10	1N3689	a
1N3642	10	1N3665	10	1N3690	a
1N3643	5.0	1N3666	10	1N3691	a
JAN1N3643	5.0	JAN1N3666	10	1N3692	a
1N3644	5.0	1N3666M	5.0	1N3693	a
JAN1N3644	5.0	1N3666M1	5.0	1N3694	a
1N3645	5.0	1N3666M2	5.0	1N3695	a
JAN1N3645	5.0	1N3668	1.0	1N3696	a
1N3646	5.0	1N3669	.25	1N3697	a
JAN1N3646	5.0	1N3670	a	1N3698	a
1N3647	5.0	1N3670A	10	1N3699	

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N3700	a	1N3729	.10	1N3759	5.0
1N3701	a	1N3730	.10	1N3760	5.0
1N3702	a	1N3731	.05	1N3761	5.0
1N3703	a	1N3732	a	1N3762	10
1N3704	a	1N3733	a	1N3763	a
1N3705	a	1N3734	a	1N3764	100
1N3706	a	1N3735	10	1N3765	5000
1N3707	a	1N3736	10	1N3766	5000
1N3708	a	1N3737	10	JAN1N3766	20
1N3709	a	1N3728	10	1N3767	5000
1N3710	a	1N3739	10	1N3768	5000
1N3711	5.0	1N3740	10	JAN1N3768	20
1N3712	a	1N3741	10	1N3769	5.0
1N3713	a	1N3742	10	1N3770	a
1N3714	a	1N3743	10	1N3771	a
1N3715	a	1N3744	7000	1N3772	a
1N3716	a	1N3745	a	1N3773	4.0
1N3717	a	1N3746	a	1N3774	a
1N3718	a	1N3747	a	1N3775	5.0
1N3719	a	JAN1N3747	a	1N3777	5000
JAN1N3719	a	1N3748	5.0	1N3778	a
1N3720	a	1N3749	5.0	1N3779	a
1N3721	a	1N3750	5.0	1N3780	a
JAN1N3721	a	1N3751	5.0	1N3781	a
1N3722	.10	1N3752	5.0	1N3782	a
1N3723	5.0	1N3753	5.0	1N3783	a
1N3724	5.0	1N3754	5.0	1N3784	a
1N3725	5.0	1N3755	5.0	1N3785	a
1N3726	5.0	1N3756	5,0	1N3786	a
1N3727	5.0	1N3757	5.0	1N3787	a
1N3728	.10	1N3758	5.0	1N3788	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N3789	a	1N3820	a	1N3843	a
1N3790	a	1N3821	a	1N3844	a
1N3791	a	JAN1N3821A	a	1N3845	a
1N3792	a	1N3822	a	1N3846	a
1N3793	a	JAN1N3822A	a	1N3847	a
1N3794	a	1N3823	a	1N3848	a
1N3795	a	JAN1N3823A	a	1N3849	a
1N3796	a	1N3824	a	1N3850	a
1N3797	a	JAN1N3824A	a	1N3851	a
1N3798	a	1N3825	a	1N3852	a
1N3799	a	JAN1N3825A	a	1N3853	a
1N3800	a	1N3826	a	1N3854	a
1N3801	a	JAN1N3826A	a	1N3855	a
1N3802	a	1N3927	a	1N3856	a
1N3803	a	JAN1N3827A	a	1N3857	a
1N3804	a	1N3828	a	1N3858	a
1N3805	a	JAN1N3828A	a	1N3859	a
1N3806	a	1N3829	a	1N3860	a
1N3807	a	1N3830	a	1N3864	.001
1N3808	a	1N3831	a	1N3865	30
1N3809	a	1N3832	a	1N3866	.01
1N3810	a	1N3833	a	1N3867	.01
1N3811	a	1N3834	a	1N3868	.01
1N3812	a	1N3835	a	1N3869	.01
1N3813	a	1N3836	a	1N3870	.01
1N3814	a	1N3837	a	1N3871	.01
1N3815	a	1N3838	a	1N3872	.10
1N3816	a	1N3839	a	1N3873	.10
1N3817	a	1N3840	a	1N3873/HR	.10
1N3818	a	1N3841	a	1N3874	8.0
1N3819	a	1N3842	a	JAN1.N3874	15

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N3875	8.0	JAN1N3890	25	JAN1N3913	80
JAN1N3875	15	1N3891	25	1N3914	57
1N3876	8.0	JAN1N3891	25	1N3915	57
JAN1N3876	15	1N3892	25	1N3916	57
1N3877	8.0	JAN1N3892	25	1N3917	57
JAN1N3877	15	1N3893	25	1N3918	57
1N3878	8.0	JAN1N3893	25	1N3919	10
JAN1N3878	15	1N3894	.20	1N3920	10
1N3879	15	1N3895	.50	1N3921	10
JAN1N3879	15	1N3896	a	1N3922	10
1N3880	15	1N3897	a	1N3923	10
JAN1N3880	15	1N3898	a	1N3924	10
1N3881	15	1N3899	50	1N3925	10
JAN1N3881	15	1N3900	50	1N3926	10
1N3832	15	1N3901	50	1N3927	10
JAN1N3882	15	1N3902	50	1N3928	10
1N3883	15	1N3903	50	1N3929	10
JAN1N3883	15	1N3904	36	1N3931	10
1N3884	18	1N3905	36	1N3934	1.0
JAN1N3884	25	1N3906	36	1N3935	a
1N3885	18	1N3907	36	1N3936	a
JAN1N3885	25	1N3908	36	1N3937	a
1N3886	a	1N3909	80	1N3938	5.0
JAN1N3886	25	JAN1N3909	80	1N3939	5.0
1N3887	a	1N3910	80	1N3940	5.0
JAN1N3887	25	JAN1N3910	80	1N3941	200
1N3888	a	1N3911	80	1N3942	200
JAN1N3888	25	JAN1N3911	80	1N3943	100
1N3889	25	1N3912	80	1N3944	.10
JAN1N3889	25	JAN1N3912	80	1N3945	a
1N3890	25	1N3913	80	1N3946	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N3947	a	1N3977	10	JAN1N4000A	a
1N3948	a	1N3978	10	1N4001	5.0
1N3949	a	1N3979	10	1N4002	10
1N3950	a	1N3981	10	1N4003	10
1N3951	a	1N3982	10	1N4004	10
1N3952	5.0	1N3983	10	1N4005	10
1N3953	50	1N3984	a	1N4006	10
1N3954	.10	1N3985	a	1N4007	10
1N3955	10	1N3986	a	1N4008	100
1N3956	.05	1N3987	10	1N4009	.10
1N3957	10	1N3988	10	1N4010	a
JAN1N3957	5.0	1N3989	10	1N4011	10
1N3958	10	1N3990	10	1N4012	10
1N3959	1.0	1N3991	4.0	1N4013	10
1N3960	1.0	1N3992	5.0	1N4014	10
1N3961	1.0	JAN1N3992	5.0	1N4015	10
1N3962	1.0	1N3993	a	1N4016	a
1N3963	1.0	JAN1N3993A	a	1N4017	a
1N3964	10	1N3994	a	1N4018	a
1N3965	10	JAN1N3994A	a	1N4019	a
1N3966	10	1N3995	a	1N4020	a
1N3967	10	JAN1N3995A	a	1N4021	a
1N3968	10	1N3996	a	1N4022	a
1N3969	10	JAN1N3996A	a	1N4023	a
1N3970	10	1N3997	a	1N4024	a
1N3971	10	JAN1N3997A	a	1N4025	a
1N3972	10	1N3998	a	1N4026	a
1N3973	10	JAN1N3998A	a	1N4027	a
1N3974	10	1N3999	a	1N4028	a
1N3975	10	JAN1N3999A	a	1N4029	a
1N3976	10	1N4000	a	1N4030	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N4031	a	1N4059A	a	1N4075	a
1N4032	a	1N4060	a	1N4075A	a
1N4032	a	1N4060A	a	1N4076	a
1N4034	a	1N4061	a	1N4076A	a
1N4035	a	1N4061A	a	1N4077	a
1N4036	a	1N4062	a	1N4077A	a
1N4037	a	1N4062A	a	1N4078	a
1N4038	a	1N4063	a	1N4078A	a
1N4039	a	1N4063A	a	1N4079	a
1N4040	a	1N4064	a	1N4079A	a
1N4041	a	1N4064A	a	1N4080	a
1N4042	a	1N4065	a	1N4080A	a
1N4043	.10	1N4065A	a	1N4081	a
1N4044	24	1N4066	a	1N4081A	a
1N4045	24	1N4066A	a	1N4082	a
1N4046	24	1N4067	a	1N4082A	a
1N4047	24	1N4067A	a	1N4083	a
1N4048	24	1N4068	a	1N4083A	a
1N4049	24	1N4068A	a	1N4084	a
1N4050	24	1N4069	a	1N4084A	a
1N4051	24	1N4069A	a	1N4085	a
1N4052	24	1N4070	a	1N4085A	a
1N4053	24	1N4070A	a	1N4086	.25
1N4054	24	1N4071	a	1N4087	.09
1N4055	24	1N4071A	a	JAN1N4087	10
1N4056	24	1N4072	a	1N4088	200
1N4057	a	1N4072A	a	1N4089	a
1N4057A	a	1N4073	a	1N4090	a
1N4058	a	1N4073A	a	1N4091	a
1N4058A	a	1N4074	a	1N4092	1.0
1N4059	a	1N4074A	a	1N4093	1.0

