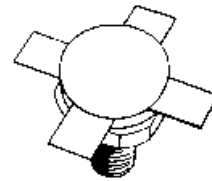


RF & MICROWAVE TRANSISTORS TV/LINEAR APPLICATIONS

- 170 - 230 MHz
- 28 VOLTS
- COMMON EMITTER
- GOLD METALLIZATION
- HIGH SATURATED POWER CAPABILITY
- DIFFUSED EMITTER BALLAST RESISTORS
- $P_{OUT} = 20\text{ W MIN. WITH } 7.5\text{ dB GAIN}$



.500 Dia .550 4L STUD (M164)
epoxy sealed

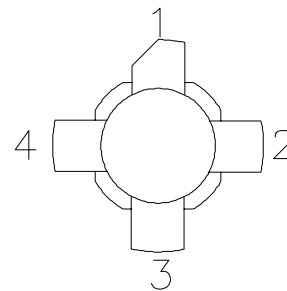
ORDER CODE
SD1459

BRANDING
SD1459

DESCRIPTION

The SD1459 is a gold metallized epitaxial silicon NPN planar transistor using diffused emitter ballast resistors for high linearity Class A operation in VHF and Band III television transmitters and transposers.

PIN CONNECTION



1. Collector	3. Base
2. Emitter	4. Emitter

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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	30	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Device Current	16	A
P_{DISS}	Power Dissipation	150	W
T_J	Junction Temperature	+200	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	- 65 to +150	$^{\circ}\text{C}$

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	1.2	$^{\circ}\text{C/W}$
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ELECTRICAL SPECIFICATIONS ($T_{\text{case}} = 25^{\circ}\text{C}$)**STATIC**

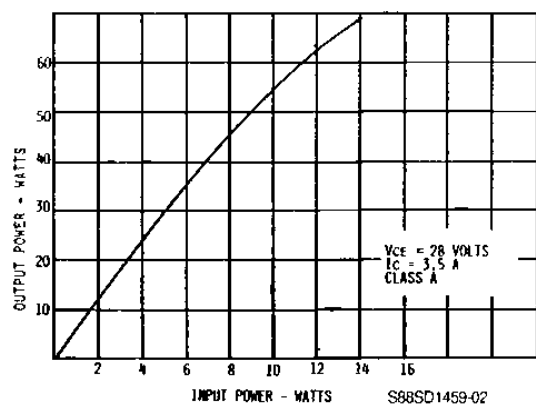
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	$I_{\text{C}} = 100 \text{ mA}$	$I_{\text{E}} = 0 \text{ mA}$	60	—	—	V
BV_{CEO}	$I_{\text{C}} = 100 \text{ mA}$	$I_{\text{B}} = 0 \text{ mA}$	30	—	—	V
BV_{CER}	$I_{\text{C}} = 100 \text{ mA}$	$R_{\text{BE}} = 10\Omega$	60	—	—	V
BV_{EBO}	$I_{\text{E}} = 20 \text{ mA}$	$I_{\text{C}} = 0 \text{ mA}$	4.0	—	—	V
h_{FE}	$V_{\text{CE}} = 5 \text{ V}$	$I_{\text{C}} = 1 \text{ A}$	10	—	120	—

DYNAMIC

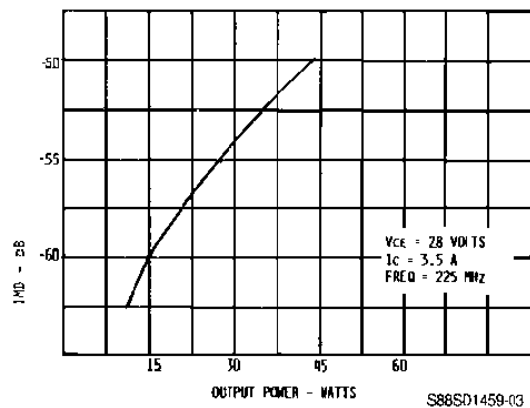
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	$f = 225 \text{ MHz}$	$V_{\text{CE}} = 28 \text{ V}$	$I_{\text{C}} = 3.5 \text{ A}$	20	—	—	W
G_{P}	$f = 225 \text{ MHz}$	$V_{\text{CE}} = 28 \text{ V}$	$I_{\text{C}} = 3.5 \text{ A}$	7.5	—	8.0	dB
C_{OB}	$f = 1 \text{ MHz}$	$V_{\text{CB}} = 30 \text{ V}$		—	—	150	pf
Load Mismatch	$f = 225 \text{ MHz}$	$V_{\text{CE}} = 28 \text{ V}$	$I_{\text{C}} = 3.5 \text{ A}$	$\infty:1$	—	—	VSWR

