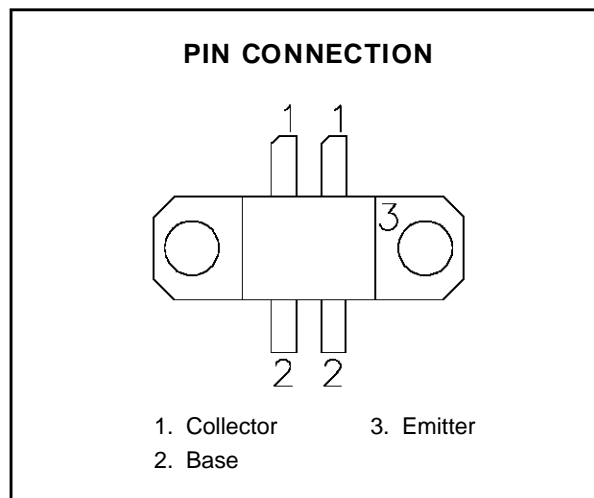
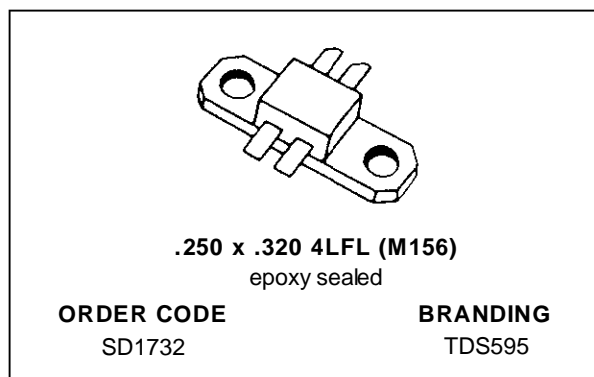


## RF & MICROWAVE TRANSISTORS TV LINEAR APPLICATIONS

- 470 - 860 MHz
- 25 VOLTS
- CLASS A PUSH PULL
- DESIGNED FOR HIGH POWER LINEAR OPERATION
- HIGH SATURATED POWER CAPABILITY
- GOLD METALLIZATION
- DIFFUSED EMITTER BALLAST RESISTORS
- COMMON EMITTER CONFIGURATION
- INTERNAL INPUT MATCHING
- $P_{OUT} = 14.0$  W MIN. WITH 8.5 dB GAIN



### DESCRIPTION

The SD1732 is a gold metallized epitaxial silicon NPN planar transistor using diffused emitter ballast resistors for high linearity Class A operation in UHF and Band IV, V television transmitters and transposers.

### ABSOLUTE MAXIMUM RATINGS ( $T_{case} = 25^{\circ}C$ )

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	45	V
$V_{CEO}$	Collector-Emitter Voltage	25	V
$V_{EBO}$	Emitter-Base Voltage	4.0	V
$I_C$	Device Current	2 x 2.6	A
$P_{DISS}$	Power Dissipation	65	W
$T_J$	Junction Temperature	+200	$^{\circ}C$
$T_{STG}$	Storage Temperature	- 65 to +150	$^{\circ}C$

### THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	2.5	$^{\circ}C/W$
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## SD1732 (TDS595)

### ELECTRICAL SPECIFICATIONS ( $T_{case} = 25^{\circ}C$ )

#### STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$BV_{CBO}$	$I_C = 20mA$	$I_E = 0mA$	45	—	—	V
$BV_{CEO}$	$I_C = 40mA$	$I_B = 0mA$	25	—	—	V
$BV_{EBO}$	$I_E = 5mA$	$I_C = 0mA$	3.0	—	—	V
$h_{FE}$	$V_{CE} = 20V$	$I_C = 0.5A$	10	—	—	—

#### DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
$P_{OUT}$	$f = 845 MHz$	$V_{CE} = 25 V$	$I_{CQ} = 2 \times 850 mA$	14	—	—	W
$G_P$	$P_{OUT} = 14 W$	$V_{CE} = 25 V$	$I_{CQ} = 2 \times 850 mA$	8.5	—	—	dB
$IMD_3^*$	$P_{OUT} = 14 W$	$V_{CE} = 25 V$	$I_{CQ} = 2 \times 850 mA$	—	-47	—	dBc
$CMD^{**}$	$P_{OUT} = 14 W$	$V_{CE} = 25 V$	$I_{CQ} = 2 \times 850 mA$	—	20	—	%
$C_{OB}$	$f = 1 MHz$	$V_{CB} = 25 V$		—	—	20	pF