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N4094	a	1N4125	a	1N4154	.10
1N4095	a	1N4126	a	1N4155	.10
1N4096	a	1N4127	a	1N4156	.05
1N4097	a	1N4128	a	1N4157	.05
1N4098	a	1N4129	a	1N4158	a
1N4099	a	1N4130	a	1N4159	a
1N4100	a	1N4131	a	1N4160	a
1N4101	a	1N4132	a	1N4161	a
1N4102	a	1N4133	a	1N4162	a
1N4103	a	1N4134	a	1N4163	a
1N4104	a	1N4135	a	1N4164	a
1N4105	a	1N4136	10	1N4165	a
1N4106	a	1N4137	10	1N4166	a
1N4107	a	1N4138	10	1N4167	a
1N4108	a	1N4139	20	1N4168	a
1N4109	a	1N4140	20	1N4169	a
1N4110	a	1N4141	20	1N4170	a
1N4111	a	1N4142	20	1N4171	a
1N4112	a	1N4143	20	1N4172	a
1N4113	a	1N4144	20	1N4173	a
1N4114	a	1N4145	20	1N4174	a
1N4115	a	1N4146	20	1N4175	a
1N4116	a	1N4147	5	1N4176	a
1N4117	a	1N4148	.025	1N4177	a
1N4118	a	JAN1N4148	5.0	1N4178	a
1N4119	a	1N4149	.025	1N4179	a
1N4120	a	1N4150	.10	1N4180	a
1N4121	a	1N4151	.05	1N4181	a
1N4122	a	1N4152	.05	1N4182	a
1N4123	a	1N4153	.05	1N4183	a
1N4124	a	JAN1N4153	.05	1N4184	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	IR
1N4185	a	JAN1N4249	1.0	1N4280	a
1N4186	a	1N4250	10	1N4281	a
1N4187	a	1N4251	10	1N4282	a
1N4188	a	1N4252	10	1N4283	a
1N4189	a	1N4253	1.0	1N4284	a
1N4190	a	1N4254	1.0	1N4285	a
1N4191	a	1N4255	1.0	1N4286	a
1N4192	a	1N4256	1.0	1N4287	a
1N4193	a	1N4257	1.0	1N4288	a
JAN1N4199	a	1N4258	a	1N4289	a
JAN1N4200	a	1N4259	a	1N4290	a
JAN1N4201	a	1N4260	a	1N4291	a
JAN1N4202	a	1N4261	a	1N4292	a
JAN1N4203	a	1N4262	a	1N4293	a
JAN1N4204	a	1N4263	a	1N4294	a
JAN1N4205	a	1N4264	a	1N4295	a
JAN1N4206	a	1N4265	a	1N4296	a
1N4240	a	1N4266	a	1N4297	a
1N4241	a	1N4267	a	1N4297A	a
1N4242	.10	1N4268	a	1N4297B	a
1N4243	.10	1N4269	a	1N4298	a
1N4244	.10	1N4270	a	1N4298A	a
1N4245	1.0	1N4271	a	1N4298B	a
JAN1N4245	1.0	1N4272	a	1N4299	a
1N4246	1.0	1N4273	a	1N4299A	a
JAN1N4246	1.0	1N4274	a	1N4299B	a
1N4247	1.0	1N4275	a	1N4300	a
JAN1N4247	1.0	1N4276	a	1N4300A	a
1N4248	1.0	1N4277	a	1N4300B	a
JAN1N4248	1.0	1N4278	a	1N4301	a
1N4249	1.0	1N4279	a	1N4301A	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N4301B	a	1N4324	a	1N4355	a
1N4302	a	1N4325	a	1N4356	a
1N4302A	a	1N4326	a	1N4357	a
1N4302B	a	1N4327	a	1N4358	a
1N4303	a	1N4328	a	1N4359	a
1N4303A	a	1N4329	a	1N4360	a
1N4303B	a	1N4330	a	1N4361	10
1N4304	a	1N4331	a	1N4362	a
1N4304A	a	1N4332	a	1N4363	.10
1N4304B	a	1N4333	a	1N4364	1.0
1N4305	.10	1N4334	a	1N4365	1.0
1N4306	.05	1N4335	a	1N4366	1.0
JANIN4306	.05	1N4336	a	1N4367	1.0
1N4307	.05	1N4337	a	1N4368	1.0
JAN1N4307	.05	1N4338	a	1N4369	1.0
1N4308	.10	1N4339	a	1N4370	a
1N4309	.10	1N4340	a	JAN1N4370A	a
1N4310	.10	1N4341	a	1N4371	a
1N4311	.10	1N4342	a	JAN1N4371A	a
1N4312	.10	1N4343	a	1N4372	a
1N4313	.10	1N4344	a	JAN1N4372A	a
1N4314	.10	1N4345	a	JAN1N4373	.025
1N4315	.10	1N4346	a	1N4374	10
1N4316	.10	1N4347	a	1N4375	1.0
1N4317	.10	1N4348	a	1N4376	.10
1N4318	.10	1N4349	a	JAN1N4376	.10
1N4319	.10	1N4350	a	1N4377	10
1N4320	1.0	1N4351	a	1N4378	a
1N4321	a	1N4352	a	JAN1N4378	a
1N4322	.10	1N4353	a	1N4379	a
1N4323	a	1N4354	a	1N4380	50

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N4381	100	1N4397A	a	1N4423	a
1N4382	.10	1N4397B	a	1N4424	a
1N4383	10	1N4398	a	1N4425	a
JAN1N4383	5.0	1N4398A	a	1N4426	a
1N4384	10	1N4398B	a	1N4427	a
JAN1N4384	5.0	1N4399	a	1N4428	a
1N4385	10	1N4399A	a	1N4429	a
JAN1N4385	5.0	1N4399B	a	1N4430	a
1N4386	a	1N4400	a	1N4431	a
JAN1N4386	a	1N4401	a	1N4432	a
1N4387	a	1N4402	a	1N4433	a
JAN1N4387	a	1N4403	a	1N4434	a
1N4388	a	1N4404	a	1N4435	a
JAN1N4388	a	1N4405	a	1N4436	10
1N4389	100	1N4406	a	1N4437	10
1N4390	.20	1N4407	a	1N4438	10
1N4391	.20	1N4408	a	1N4439	10
1N4392	1.0	1N4409	a	1N4440	10
1N4393	a	1N4410	a	1N4441	.30
1N4393A	a	1N4411	a	1N4442	.001
1N4393B	a	1N4412	a	1N4443	.002
1N4394	a	1N4413	a	1N4444	.05
1N4394A	a	1N4414	a	1N4445	.05
1N4394B	a	1N4415	a	1N4446	.025
1N4395	a	1N4416	a	1N4447	.025
1N4395A	a	1N4417	a	1N4448	.025
1N4395B	a	1N4418	a	1N4449	.025
1N4396	a	1N4419	a	1N4450	.05
1N4396A	a	1N4420	a	JAN1N4450B	a
1N4396B	a	1N4421	a	1N4451	.05
1N4397	a	1N4422	a	1N4452	.05

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N4453	.05	1N4481	a	1N4513	10
1N4454	.10	1N4482	a	1N4514	10
JAN1N4454	.10	1N4483	a	1N4517	10
1N4455	.10	1N4484	a	1N4523	30
1N4456	.20	1N4485	a	1N4524	12
1N4457	.20	1N4486	a	1N4525	10
lN4458	10	1N4487	a	1N4526	10
JAN1N4458	50	1N4488	a	1N4527	10
1N4459	10	1N4489	a	1N4528	10
JAN1N4459	50	1N4490	a	1N4529	10
1N4460	a	1N4491	a	1N4530	10
1N4461	a	1N4492	a	1N4531	.025
1N4462	a	1N4493	a	1N4532	.10
1N4463	a	1N4494	a	1N4533	.05
1N4464	a	1N4495	a	1N4534	.05
1N4465	a	1N4496	a	JAN1N4534	.05
1N4466	a	1N4497	10	1N4535	a
1N4467	a	1N4498	10	1N4536	.10
1N4468	a	1N4499	a	1N4537	10
1N4469	a	1N4500	10	1N4538	10
1N4470	a	1N4501	a	1N4539	10
1N4471	a	1N4502	10	1N4540	10
1N4472	a	1N4503	a	1N4541	.02
1N4473	a	1N4504	a	1N4542	.02
1N4474	a	1N4505	10	1N4543	.02
1N4475	a	1N4506	10	1N4544	.02
1N4476	a	1N4507	10	1N4545	.02
1N4477	a	1N4508	10	1N4546	10
1N4478	a	1N4509	10	1N4547	.01
1N4479	a	1N4510	10	1N4548	.01
1N4480	a	1N4511	10	1N4549	.10

