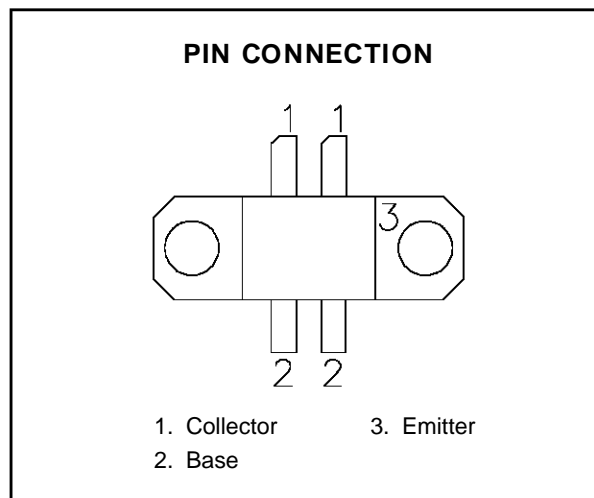
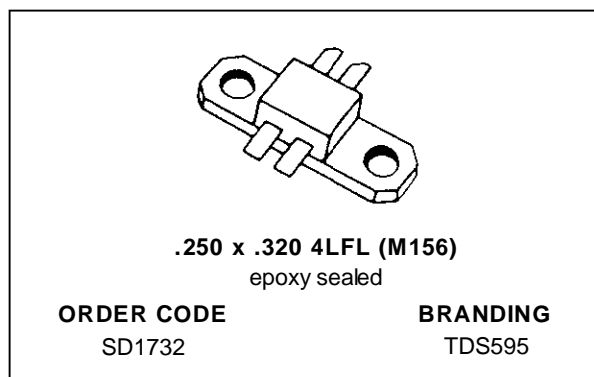


RF & MICROWAVE TRANSISTORS TV LINEAR APPLICATIONS

- 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 ($T_{\text{case}} = 25^{\circ}\text{C}$)

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	$I_{\text{C}} = 20\text{mA}$	$I_{\text{E}} = 0\text{mA}$	45	—	—	V
BV_{CEO}	$I_{\text{C}} = 40\text{mA}$	$I_{\text{B}} = 0\text{mA}$	25	—	—	V
BV_{EBO}	$I_{\text{E}} = 5\text{mA}$	$I_{\text{C}} = 0\text{mA}$	3.0	—	—	V
h_{FE}	$V_{\text{CE}} = 20\text{V}$	$I_{\text{C}} = 0.5\text{A}$	10	—	—	—

DYNAMIC

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

Note: *IMD 3 Tone Testing

Vision Carrier -8 dB ref

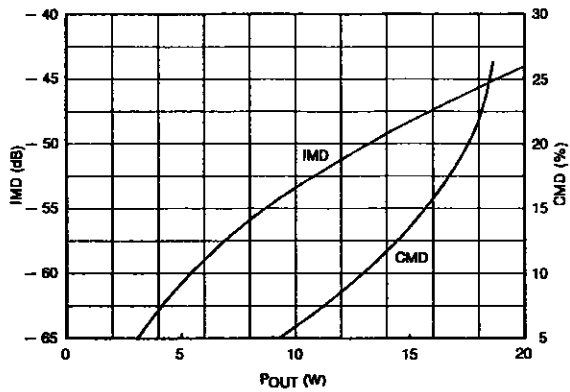
Sound Carrier -7 dB ref

Sideband Carrier -16 dB ref

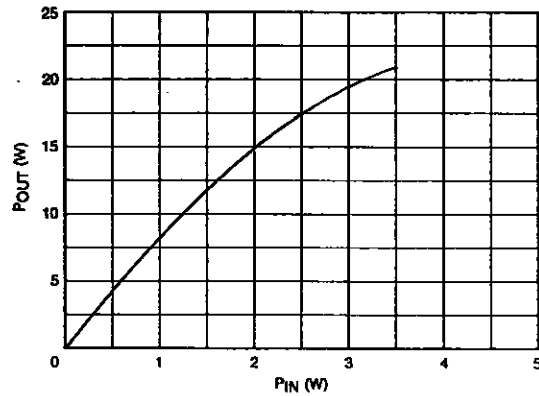
** CMD: Cross Modulation Distortion of the Voltage Variation (%) of Sound Carrier When Vision Carrier is Switched from 0 to -20 dB