Note: \*IMD 3 Tone Testing

Vision Carrier -8 dB ref

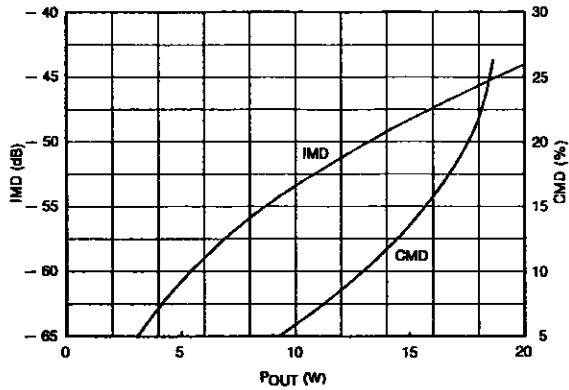
Sound Carrier -7 dB ref

Sideband Carrier -16 dB ref

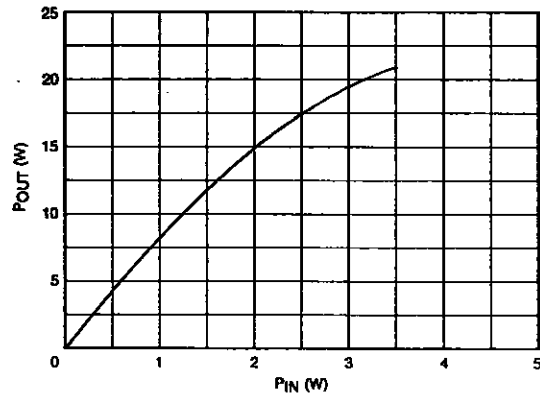
\*\* CMD: Cross Modulation Distortion of the Voltage Variation (%) of Sound Carrier When Vision Carrier is Switched from 0 to -20 dB