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
JAN1N4549B	a	1N4569A	a	1N4585	10
1N4550	a	1N4570	a	JAN1N4585	5.0
JAN1N4550B	a	1N4570A	a	1N4586	10
1N4551	a	1N4571	a	JAN1N4586	5.0
JAN1N4551B	a	1N4571A	a	1N4587	10
1N4552	a	1N4572	a	1N4588	10
JAN1N4552B	a	1N4572A	a	1N4589	10
1N4553	a	1N4573	a	1N4590	10
JAN1N4553B	a	1N4573A	a	1N4591	10
1N4554	a	1N4574	a	1N4592	10
JAN1N4554B	a	1N4574A	a	1N4593	10
1N4555	a	1N4575	a	1N4594	10
JAN1N4555B	a	1N4575A	a	1N4595	10
1N4556	a	1N4576	a	1N4596	10
1N4557	a	1N4576A	a	1N4597	.05
1N4558	a	1N4577	a	1N4598	a
1N4559	a	1N4577A	a	1N4599	a
1N4560	a	1N4578	a	1N4600	a
1N4561	a	1N4578A	a	1N4601	a
1N4562	a	1N4579	a	1N4602	a
1N4563	a	1N4579A	a	1N4603	a
1N4564	a	1N4580	a	1N4604	a
1N4565	a	1N4580A	a	1N4605	a
1N4565A	a	1N4581	a	1N4606	.10
1N4566	a	1N4581A	a	1N4607	.10
1N4566A	a	1N4582	a	1N4608	.10
1N4567	a	1N4582A	a	1N4609	a
1N4567A	a	1N4583	a	1N4610	.10
1N4568	a	1N4583A	a	1N4611	a
1N4568A	a	1N4584	a	1N4611A	a
1N4569	a	1N4584A	a	1N4611B	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N4611C	a	1N4636	a	1N4667	a
1N4612	a	1N4637	a	1N4668	a
1N4612A	a	1N4638	a	1N4669	a
1N4612B	a	1N4639	a	1N4670	a
1N4612C	a	1N4640	a	1N4671	a
1N4613	a	1N4641	a	1N4672	a
1N4613A	a	1N4642	a	1N4673	a
1N4613B	a	1N4643	a	1N4674	a
1N4613C	a	1N4644	a	1N4675	a
1N4614	a	1N4645	a	1N4676	a
1N4615	a	1N4646	a	1N4677	a
1N4616	a	1N4647	a	1N4678	a
1N4617	a	1N4648	a	1N4679	a
1N4618	a	1N4649	a	1N4680	a
1N4619	a	1N4650	a	1N4681	a
1N4620	a	1N4651	a	1N4682	a
1N4621	a	1N4652	a	1N4683	a
1N4622	a	1N4653	a	1N4684	a
1N4623	a	1N4654	a	1N4685	a
1N4624	a	1N4655	a	1N4686	a
1N4625	a	1N4656	a	1N4687	a
1N4626	a	1N4657	a	1N4688	a
1N4627	a	1N4658	a	1N4689	a
1N4628	a	1N4659	a	1N4690	a
1N4629	a	1N4660	a	1N4691	a
1N4630	a	1N4661	a	1N4692	a
1N4631	a	1N4662	a	1N4693	a
1N4632	a	1N4663	a	1N4694	a
1N4633	a	1N4664	a	1N4695	a
1N4634	a	1N4665	a	1N4696	a
1N4635	a	1N4666	a	1N4697	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N4698	a	1N4729	a	1N4760	a
1N4699	a	1N4730	a	1N4761	a
1N4700	a	1N4731	a	1N4762	a
1N4701	a	1N4732	a	1N4763	a
1N4702	a	1N4733	a	1N4764	a
1N4703	a	1N4734	a	1N4765	a
1N4704	a	1N4735	a	1N4765A	a
1N4705	a	1N4736	a	1N4766	a
1N4706	a	1N4737	a	1N4766A	a
1N4707	a	1N4738	a	1N4767	a
1N4708	a	1N4739	a	1N4767A	a
1N4709	a	1N4740	a	1N4768	a
1N4710	a	1N4741	a	1N4768A	a
1N4711	a	1N4742	a	1N4769	a
1N4712	a	1N4743	a	1N4769A	a
1N4713	a	1N4744	a	1N4770	a
1N4714	a	1N4745	a	1N4770A	a
1N4715	a	1N4746	a	1N4771	a
1N4716	a	1N4747	a	1N4771A	a
1N4717	a	1N4748	a	1N4772	a
1N4718	50	1N4749	a	1N4772A	a
1N4719	10	1N4750	a	1N4773	a
1N4720	10	1N4751	a	1N4773A	a
1N4721	10	1N4752	a	1N4774	a
1N4722	10	1N4753	a	1N4774A	a
1N4723	10	1N4754	a	1N4775	a
1N4724	10	1N4755	a	1N4775A	a
1N4725	10	1N4756	a	1N4776	a
1N4726	.10	1N4757	a	1N4776A	a
1N4727	.10	1N4758	a	1N4777	a
1N4728	a	1N4759	a	1N4777A	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N4778	a	JAN1N4801	a	1N4819	100
1N4778A	a	JAN1N4802	a	1N4820	100
1N4779	a	1N4803	a	1N4821	100
1N4779A	a	JAN1N4803	a	1N4822	100
1N4780	a	1N4804	a	1N4823	188
1N4780A	a	JAN1N4804	a	1N4824	188
1N4781	a	1N4805	a	1N4825	188
1N4781A	a	JAN1N4805	a	1N4826	188
1N4782	a	1N4806	a	1N4827	15
1N4782A	a	JAN1N4806	a	1N4828	a
1N4783	a	1N4807	a	1N4829	a
1N4783A	a	JAN1N4807	a	1N4830	a
1N4784	a	1N4808	a	1N4831	a
1N4784A	a	JAN1N4808	a	1N4832	a
1N4785	150	1N4809	a	1N4833	a
1N4786	a	JAN1N4809	a	1N4834	a
1N4787	a	1N4810	a	1N4835	a
1N4788	a	JAN1N4810	a	1N4836	a
1N4789	a	1N4811	a	1N4837	a
1N4790	a	JAN1N4811	a	1N4838	a
1N4791	a	1N8412	a	1N4839	a
1N4792	a	JAN1N4812	a	1N4840	a
1N4793	a	1N4813	a	1N4841	a
1N4794	a	JAN1N1813	a	1N4842	a
1N4795	a	1N4814	a	1N4843	a
1N4796	a	JAN1N4814	a	1N4844	a
1N4797	a	1N4815	a	1N4845	a
1N4798	a	JAN1N4815	a	1N4846	a
1N4799	a	1N4816	100	1N4847	a
1N4800	a	1N4817	100	1N4848	a
1N4801	a	1N4818	100	1N4849	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N4850	a	1N4881	a	1N4901	a
1N4851	a	1N4882	a	1N4901A	a
1N4852	a	1N4883	a	1N4902	a
1N4853	a	1N4884	a	1N4902A	a
1N4854	a	1N4885	a	1N4903	a
1N4855	a	1N4886	a	1N4903A	a
1N4856	a	1N4887	1.0	1N4904	a
1N4857	a	1N4888	.05	1N4904A	a
1N4858	a	1N4889	a	1N4905	a
1N4859	a	1N4890	a	1N4905A	a
1N4860	a	1N4890A	a	1N4906	a
1N4861	.002	1N4891	a	1N4906A	a
1N4862	.005	1N4891A	a	1N4907	a
1N4863	.05	1N4892	a	1N4907A	a
1N4864	.10	1N4892A	a	1N4908	a
1N4865	1.0	1N4893	a	1N4908A	a
1N4866	1.0	1N4893A	a	1N4909	a
1N4867	1.0	1N4894	a	1N4909A	a
1N4868	1.0	1N4894A	a	1N4910	a
1N4869	1.0	1N4895	a	1N4910A	a
1N4870	1.0	1N4895A	a	1N4911	a
1N4871	1.0	1N4896	a	1N4911A	a
1N4872	1.0	1N4896A	a	1N4912	a
1N4873	1.0	1N4897	a	1N4912A	a
1N4874	1.0	1N4897A	a	1N4913	a
1N4875	1.0	1N4898	a	1N4913A	a
1N4876	1.0	1N4898A	a	1N4914	a
1N4877	1.0	1N4899	a	1N4914A	a
1N4878	10	1N4899A	a	1N4915	a
1N4879	10	1N4900	a	1N4915A	a
1N4880	10	1N4900A	a	1N4916	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N4916A	a	1N4932	a	1N4962	a
1N4917	a	1N4932A	a	1N4963	a
1N4917A	a	1N4933	5.0	1N4964	a
1N4918	a	1N4934	5.0	1N4965	a
1N4918A	a	1N4935	5.0	1N4966	a
1N4919	a	1N4936	5.0	1N4967	a
1N4919A	a	1N4937	5.0	1N4968	a
1N4920	a	JAN1N4938	.10	1N4969	a
1N4920A	a	1N4939	a	1N4970	a
1N4921	a	1N4940	a	1N4971	a
1N4921A	a	1N4941	a	1N4972	a
1N4922	a	1N4942	1.0	1N4973	a
1N4922A	a	1N4943	1.0	1N4974	a
1N4923	a	1N4944	1.0	1N4975	a
1N4923A	a	1N4945	1.0	1N4976	a
1N4924	a	1N4946	1.0	1N4977	a
1N4924A	a	1N4947	1.0	1N4978	a
1N4925	a	1N4948	1.0	1N4979	a
1N4925A	a	1N4949	.05	1N4980	a
1N4926	a	1N4950	1.0	1N4981	a
1N4926A	a	1N4951	.10	1N4982	a
1N4927	a	1N4952	.10	1N4983	a
1N4927A	a	1N4953	.50	1N4984	a
1N4928	a	1N4954	a	1N4985	a
1N4928A	a	1N4955	a	1N4986	a
1N4929	a	1N4956	a	1N4987	a
1N4929A	a	1N4957	a	1N4988	a
1N4930	a	1N4958	a	1N4989	a
1N4930A	a	1N4959	a	1N4990	a
1N4931	a	1N4960	a	1N4991	a
1N4931A	a	1N4961	a	1N4992	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N4993	a	1N5024	a	1N5055	10
1N4994	a	1N5025	a	1N5056	10
1N4995	a	1N5026	a	1N5057	10
1N4996	a	1N5027	a	1N5058	10
1N4997	10	1N5028	a	1N5059	5.0
1N4998	10	1N5029	a	1N5060	5.0
1N4999	10	1N5030	a	1N5061	5.0
1N5000	10	1N5031	a	1N5062	5.0
1N5001	10	1N5032	a	1N5063	a
1N5002	10	1N5033	a	1N5064	a
1N5003	10	1N5034	a	1N5065	a
1N5004	375	1N5035	a	1N5066	a
1N5005	375	1N5036	a	1N5067	a
1N5006	375	1N5037	a	1N5068	a
1N5007	375	1N5038	a	1N5069	a
1N5008	a	1N5039	a	1N5070	a
1N5009	a	1N5040	a	1N5071	a
1N5010	a	1N5041	a	1N5072	a
1N5011	a	1N5042	a	1N5073	a
1N5012	a	1N5043	a	1N5074	a
1N5013	a	1N5044	a	1N5075	a
1N5014	a	1N5045	a	1N5076	a
1N5015	a	1N5046	a	1N5077	a
1N5016	a	1N5047	a	1N5078	a
1N5017	a	1N5048	a	1N5079	a
1N5018	a	1N5049	a	1N5080	a
1N5019	a	1N5050	a	1N5081	a
1N5020	a	1N5051		1N5082	a
1N5021	a	1N5052	2.0	1N5083	a
1N5022	a	1N5053	10	1N5084	a
1N5023	a	1N5054	10	1N5085	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N5086	a	1N5117	a	1N5148	a
1N5087	a	1N5118	a	1N5149	a
1N5088	a	1N5119	a	1N5150	a
1N5089	a	1N5120	a	1N5150A	
1N5090	a	1N5121	a	1N5151	a
1N5091	a	1N5122	a	1N5152	a
1N5092	a	1N5123	a	1N5152A	a
1N5093	a	1N5124	a	1N5153	a
1N5094	a	1N5125	a	1N5153A	a
1N5095	a	1N5126	a	1N5154	a
1N5096	a	1N5127	a	1N5155	a
1N5097	a	1N5128	a	1N5155A	a
1N5098	a	1N5129	a	1N5156	a
1N5099	a	1N5130	a	1N5157	a
1N5100	a	1N5131	a	1N5158	a
1N5101	a	1N5132	a	1N5159	a
1N5102	a	1N5133	a	1N5160	a
1N5103	a	1N5134	a	1N5161	a
1N5104	a	1N5135	.10	1N5162	10
1N5105	a	1N5136	a	1N5163	.05
1N5106	a	1N5137	a	1N5164	.05
1N5107	a	1N5138	a	1N5165	a
1N5108	a	1N5139	a	1N5166	a
1N5109	a	1N5140	a	1N5167	a
1N5110	a	1N5141	a	1N5168	a
1B5111	a	1N5142	a	1N5169	a
1N5112	a	1N5143	a	1N5170	25ma
1N5113	a	1N5144	a	1N5171	25ma
1N5114	a	1N5145	a	1N5172	25ma
1N5115	a	1N5146	a	1N5173	25ma
1N5116	a	1N5147	a		

