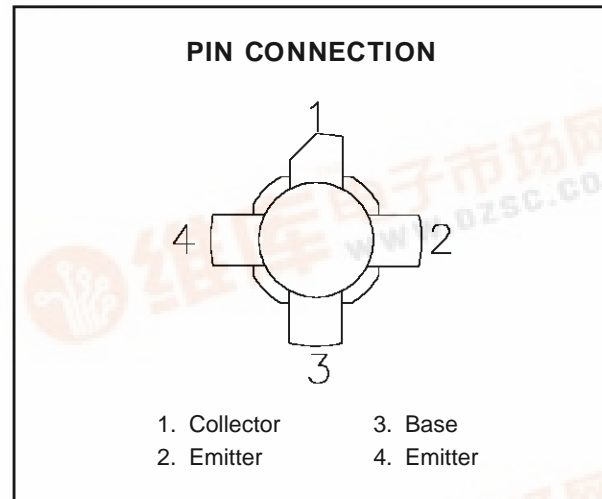
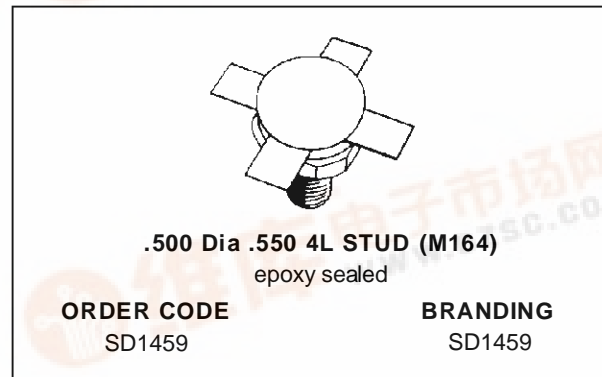




**SD1459**

**RF & MICROWAVE TRANSISTORS  
TV/LINEAR APPLICATIONS**

- 170 - 230 MHz
- 28 VOLTS
- COMMON EMITTER
- GOLD METALLIZATION
- HIGH SATURATED POWER CAPABILITY
- DIFFUSED EMITTER BALLAST RESISTORS
- P<sub>OUT</sub> = 20 W MIN. WITH 7.5 dB GAIN



**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.

**ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C)**

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	60	V
V <sub>CEO</sub>	Collector-Emitter Voltage	30	V
V <sub>EBO</sub>	Emitter-Base Voltage	4.0	V
I <sub>c</sub>	Device Current	16	A
P <sub>DISS</sub>	Power Dissipation	150	W
T <sub>J</sub>	Junction Temperature	+200	°C
T <sub>STG</sub>	Storage Temperature	- 65 to +150	°C

**THERMAL DATA**

R <sub>TH(j-c)</sub>	Junction-Case Thermal Resistance	1.2	°C/W
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## SD1459