TYPICAL PERFORMANCE

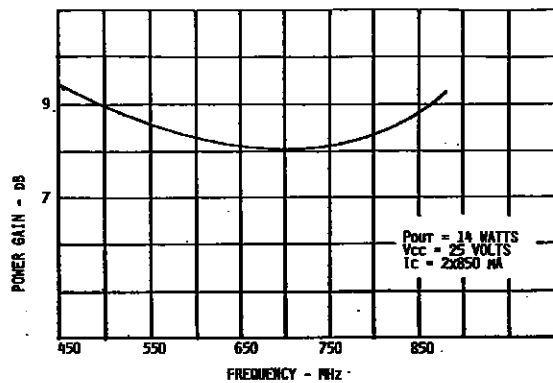
INTERMODULATION DISTORTION & CROSS MODULATION DISTORTION vs POWER OUTPUT



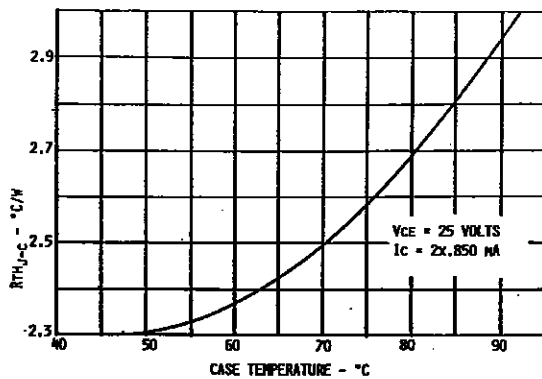
POWER OUTPUT vs POWER INPUT



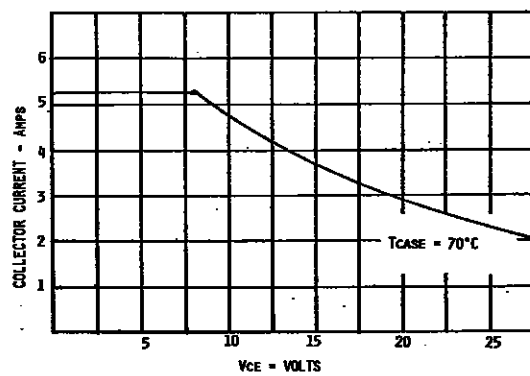
BROADBAND POWER GAIN vs FREQUENCY



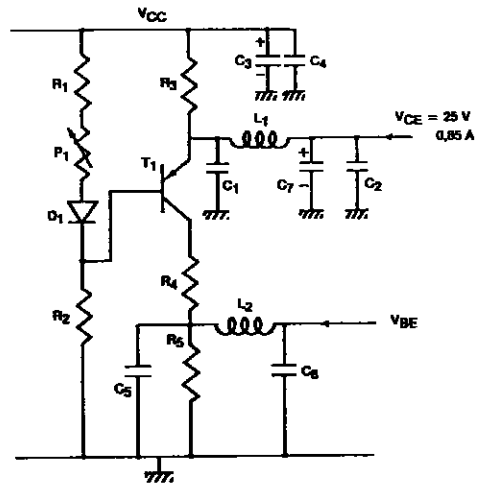
THERMAL RESISTANCE vs CASE TEMPERATURE