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N5174	25ma	1N5213	10	1N5232A	a
1N5175	25ma	1N5214	10	1N5233	a
1N5176	25ma	1N5215	10	1N5233A	a
1N5177	25ma	1N5216	10	1N5234	a
1N5178	25ma	1N5217	10	1N5234A	a
1N5179	.05	1N5218	10	1N5235	a
1N5181	10	1N5219	.05	1N5235A	a
1N5182	10	1N5220	.50	1N5236	a
1N5183	10	1N5221	a	1N5236A	a
1N5184	10	1N5221A	a	1N5237	a
1N5194	.025	1N5222	a	1N5237A	a
JAN1N5194	.025	1N5222A	a	1N5238	a
1N5195	.025	1N5223	a	1N5238A	a
JAN1N5195	.025	1N5223A	a	1N5239	a
1N5196	.025	1N5224	a	1N5239A	a
JAN1N5196	.025	1N5224A	a	1N5240	a
1N5197	10	1N5225	a	1N5240A	a
JAN1N5197	5.0	1N5225A	a	1N5241	a
1N5198	10	1N5226	a	1N5241A	a
JAN1N5198	5.0	1N5226A	a	1N5242	a
1N5199	10	1N5227	a	1N5242A	a
JAN1N5199	5.0	1N5227A	a	1N5243	a
1N5200	10	1N5228	a	1N5243A	a
JAN1N5200	5.0	1N5228A	a	1N5244	a
1N5201	10	1N5229	a	1N5244A	a
JAN1N5201	5.0	1N5229A	a	1N5245	a
1N5208	.025	1N5230	a	1N5245A	a
1N5209	.025	1N5230A	a	1N5246	a
1N5210	.025	1N5231	a	1N5246A	a
1N5211	10	1N5231A	a	1N5247	a
1N5212	10	1N5232	a	1N5247A	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N5248	a	1N5263A	a	1N5279	a
1N5248A	a	1N5264	a	1N5279A	a
1N5249	a	1N5264A	a	1N5280	a
1N5249A	a	1N5265	a	1N5280A	a
1N5250	a	1N5265A	a	1N5281	a
1N5250A	a	1N5266	a	1N5281A	a
1N5251	a	1N5266A	a	1N5282	a
1N5251A	a	1N5267	a	1N5283	a
1N5252	a	1N5267A	a	1N5284	a
1N5252A	a	1N5268	a	1N5285	a
1N5253	a	1N5268A	a	1N5286	a
1N5253A	a	1N5269	a	1N5287	a
1N5254	a	1N5269A	a	1N5288	a
1N5254A	a	1N5270	a	1N5289	a
1N5255	a	1N5270A	a	1N5290	a
1N5255A	a	1N5271	a	1N5291	a
1N5256	a	1N5271A	a	1N5292	a
1N5256A	a	1N5272	a	1N5293	a
1N5257	a	1N5272A	a	1N5294	a
1N5257A	a	1N5273	a	1N5295	a
1N5258	a	1N5273A	a	1N5296	a
1N5258A	a	1N5274	a	1N5297	a
1N5259	a	1N5274A	a	1N5298	a
1N5259A	a	1N5275	a	1N5299	a
1N5260	a	1N5275A	a	1N5300	a
1N5260A	a	1N5276	a	1N5301	a
1N5261	a	1N5276A	a	1N5302	a
1N5261A	a	1N5277	a	1N5303	a
1N5262	a	1N5277A	a	1N5304	a
1N5262A	a	1N5278	a	1N5305	a
1N5263	a	1N5278A	a	1N5306	a

DIODE AND RECTIFIER DATA - Continued

TYPE NO.	I_R	TYPE	I_R	TYPE	I_R
1N5307	a	1N5313	a	1N5319	.10
1N5308	a	1N5314	a	1N5321	
1N5309	a	1N5315	.05	1N5322	300ma
1N5310	a	1N5316	.05	1N5323	300ma
1N5311	a	1N5317	.10		
1N5312	a	1N5318	.10	1NJ27	10

Section V. TRANSISTOR BASING DATA IDENTIFICATION GUIDE

LEAD CODE

LEAD CODE	LEAD CONFIGURATION			
	1	2	3	4
A	E	B	C	
B	E	C	B	
C	B	E	C	
D	B	C	E	
E	C	E	B	
F	C	B	E	
G	E	B	C	CASE
H	E	B	CASE	C
J	B	E	C	CASE
K	B	E	CASE	C
L	E	C	B	C
M	B	C	CASE	B
N	C	B	E	E
P	E1	B	C	E2
Q	B	C	CASE	E
R	E	B	E	C
S	E	C	E	B
T	B		E	
CA	E	B1		B2 CASE
CB	B1	E	B2	
DA	S	G	D	
DB	S	D	G	
DC	D	G	S	
DD	D	S	G	
DE	G	S	D	
DF	G	D	S	
DG	S	G	D	CASE
DH	S	D	G	CASE

TRANSISTOR BASING DATA IDENTIFICATION GUIDE - Continued

LEAD CODE - Continued

LEAD CODE	LEAD CONFIGURATION			
	1	2	3	4
DJ	D	S	G	CASE
DK	D	G	S	CASE
DM	G	G	SUB / CASE	S
DN	S / SUB	G	D	SUB / CASE
DP	D	G	S	SUB / CASE
DQ	S / SUB	D	G	
DR	S	G	D	SUB / CASE
DS	D	G	SUB	S
DT	D	G	S	SUB
DU	S	G1	D	G2 / CASE
DV	S	G1	D	G2-SUB / CASE
DW	D	S	G	SUB / CASE
DX	D	G2	G1	S / SUB
GA	E	B1	C	B2
GB	C	B1	E	B2
GC	E1	B	C	E2
GD	E1	B	E2	C
GE	C	E1	B	E2
GF	E	B1	NONE	B2
GG	E2	E1	B	C
GH	E2	B	E1	C
GJ	B	E1	C	E2

TRANSISTOR BASING DATA IDENTIFICATION GUIDE - Continued

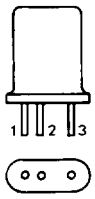
IDENTIFICATION CODE

CODE	TYPE
A - B Z	BI-POLAR
CA - CZ	UJT
DA - FZ	FET
GA -	MULTI-ELEMENT BI-POLAR

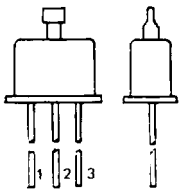
ABBREVIATIONS

ABBREVIATIONS	TERM
E	EMITTER
B	BASE
C	COLLECTOR
S	SOURCE
D	DRAIN
G	GATE
SUB	SUBSTRATE
CASE	CASE/SHIELD

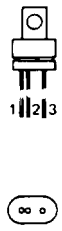
A101



A102

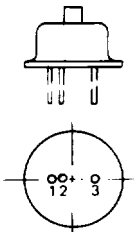


A103

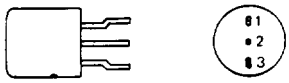


A104

A105

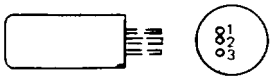


A106

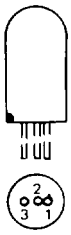


A107

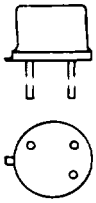
A108



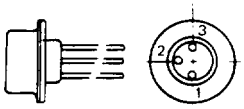
A109



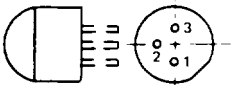
A110



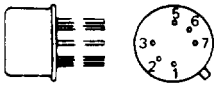
A111



A112

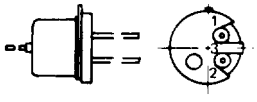


A113



	E1	B1	C1	E2	B2	C2
A113-A	3	2	1	5	6	7
A113-B	3	2	1	4	5	6

A114



A115

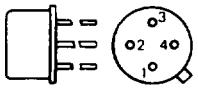


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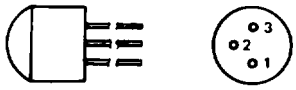
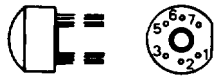
Figure D-1①. Transistor outline drawings (sheet 1 of 12).

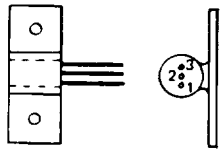
A116



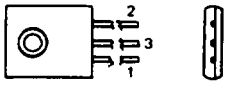
A117



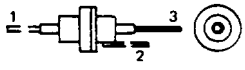
A118



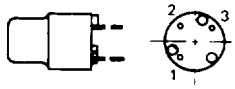
A119



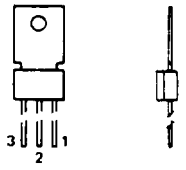
A120



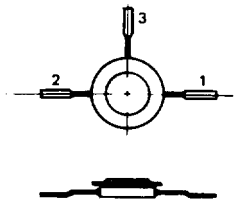
A121



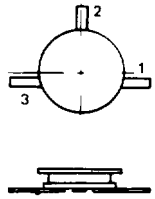
A122



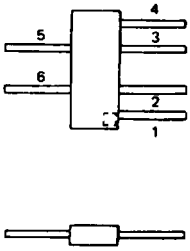
A123



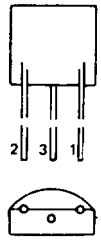
A124



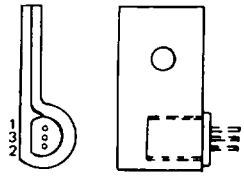
A125



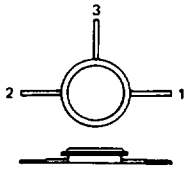
A126



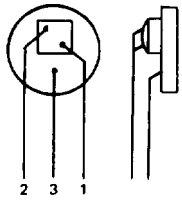
A127



A128



A129



A130

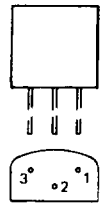


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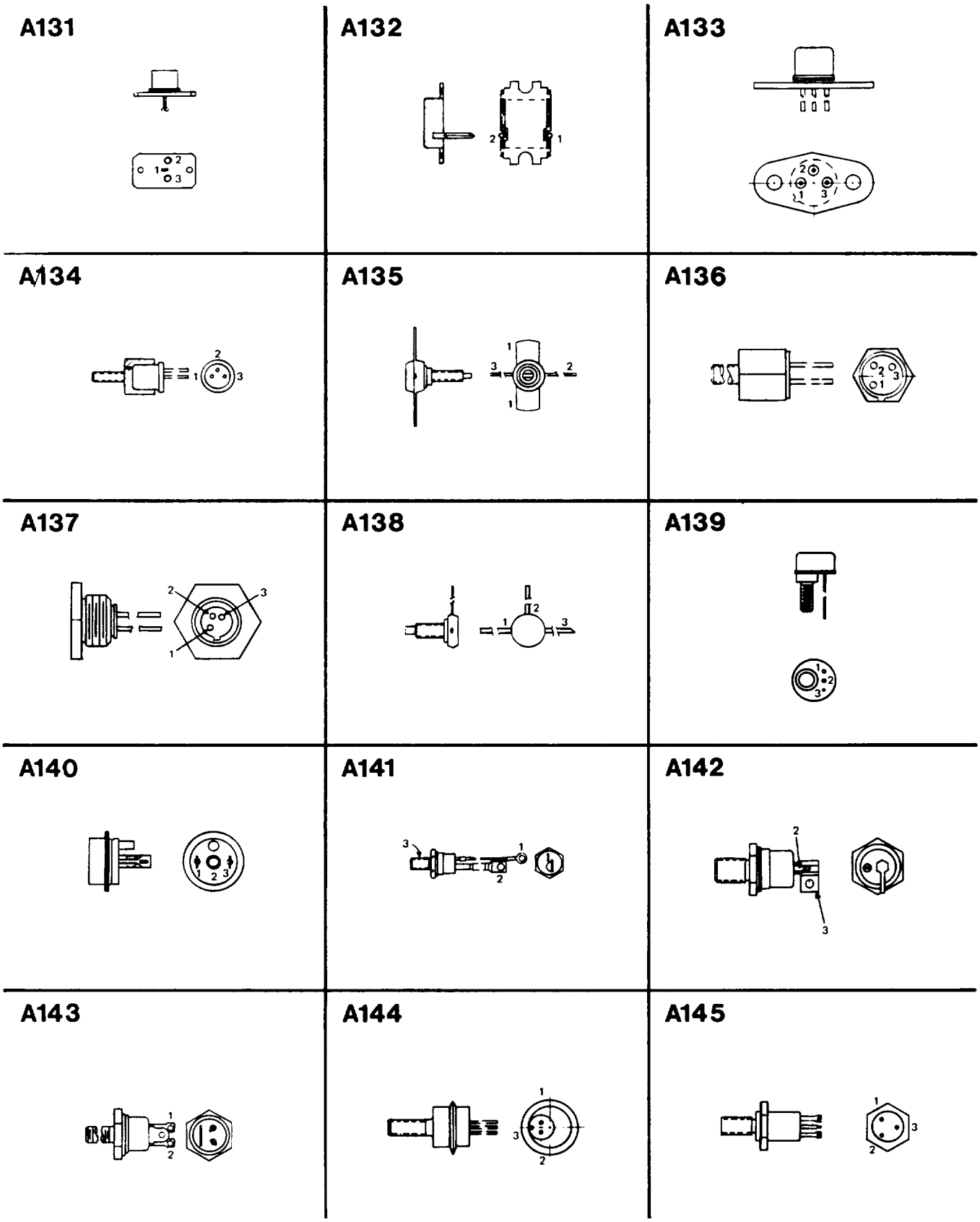
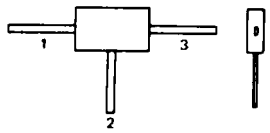
Figure D-1 ②. Transistor outline drawings (sheet 2 of 12).