TYPICAL PERFORMANCE

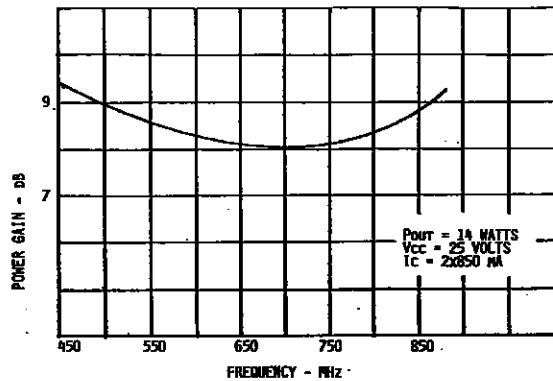
INTERMODULATION DISTORTION & CROSS MODULATION DISTORTION vs POWER OUTPUT



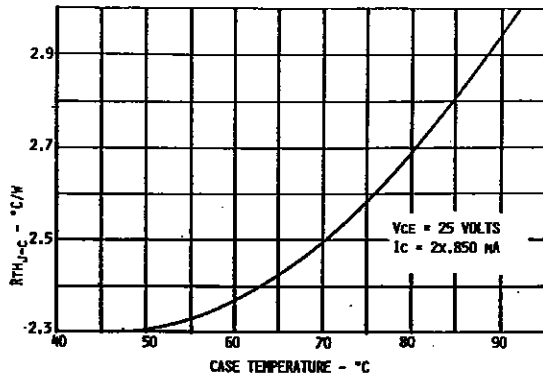
POWER OUTPUT vs POWER INPUT



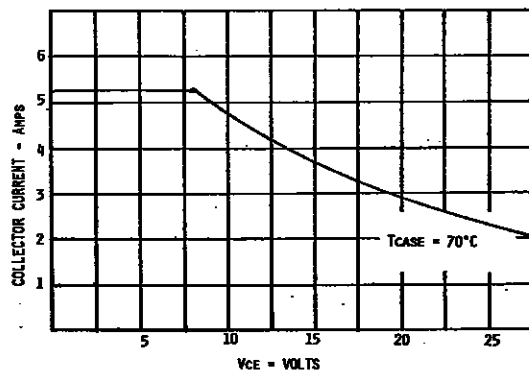
BROADBAND POWER GAIN vs FREQUENCY



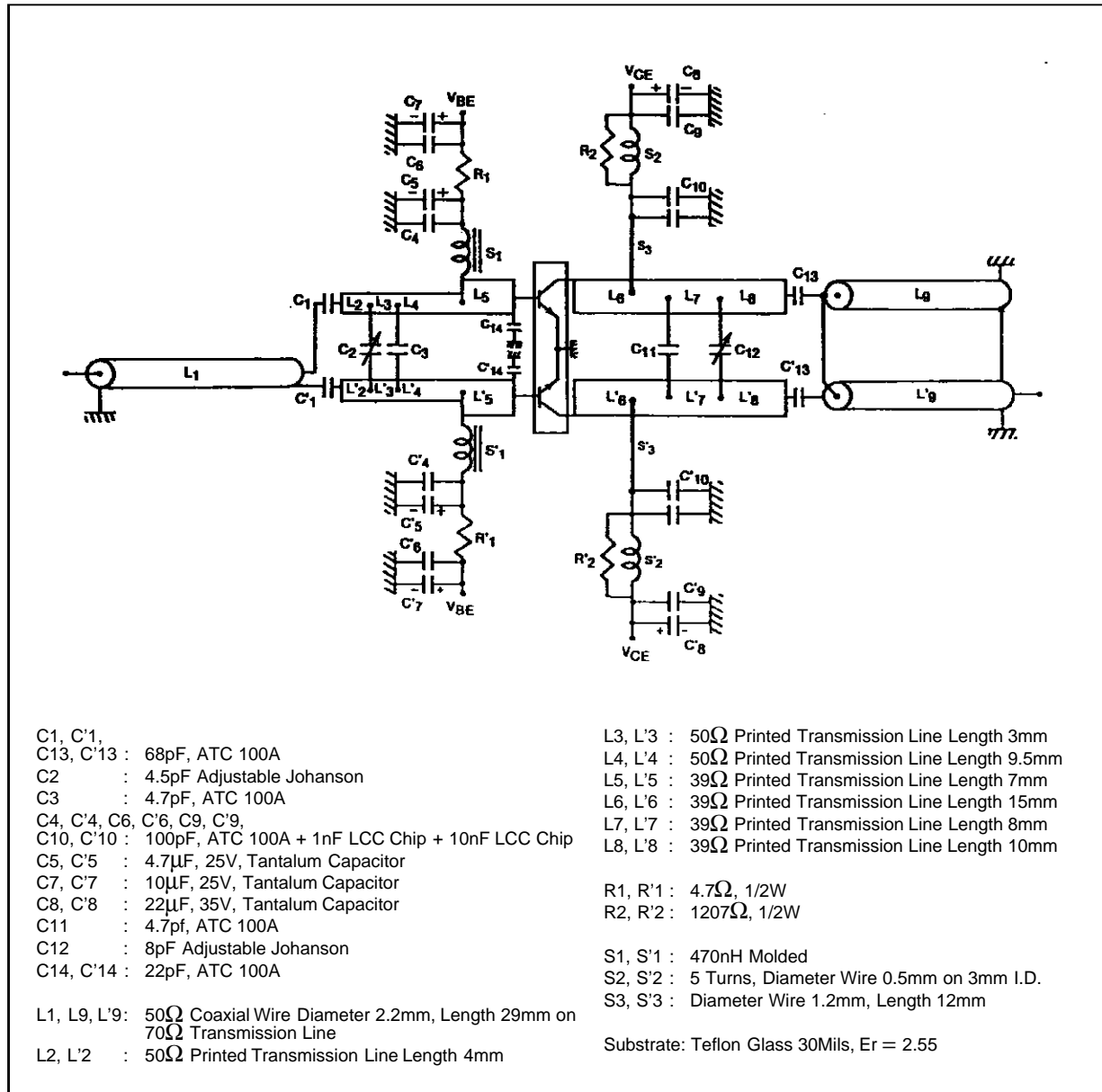
THERMAL RESISTANCE vs CASE TEMPERATURE



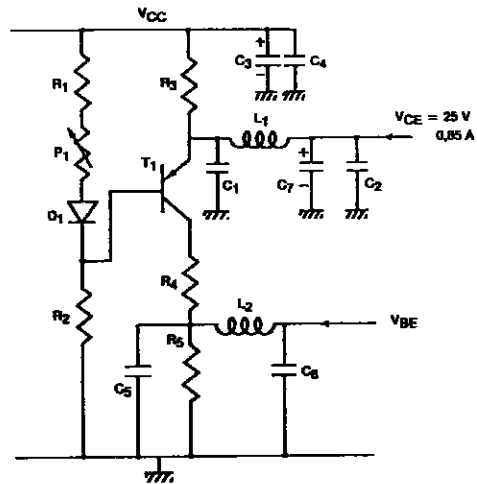
SAFE OPERATING AREA



## TEST CIRCUIT

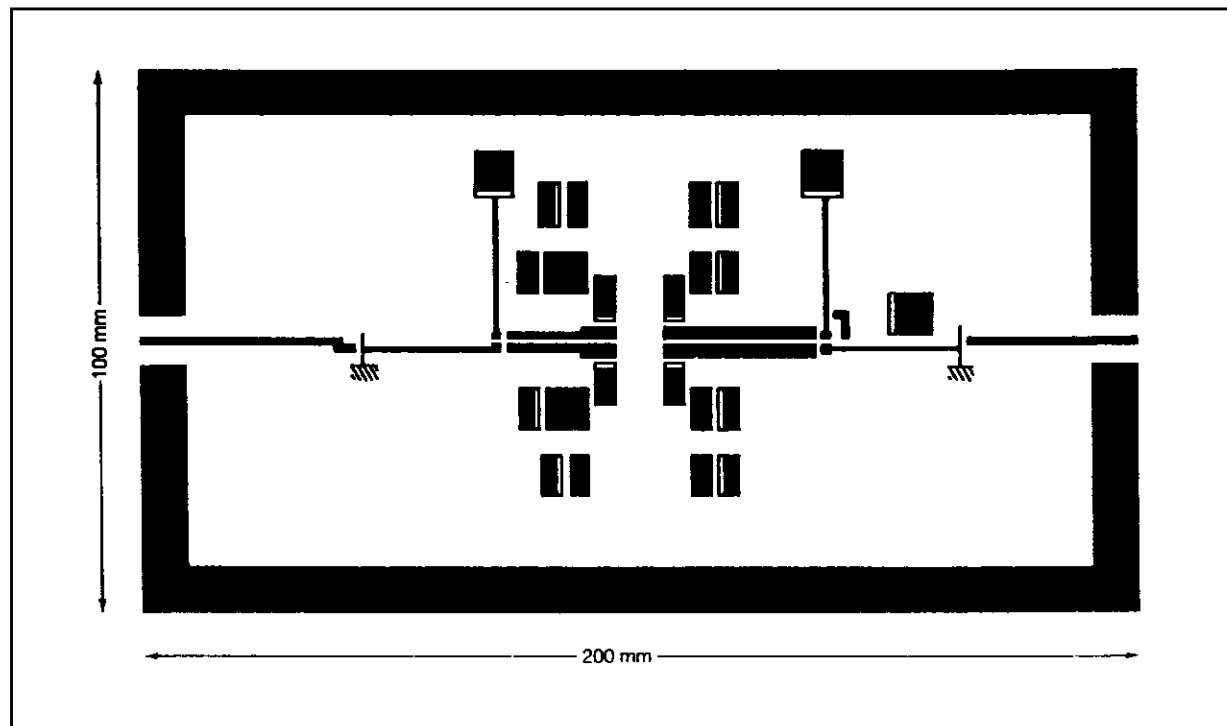


## SUPPLY CIRCUIT - CLASS A ADJUSTABLE (per side)



C1, C2, C4,	P1	: 1k $\Omega$
C5, C6	R1	: 56 $\Omega$ , 1/2W
C3	R2	: 5600 $\Omega$ , 1/2W
C7	R3	: 2.2 $\Omega$ , 3W