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

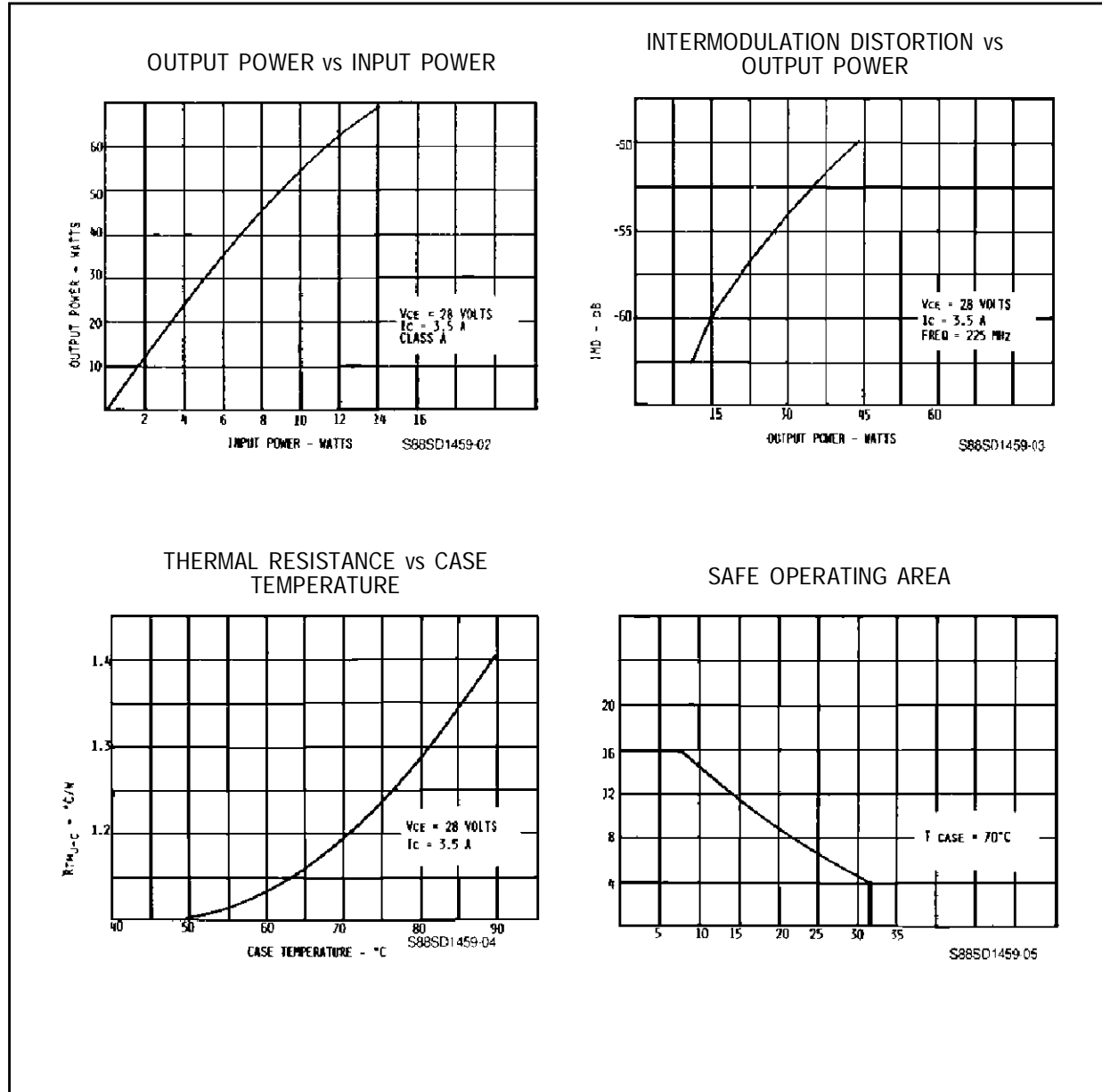
#### STATIC

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

#### DYNAMIC

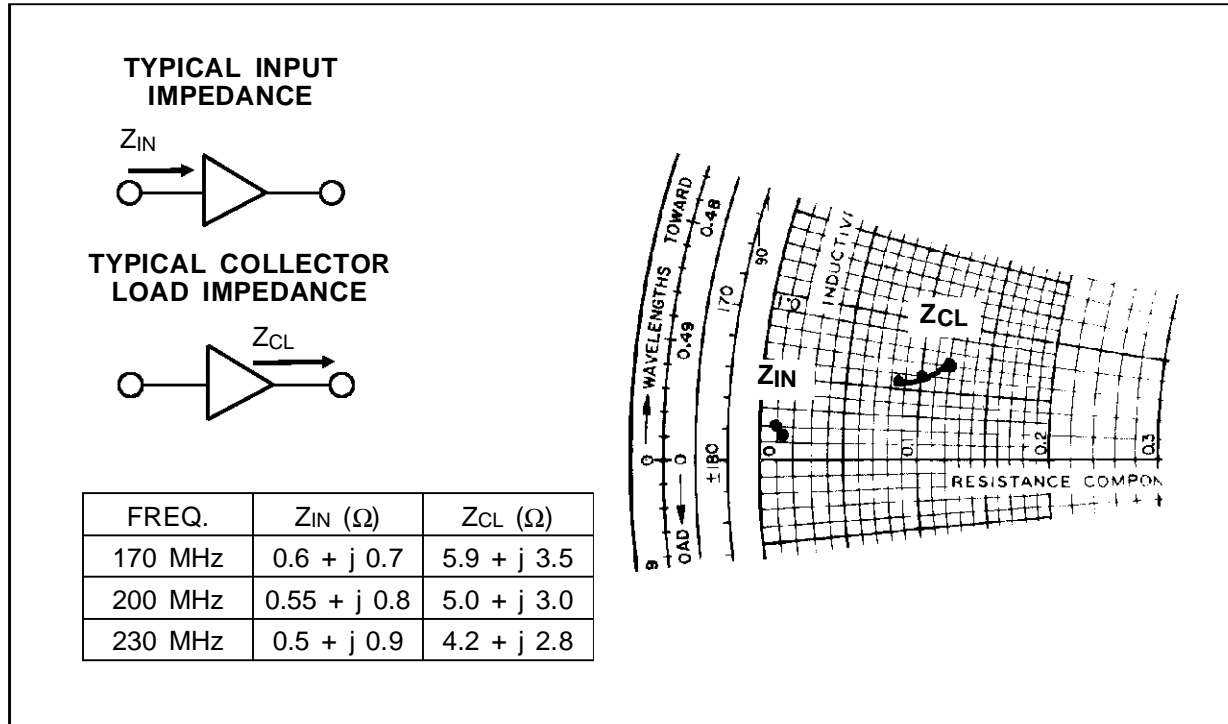
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
$P_{\text{OUT}}$	$f = 225 \text{ MHz}$	$V_{\text{CE}} = 28 \text{ V}$	$I_{\text{C}} = 3.5 \text{ A}$	20	—	—	W
$G_{\text{P}}$	$f = 225 \text{ MHz}$	$V_{\text{CE}} = 28 \text{ V}$	$I_{\text{C}} = 3.5 \text{ A}$	7.5	—	8.0	dB
$C_{\text{OB}}$	$f =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