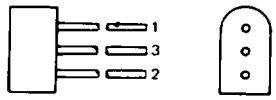
EL6625-539-14-4-TM-19-③

Figure D-1 ③. Transistor outline drawings (Sheet 3 of 12).

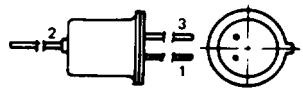
A146



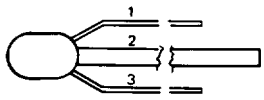
A147



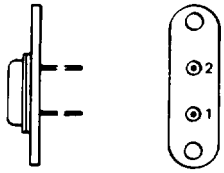
A148



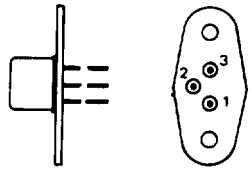
A149



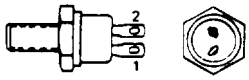
A150



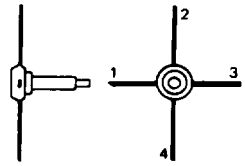
A151



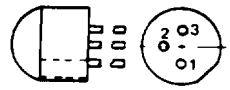
A152



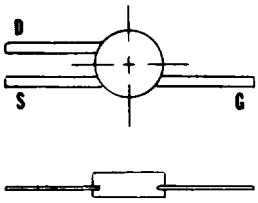
A153



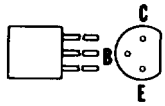
A154



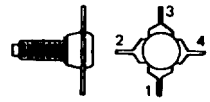
A155



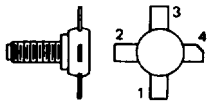
A156



A157

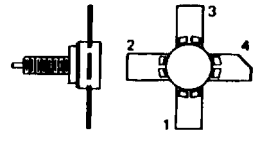


A158



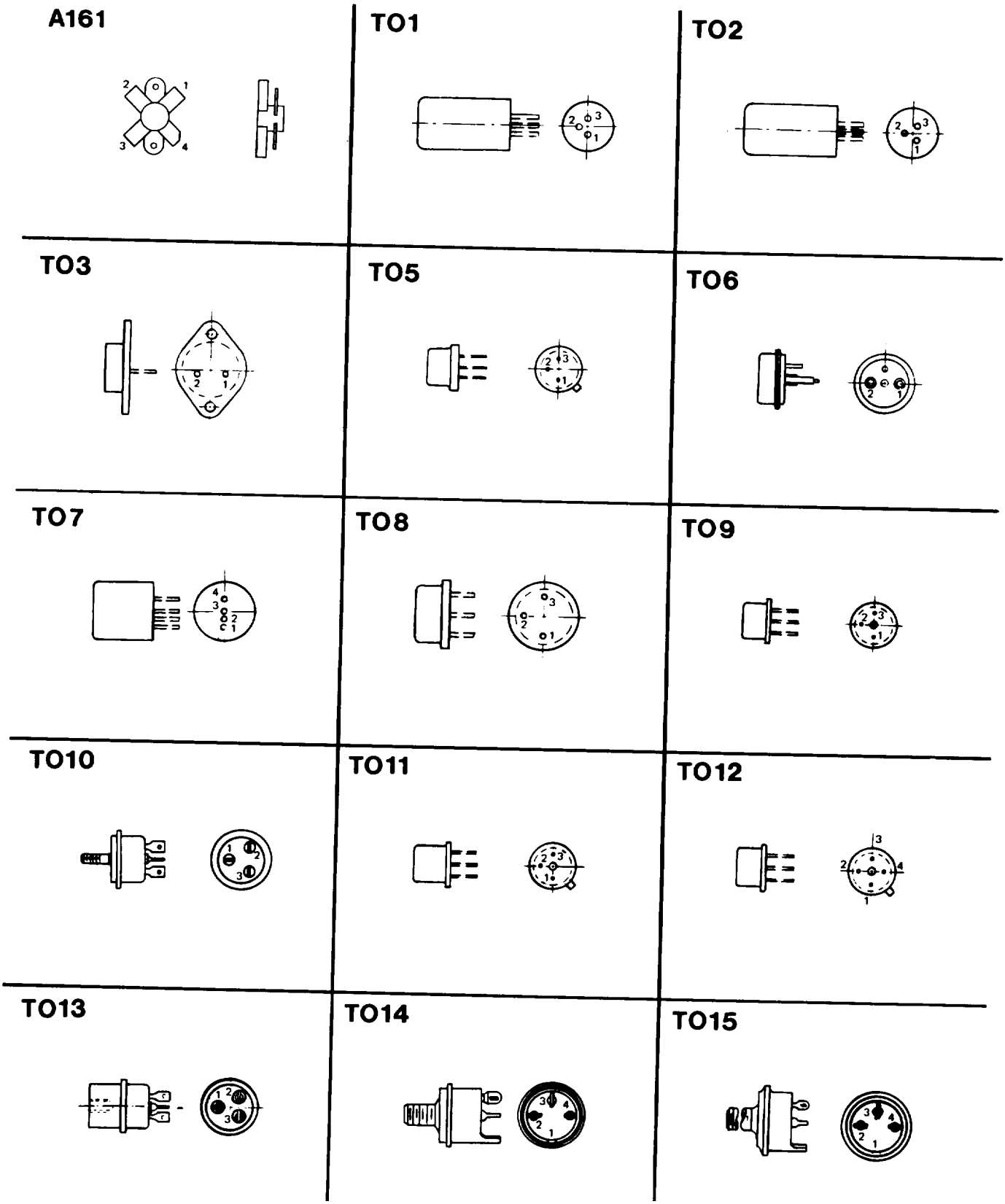
A159

A160



EL6625-539-14-4-TM-19-④

Figure D-l ④. Transistor outline drawings (sheet 4 of 12).



EL6625-539-14-4-TM-19- ⑤

Figure D-l ⑤. Transistor outline drawings (Sheet 5 of 12).

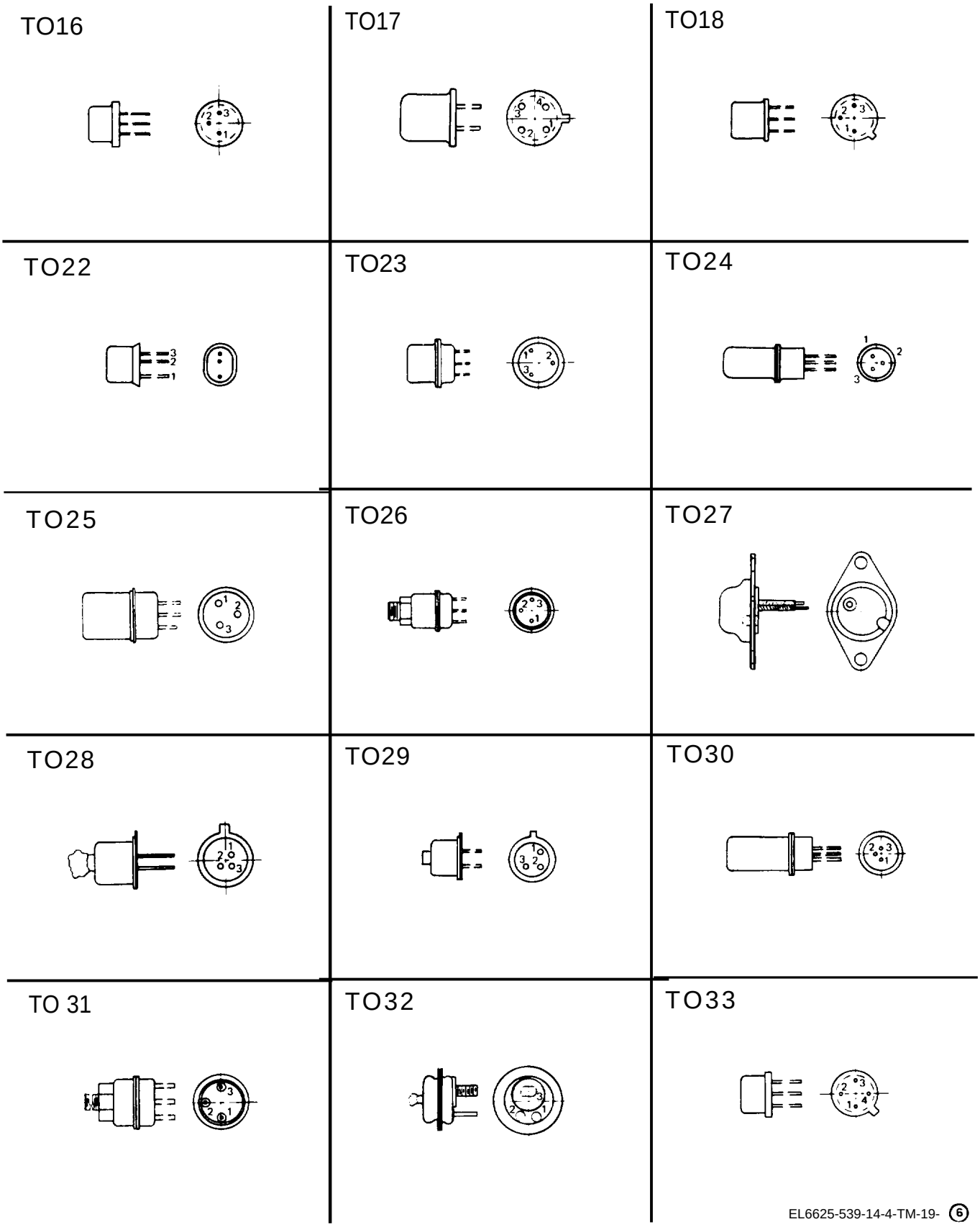
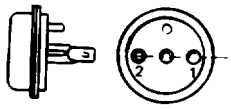
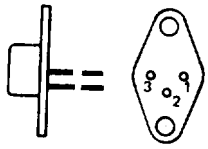


Figure D–1 ⑥. Transistor outline drawings (sheet 6 of 12).