SAFE OPERATING AREA

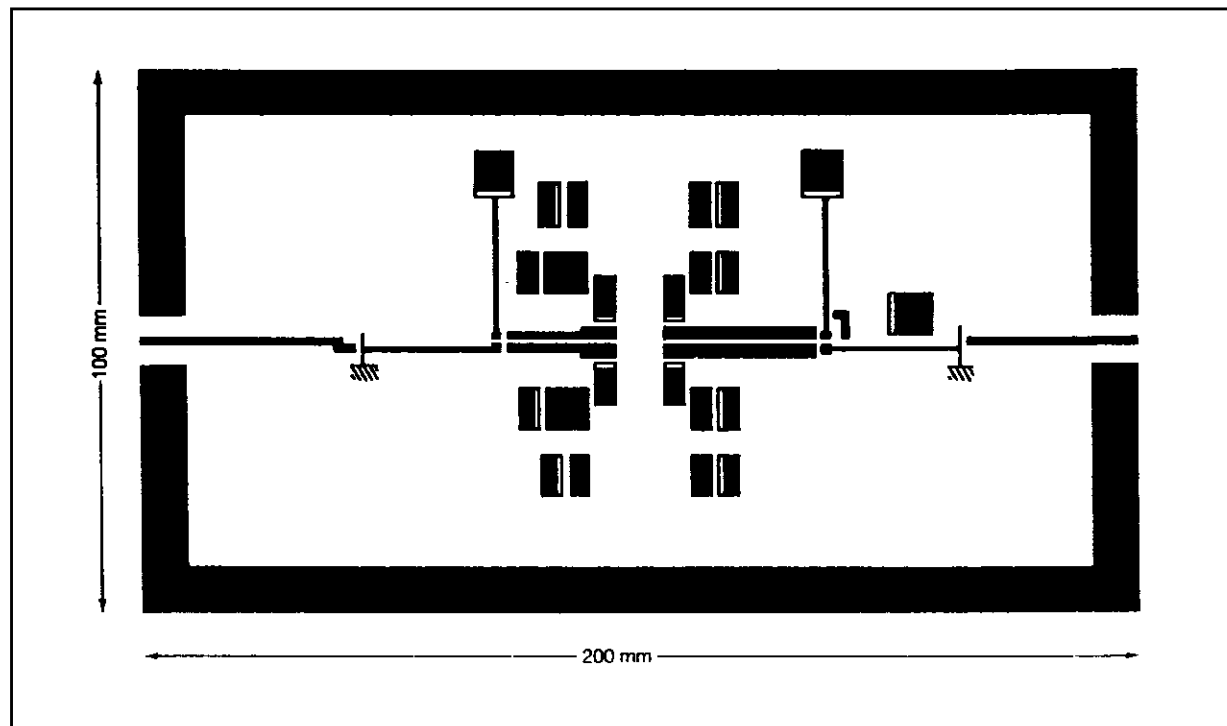


SUPPLY CIRCUIT - CLASS A ADJUSTABLE (per side)



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

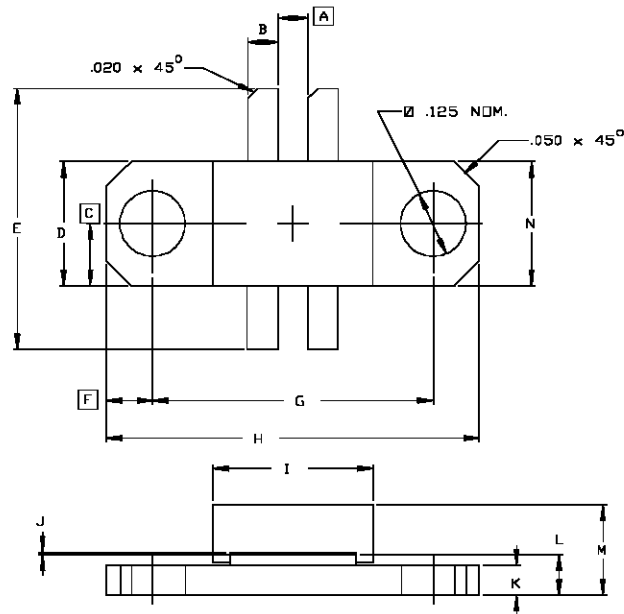
PHOTOMASTER OF TEST CIRCUIT



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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