D1	R4, R5	: 56 $\Omega$ , 1W
L1, L2	T1	: BDX 54 B

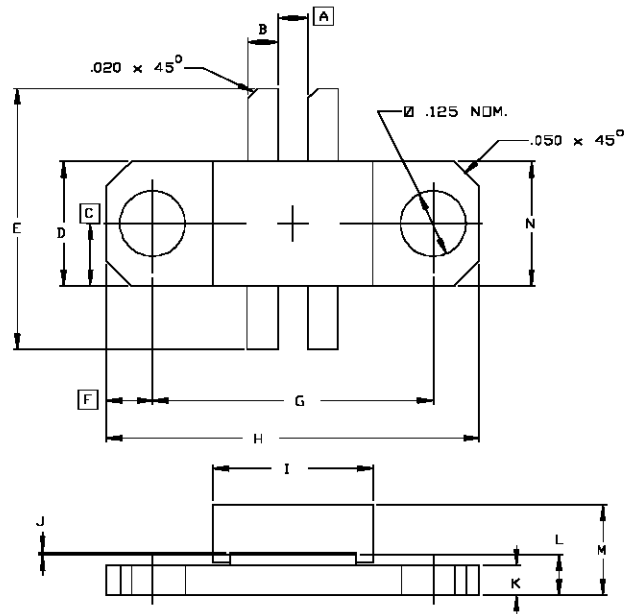
## PHOTOMASTER OF TEST CIRCUIT



# SD1732 (TDS595)

## PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0156



SGS-THOMSON MICROELECTRONICS		CONT'D			
	MINIMUM Inches/mm	MAXIMUM Inches/mm		MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.060/1,52		K	.055/1,40	.065/1,65
B	.055/1,40	.065/1,65	L	.075/1,91	.095/2,41
C	.124/3,15		M	.190/4,83	
D	.243/6,17	.253/6,43	N	.245/6,22	.257/6,53
E	.635/16,13	.665/16,89			
F	.092/2,34				
G	.555/14,10	.565/14,35			
H	.739/18,77	.749/19,02			
I	.315/8,00	.327/8,31			
J	.002/0,05	.006/0,15			

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