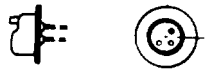
TO36



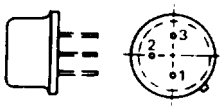
TO37



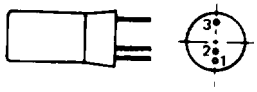
TO38



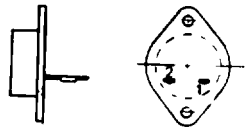
TO39



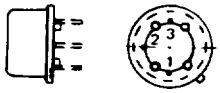
TO40



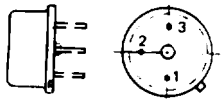
TO 41



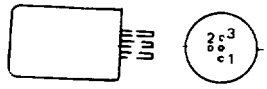
TO42



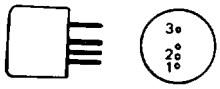
TO43



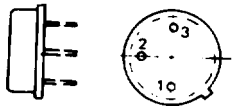
TO 44



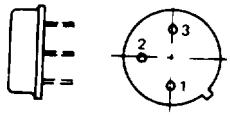
TO45



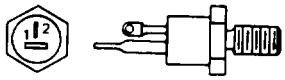
TO46



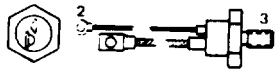
TO47



T048



TO 49



TO 50 TO 51

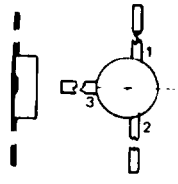


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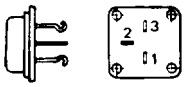
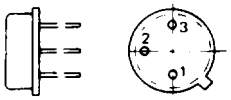
Figure D-1 ⑦.Transistor outline drawings (Sheet 7 of 12).

TO 52

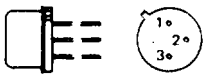
TO 53



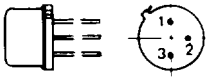
TO54



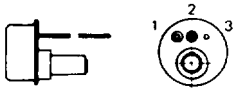
TO 55



TO 56

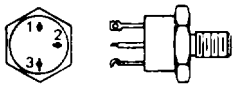


TO 57

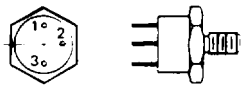


TO 58

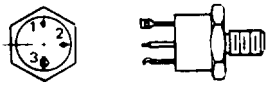
TO 59



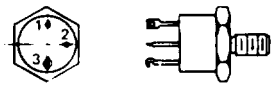
TO 60



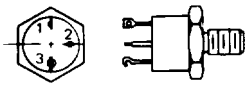
TO 61



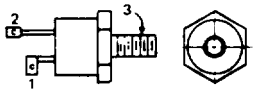
TO 62



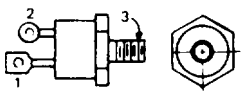
T O 6 3



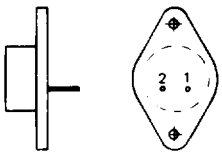
TO 64



TO 65



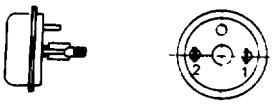
TO 66



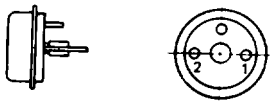
EL6625-539-14-4-TM-19- (8)

Figure D-1 (8). Transistor outline drawings (sheet 8 of 12).

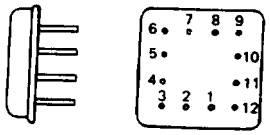
TO 67



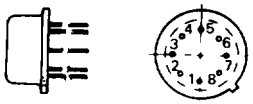
TO 68



TO 69

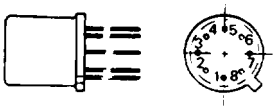


TO 70



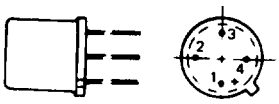
	E1	B1	C1	E2	B2	C2
T070-A	3	2	1	5	6	7

TO 71

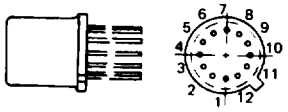


	E1	B1	C1	E2	B2	C2
T071-A	1	2	3	5	6	7
T071-B	3	2	1	5	6	7

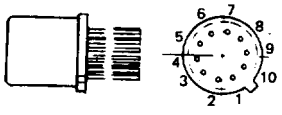
TO 72



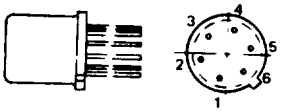
TO 73



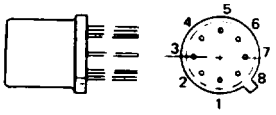
TO 74



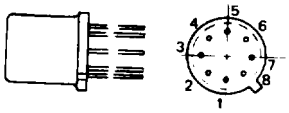
TO 75



TO 76

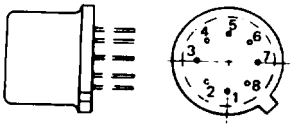


TO 77



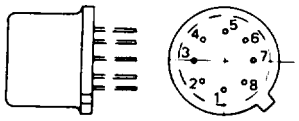
	E1	B1	C1	E2	B2	C2
T077-A	3	2	1	5	6	7
T077-B	1	3	4	7	5	4
T077-C	3	5	6	1	7	6

TO78

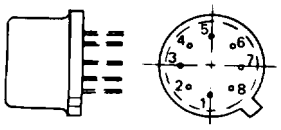


	E1	B1	C1	E2	B2	C2
T078-A	3	2	1	5	6	7

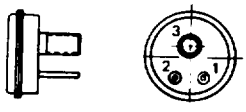
TO 79



TO 80



TO81

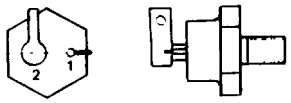


EL6625-539-14-4-TM-19-⑨

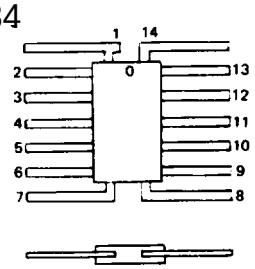
Figure D-I ⑨. Transistor outline drawings (sheet 9 of 12).

TO 82

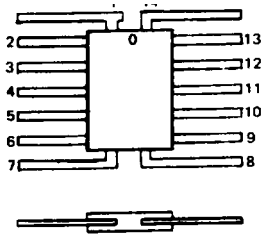
TO 83



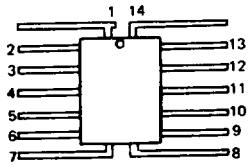
TO 84



T O 8 5

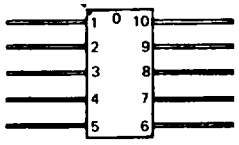


TO 86



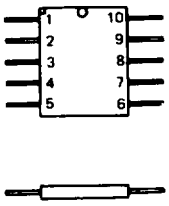
	C1	B1	E1	C2	B2	E2	C3	B3	E3	C4	B4	E4
T086-A	1	2	3	5	6	7	8	9	10	14	13	12

TO 89

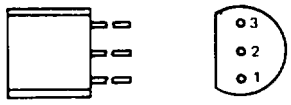


	E1	B1	C1	E2	B2	C2
T089-A	2	1	9	4	5	7

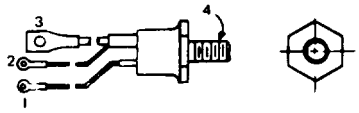
TO90



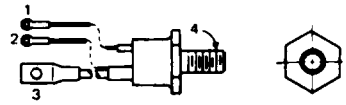
TO 92



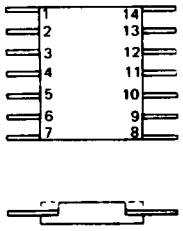
TO93



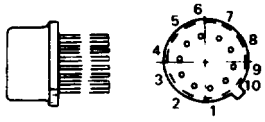
TO 94



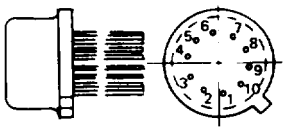
TO 95



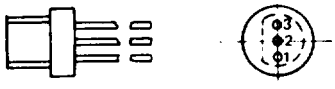
TO 96



TO 97



TO98



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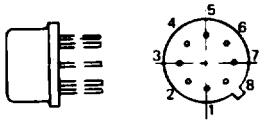
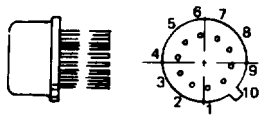


EL6625-539-14-4-TM-19-⑩

Figure D-1 ⑩. Transistor outline drawings (sheet 10 of 12).

TO 100



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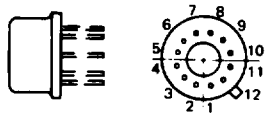

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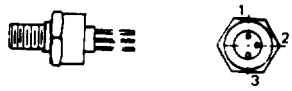

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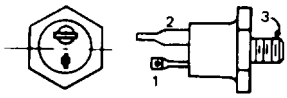

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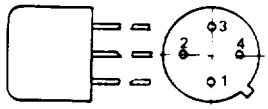

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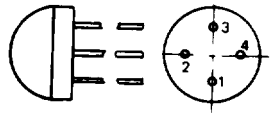

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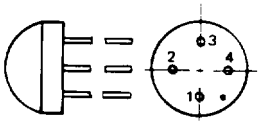
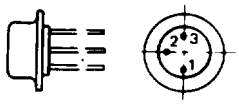


TO 107



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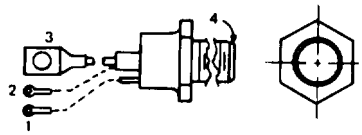

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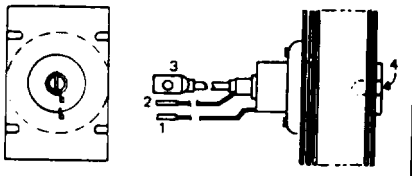

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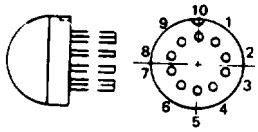

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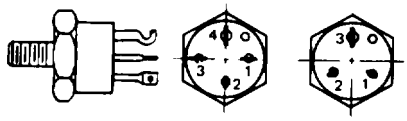

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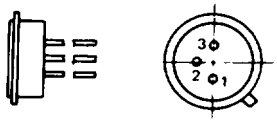

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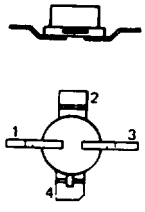
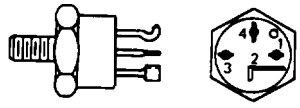


TO 114



EL6625-539-14-4-TM-19- (11)

Figure D-1 (11). Transistor outline drawings (sheet 11 of 12).