TYPICAL PERFORMANCE

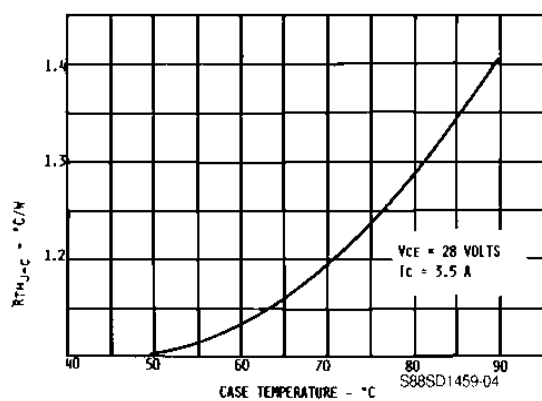
OUTPUT POWER vs INPUT POWER



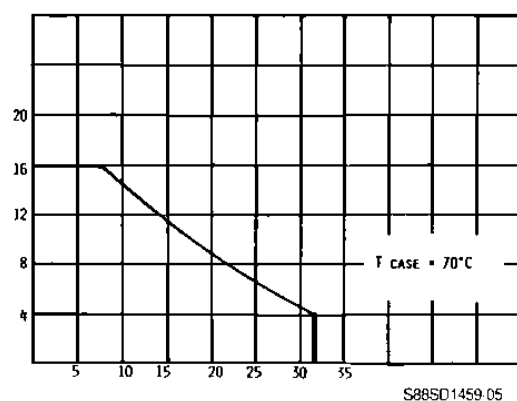
INTERMODULATION DISTORTION vs OUTPUT POWER