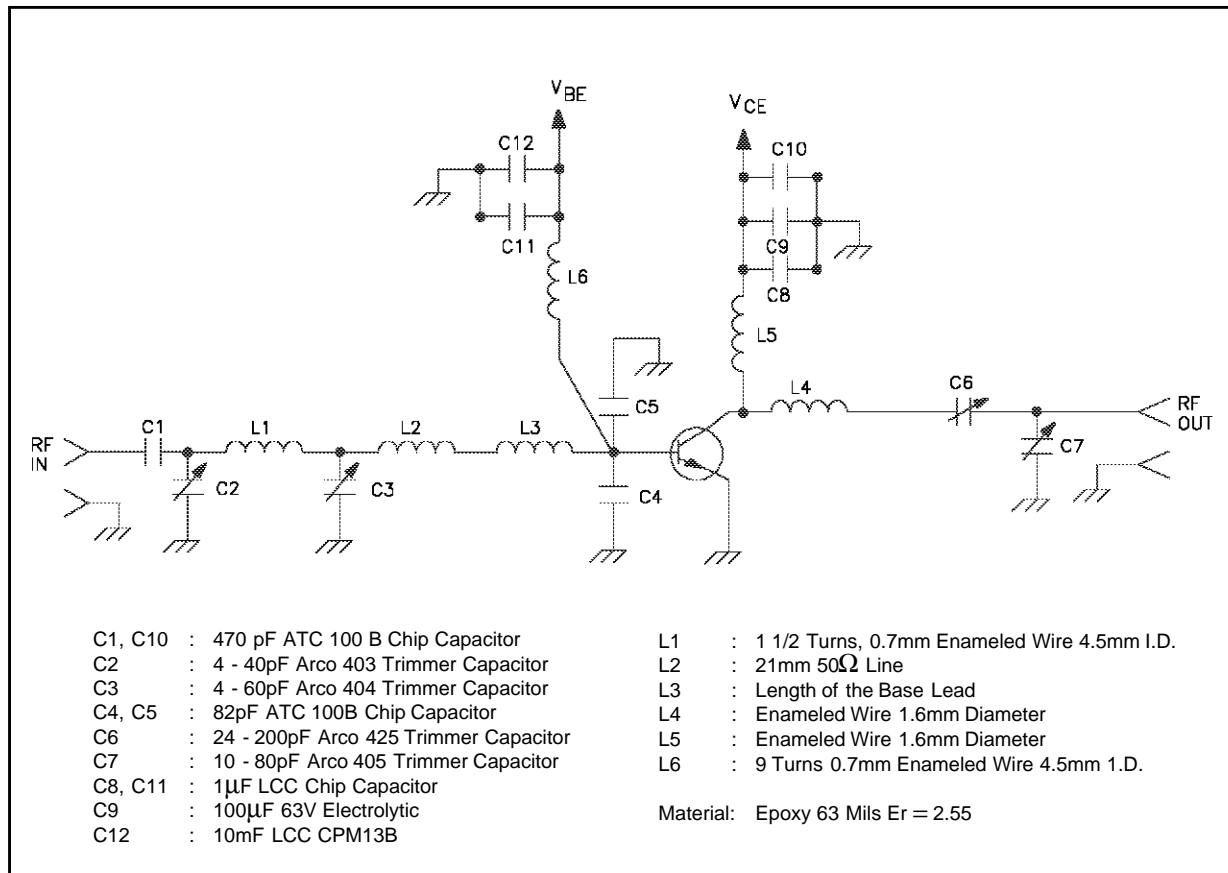


# SD1459

## IMPEDANCE DATA

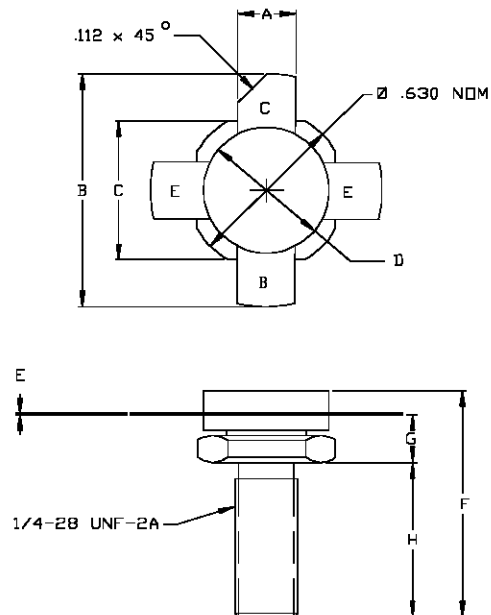


## TEST CIRCUIT FOR 225 MHz



## 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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