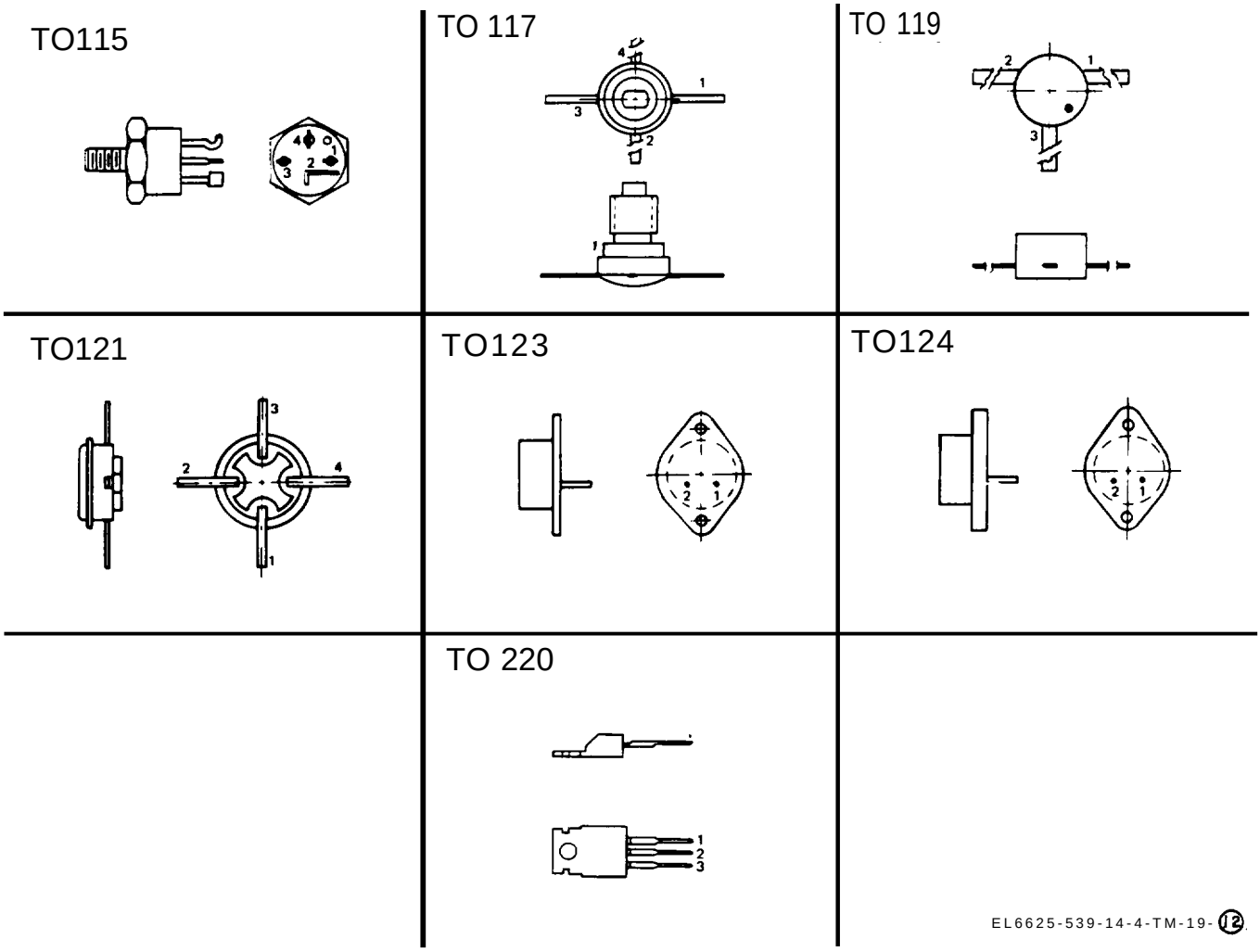
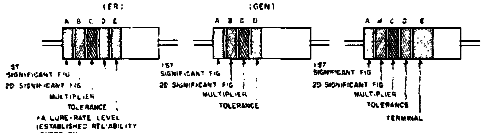


Figure D-1 (12). Transistor outline drawings (sheet 12 of 12).

INDEX



COLOR CODE MARKING FOR COMPOSITION TYPE RESISTORS

COLOR-CODE MARKING FOR FILM-TYPE RESISTORS

TABLE I
COLOR CODE FOR COMPOSITION TYPE AND FILM TYPE RESISTORS.

BAND A		BAND B		BAND C		BAND D		BAND E		
COLOR	FIRST SIGNIFICANT FIGURE	COLOR	SECOND SIGNIFICANT FIGURE	COLOR	MULTIPLIER	COLOR	RESISTANCE TOLERANCE (PERCENT)	COLOR	FAILURE RATE LEVEL	TERM
BLACK	0	BLACK	0	BLACK	1			BROWN	M=1.0	
BROWN	1	BROWN	1	BROWN	10			RED	P=0.1	
RED	2	RED	2	RED	100			ORANGE	R=0.01	
ORANGE	3	ORANGE	3	ORANGE	1,000			YELLOW	S=0.001	
YELLOW	4	YELLOW	4	YELLOW	10,000	SILVER	±10 (COMP TYPE ONLY)	WHITE		SOLDERABLE
GREEN	5	GREEN	5	GREEN	100,000	GOLD	±5			
BLUE	6	BLUE	6	BLUE	1,000,000	RED	±2 (NOT APPLICABLE TO ESTABLISHED RELIABILITY)			
PURPLE (VIOLET)	7	PURPLE (VIOLET)	7							
GRAY	8	GRAY	8	SILVER	0.01					
WHITE	9	WHITE	9	GOLD	0.1					

BAND A — THE FIRST SIGNIFICANT FIGURE OF THE RESISTANCE VALUE (BANDS A THRU D SHALL BE OF EQUAL WIDTH)

BAND B — THE SECOND SIGNIFICANT FIGURE OF THE RESISTANCE VALUE

BAND C — THE MULTIPLIER (THE MULTIPLIER IS THE FACTOR BY WHICH THE TWO SIGNIFICANT FIGURES ARE MULTIPLIED TO YIELD THE NOMINAL RESISTANCE VALUE.)

BAND D — THE RESISTANCE TOLERANCE.

BAND E — WHEN USED ON COMPOSITION RESISTORS, BAND E INDICATES ESTABLISHED RELIABILITY FAILURE-RATE LEVEL (PERCENT FAILURE PER 1000 HOURS). ON FILM RESISTORS, THIS BAND SHALL BE APPROXIMATELY 1½ TIMES THE WIDTH OF OTHER BANDS, AND INDICATES TYPE OF TERMINAL

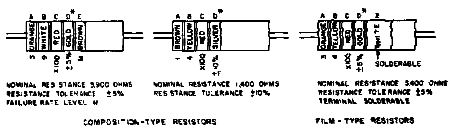
RESISTANCES IDENTIFIED BY NUMBERS AND LETTERS (THESE ARE NOT COLOR CODED)

SOME RESISTORS ARE IDENTIFIED BY THREE OR FOUR DIGIT ALPHA NUMERIC DESIGNATORS. THE LETTER R IS USED IN PLACE OF A DECIMAL POINT WHEN FRACTIONAL VALUES OF AN OHM ARE EXPRESSED. FOR EXAMPLE:

ERT = 2 7 OHMS 1000 = 100 OHMS

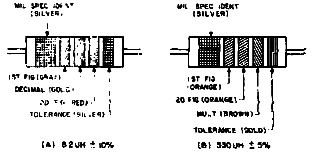
FOR WIRE-WOUND-TYPE RESISTORS COLOR CODING IS NOT USED, IDENTIFICATION MARKING IS SPECIFIED IN EACH OF THE APPLICABLE SPECIFICATIONS.

EXAMPLES OF COLOR CODING



IF BAND D IS OMITTED THE RESISTOR TOLERANCE IS ±20% AND THE RESISTOR IS NOT MIL-STD.

A. COLOR CODE MARKING FOR MILITARY STANDARD RESISTORS



COLOR CODING FOR TUBULAR ENCAPSULATED R.F. CHOKES. AT A, AN EXAMPLE OF THE CODING FOR AN 8.2 UH CHOKE IS GIVEN. AT B, THE COLOR BANDS FOR A 330 UH INDUCTOR ARE ILLUSTRATED

TABLE 2
COLOR CODING FOR TUBULAR ENCAPSULATED R.F. CHOKES

COLOR	SIGNIFICANT FIGURE	MULTIPLIER	INDUCTANCE TOLERANCE (PERCENT)
BLACK	0	1	
BROWN	1	10	1
RED	2	100	2
ORANGE	3	1,000	3
YELLOW	4		
GREEN	5		
BLUE	6		
VIOLET	7		
GRAY	8		
WHITE	9		
GOLD			5
SILVER			10
GOLD	DECIMAL POINT		5

MULTIPLIER IS THE FACTOR BY WHICH THE TWO COLOR FIGURES ARE MULTIPLIED TO OBTAIN THE INDUCTANCE VALUE OF THE CHOKE COIL.

B. COLOR CODE MARKING FOR MILITARY STANDARD INDUCTORS.

CAPACITORS, FIXED, VARIOUS-DIELECTRICS, STYLES CM, CN, CY, AND CB.

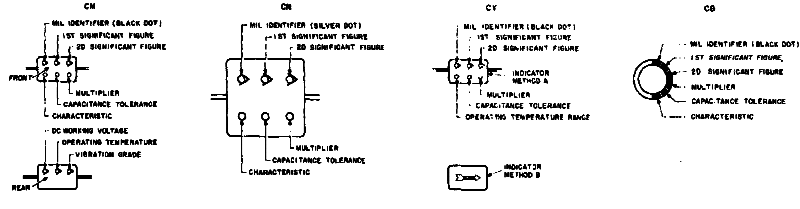


TABLE 3 — FOR USE WITH STYLES CM, CN, CY AND CB.

COLOR	MIL ID	1ST SIG FIG	2D SIG FIG	MULTIPLIER	CAPACITANCE TOLERANCE				CHARACTERISTIC		DC WORKING VOLTAGE	OPERATING TEMP RANGE	INSULATION GRADE
					CM	CN	CY	CB	CM	CN	CM	CY, CM	CM
BLACK	CM, CY, CB	0	0	1			±20%	±20%	A			-55°C to +85°C	10-55/85
BROWN		1	1	10					B	B	B		
RED		2	2	100	±2%		±2%	±2%	C			-55°C to +85°C	
ORANGE		3	3	1,000	±30%				D	D	300		
YELLOW		4	4	10,000					E			-55°C to +125°C	10-6,000M
GREEN		5	5		±5%				F		500		
BLUE		6	6									-55°C to +150°C	
PURPLE (VIOLET)		7	7										
GRAY		8	8										
WHITE		9	9										
GOLD				0.1			±5%	±5%					
SILVER	CN			0.01	±10%	±10%	±10%	±10%					

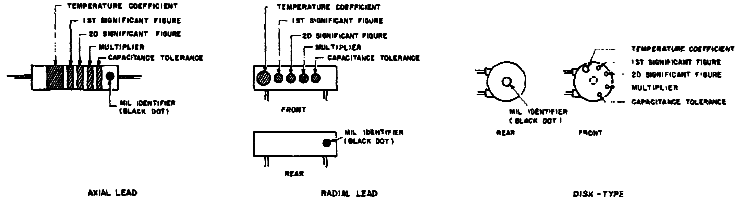


TABLE 4 — TEMPERATURE COMPENSATING, STYLE CC.