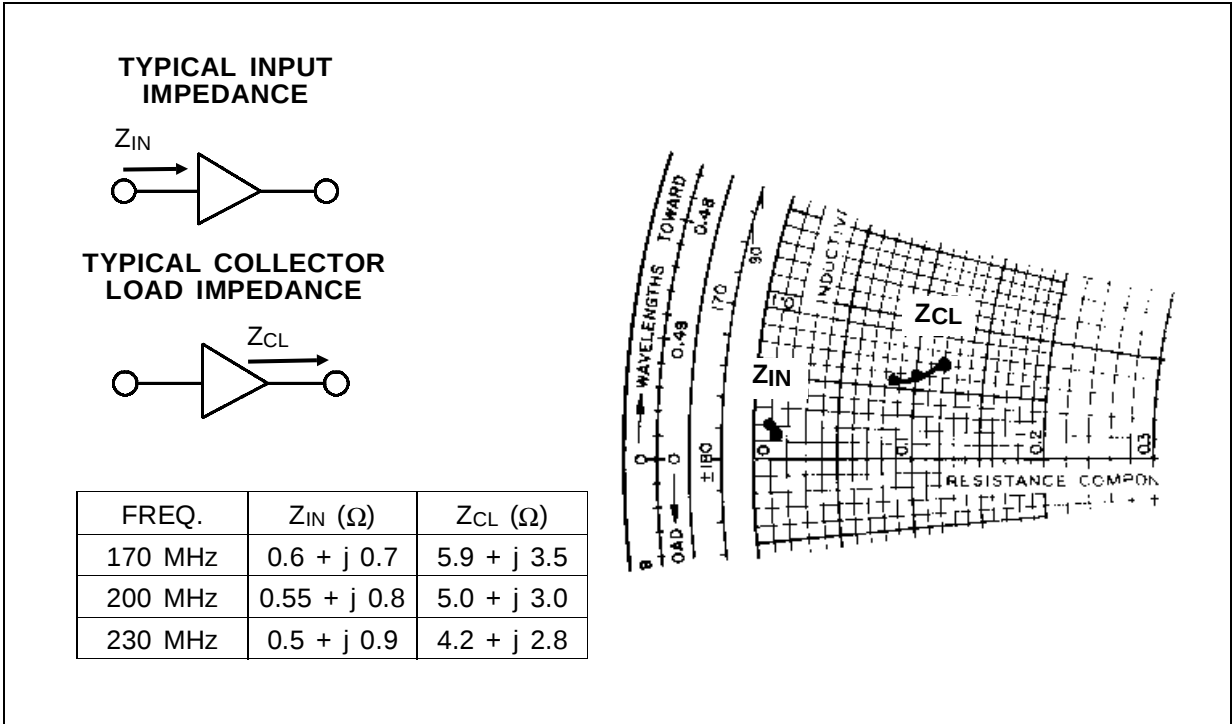
THERMAL RESISTANCE vs CASE TEMPERATURE



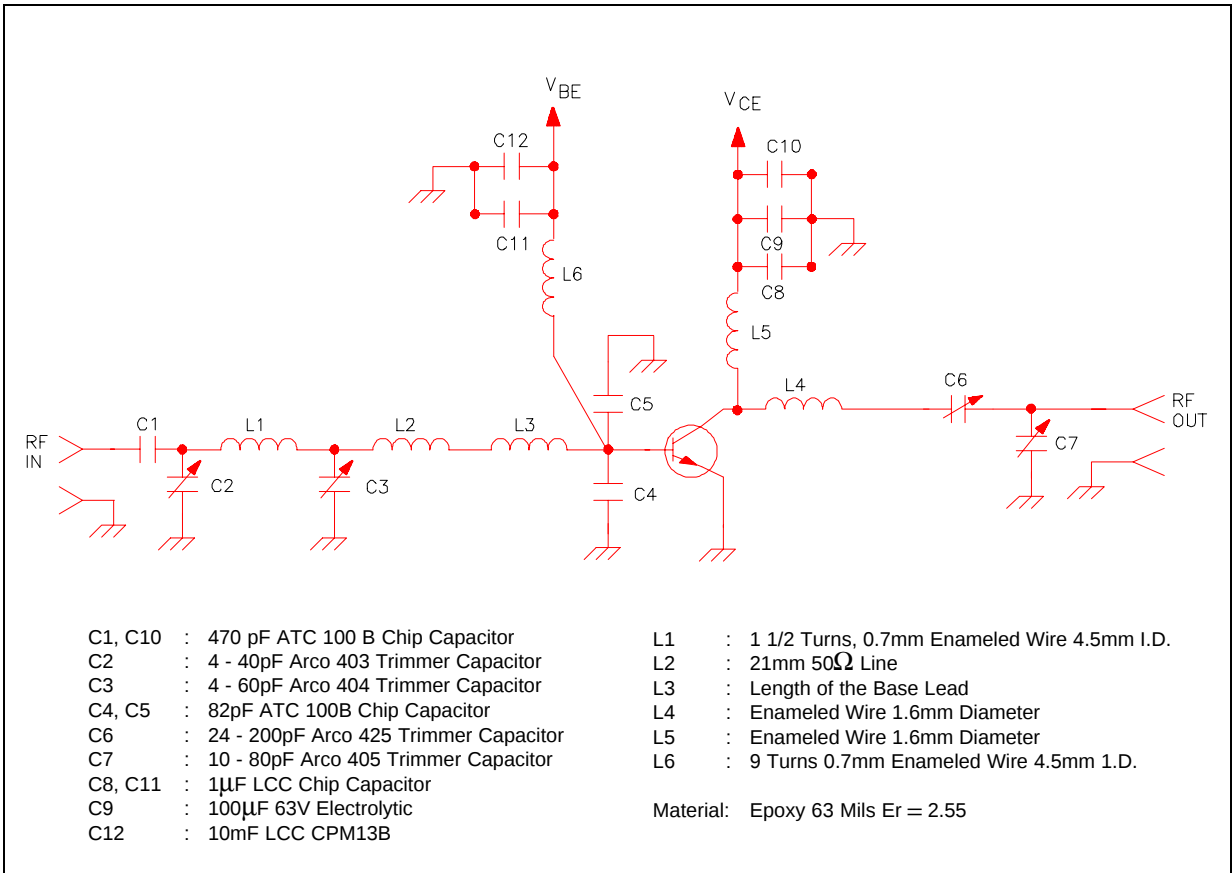
SAFE OPERATING AREA



IMPEDANCE DATA

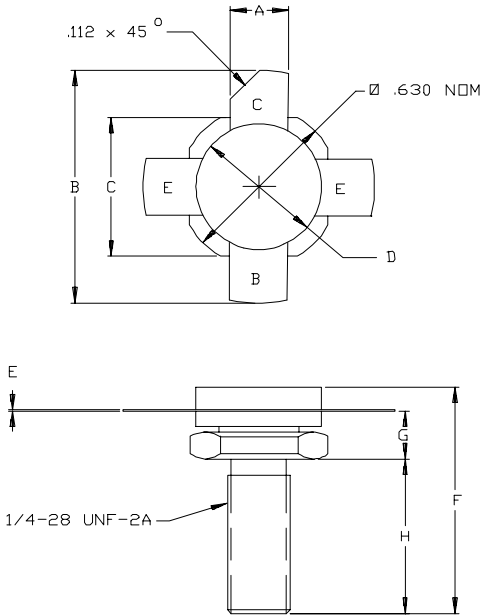


TEST CIRCUIT FOR 225 MHz



PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0164



SGS-THOMSON MICROELECTRONICS		
	MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.220/5,59	.230/5,84
B		1.050/26,67
C	.545/13,84	.555/14,10
D	.495/12,57	.505/12,83
E	.003/0,08	.007/0,18
F		.830/21,08
G	.185/4,70	.198/5,03
H	.497/12,62	.530/13,46

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