COLOR	TEMPERATURE COEFFICIENT[4]	1ST SIG FIG[3]	2D SIG FIG[3]	MULTIPLIER	CAPACITANCE TOLERANCE		MIL ID
					CAPACITANCES OVER 10 UUF	CAPACITANCES 10 UUF OR LESS	
BLACK	0	0	0	1		±2.0 UUF	CC
BROWN	-30	1	1	10	±1%		
RED	-80	2	2	100	±2%	±0.25 UUF	
ORANGE	-150	3	3	1,000			
YELLOW	-220	4	4				
GREEN	-330	5	5		±5%	±0.5 UUF	
BLUE	-470	6	6				
PURPLE (VIOLET)	-750	7	7				
GRAY		8	8	0.01[5]			
WHITE		9	9	0.1[5]	±10%		
GOLD	+100			0.1		±1.0 UUF	
SILVER				0.01			

1 THE MULTIPLIER IS THE NUMBER BY WHICH THE TWO SIGNIFICANT (SIG) FIGURES ARE MULTIPLIED TO OBTAIN THE CAPACITANCE IN UUF.

2 LETTERS INDICATE THE CHARACTERISTICS DESIGNATED IN APPLICABLE SPECIFICATIONS: MIL-C-5, MIL-C-250, MIL-C-18729, AND MIL-C-10950C RESPECTIVELY.

3 LETTERS INDICATE THE TEMPERATURE RANGE AND VOLTAGE-TEMPERATURE LIMITS DESIGNATED IN MIL-C-11015D

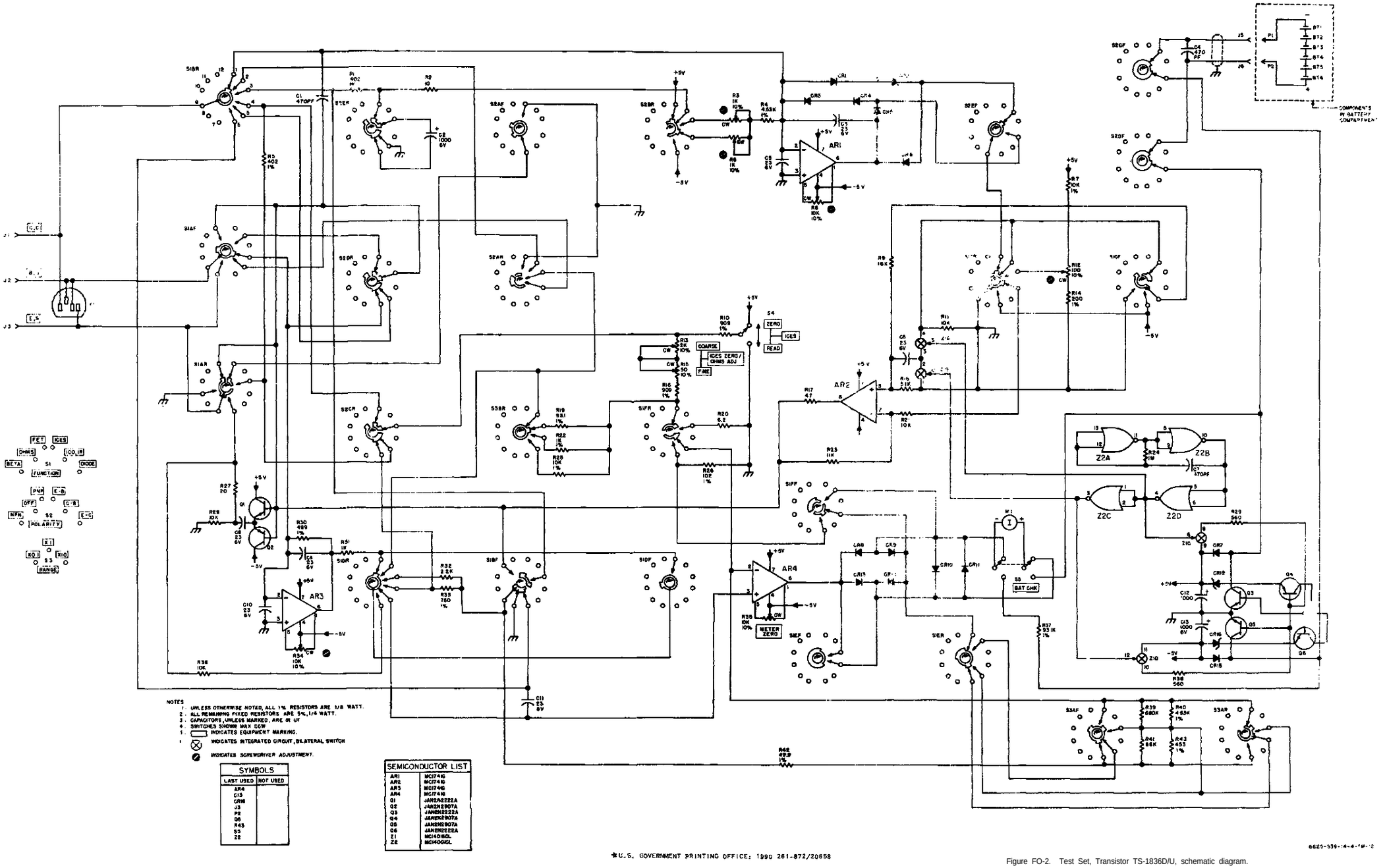
4 TEMPERATURE COEFFICIENT IN PARTS PER MILLION PER DEGREE CENTIGRADE

5 OPTIONAL CODING WHERE METALLIC PIGMENTS ARE UNDESIRABLE.

C. COLOR CODE MARKING FOR MILITARY STANDARD CAPACITORS.

ESC-FM 913-73

Figure FO-1. MIL-STD resistor, inductor, and capacitor color colde markings.



*U.S. GOVERNMENT PRINTING OFFICE: 1990 261-872/20658

Figure FO-2. Test Set, Transistor TS-1836D/U, schematic diagram.

By Order of the Secretary of the Army:

FRED C. WEYAND
General, United States Army
Chief of Staff

Official:

VERNE L. BOWERS
Major General, United States Army
The Adjutant General

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Ft Richardson (ECOM Ofc) (2)
Army Dep (1) except
LBAD (14)
SAAD (30)
TOAD (14)
SHAD (3)
USA Dep (2)
Sig Sec USA Dep (2)
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29-134
23-136

NG: None
USAR: None
For explanation of abbreviations used, see AR 310-50.

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To: 2028@redstone.army.mil

Subject: DA Form 2028

1. ***From:*** Joe Smith
2. *Unit:* home
3. ***Address:*** 4300 Park
4. ***City:*** Hometown
5. ***St:*** MO
6. ***Zip:*** 77777
7. ***Date Sent:*** 19−OCT−93
8. ***Pub no:*** 55−2840−229−23
9. ***Pub Title:*** TM
10. ***Publication Date:*** 04−JUL−85
11. *Change Number:* 7
12. *Submitter Rank:* MSG
13. ***Submitter FName:*** Joe
14. *Submitter MName:* T
15. ***Submitter LName:*** Smith
16. ***Submitter Phone:*** 123−123−1234
17. ***Problem:*** **1**
18. *Page:* 2
19. *Paragraph:* 3
20. *Line:* 4
21. *NSN:* 5
22. *Reference:* 6
23. *Figure:* 7
24. *Table:* 8
25. *Item:* 9
26. *Total:* 123
27. ***Text:***

This is the text for the problem below line 27.

RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS For use of this form, see AR 25–30; the proponent agency is ODISC4.	Use Part II (*reverse)* for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/ Supply Manuals (SC/SM)	DATE 8/30/02
TO: (*Forward to proponent of publication or form)(Include ZIP Code)* Commander, U.S. Army Aviation and Missile Command ATTN: AMSAM–MMC–MA–NP Redstone Arsenal, 35898	FROM: (*Activity and location)(Include ZIP Code)* MSG, Jane Q. Doe 1234 Any Street Nowhere Town, AL 34565	

PART 1 – ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS

PUBLICATION/FORM NUMBER	DATE	TITLE
TM 9–1005–433–24	16 Sep 2002	Organizational, Direct Support, And General Support Maintenance Manual for Machine Gun, .50 Caliber M3P and M3P Machine Gun Electrical Test Set Used On Avenger Air Defense Weapon System

ITEM NO.	PAGE NO.	PARA–GRAPH	LINE NO. *	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON
1	WP0005 PG 3		2			Test or Corrective Action column should identify a different WP number.

** Reference to line numbers within the paragraph or subparagraph.*

TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/ AUTOVON, PLUS EXTENSION	SIGNATURE
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TO: (*Forward direct to addressee listed in publication)*	**FROM:** (*Activity and location) (Include ZIP Code)*	**DATE**
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PUBLICATION NUMBER	DATE	TITLE

PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION

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MSG, Jane Q. Doe, SFC	788–1234	

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ITEM NO.	PAGE NO.	PARA–GRAPH	LINE NO. *	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON

** Reference to line numbers within the paragraph or subparagraph.*

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TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE

THE METRIC SYSTEM AND EQUIVALENTS

'NEAR MEASURE

. Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
1 Kilometer = 1000 Meters = 0.621 Miles

'VEIGHTS

Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
1 Kilogram = 1000 Grams = 2.2 lb.
1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

SQUARE MEASURE

1 Sq. Centimeter = 100 Sq. Millimeters = 0.155 Sq. Inches
1 Sq. Meter = 10,000 Sq. Centimeters = 10.76 Sq. Feet
1 Sq. Kilometer = 1,000,000 Sq. Meters = 0.386 Sq. Miles

CUBIC MEASURE

1 Cu. Centimeter = 1000 Cu. Millimeters = 0.06 Cu. Inches
1 Cu. Meter = 1,000,000 Cu. Centimeters = 35.31 Cu. Feet

TEMPERATURE

5/9(°F - 32) = °C
212° Fahrenheit is evuivalent to 100° Celsius
90° Fahrenheit is equivalent to 32.2° Celsius
32° Fahrenheit is equivalent to 0° Celsius
9/5C° + 32 =°F

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
ıts	Liters	0.473
arts	Liters	0.946
allons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
ers	Gallons	0.264
ms	Ounces	0.035
ograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pounds-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
lometers per Liter	Miles per Gallon	2.354
meters per Hour	Miles per Hour	0.621