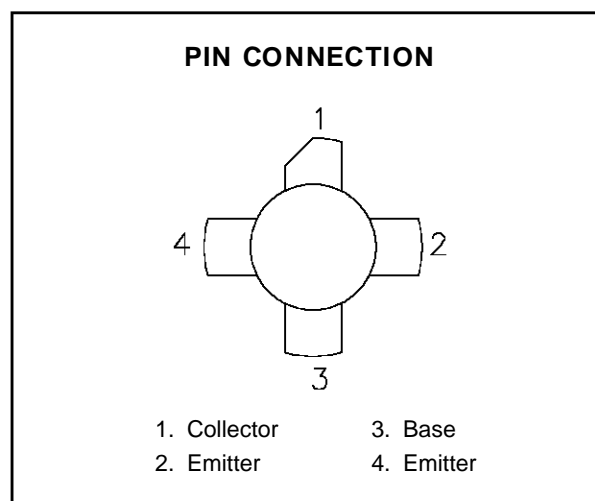
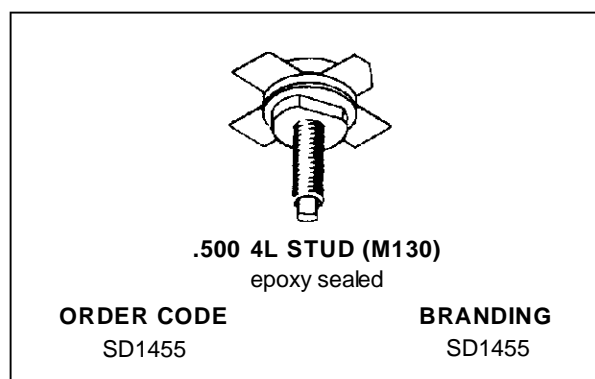


**RF & MICROWAVE TRANSISTORS  
TV/LINEAR APPLICATIONS**

- 170 - 230 MHz
- 25 VOLTS
- IMD – 55dB
- COMMON EMITTER
- GOLD METALLIZATION
- HIGH SATURATED POWER CAPABILITY
- DIFFUSED EMITTER BALLAST RESISTORS
- DESIGNED FOR HIGH POWER LINEAR OPERATION
- $P_{OUT} = 20 \text{ W MIN. WITH } 8.0 \text{ dB GAIN}$


**DESCRIPTION**

The SD1455 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** ( $T_{case} = 25^{\circ}\text{C}$ )

Symbol	Parameter	Value	Unit
$V_{CEO}$	Collector-Emitter Voltage	35	V
$V_{CES}$	Collector-Emitter Voltage	60	V
$V_{EBO}$	Emitter-Base Voltage	4.0	V
$I_C$	Device Current	8.0	A
$P_{DISS}$	Power Dissipation	140	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	1.5	$^{\circ}\text{C/W}$
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# SD1455

## ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = 25°C)

### STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV <sub>CBO</sub>	I <sub>C</sub> = 50 mA	I <sub>E</sub> = 0 mA	65	—	—	V
BV <sub>CER</sub>	I <sub>C</sub> = 50 mA	R <sub>BE</sub> = 10 Ω	60	—	—	V
BV <sub>CEO</sub>	I <sub>C</sub> = 50 mA	I <sub>B</sub> = 0 mA	35	—	—	V
BV <sub>EBO</sub>	I <sub>E</sub> = 10 mA	I <sub>C</sub> = 0 mA	4.0	—	—	V
I <sub>CES</sub>	V <sub>CE</sub> = 50 V	V <sub>BE</sub> = 0 V	—	—	5	mA
h <sub>FE</sub>	V <sub>CE</sub> = 5 V	I <sub>C</sub> = 1 A	20	—	120	—

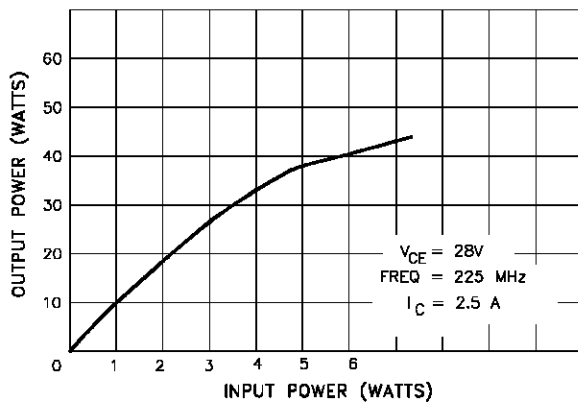
### DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P <sub>OUT</sub>	f = 225 MHz	V <sub>CE</sub> = 25 V	I <sub>C</sub> = 2.5 A	20	—	—	W
G <sub>P</sub>	f = 225 MHz	V <sub>CE</sub> = 25 V	I <sub>C</sub> = 2.5 A	8.0	9.0	—	dB
IMD <sub>3</sub> *	P <sub>OUT</sub> = 14 W	V <sub>CE</sub> = 25 V	I <sub>C</sub> = 2.5 A	—	-55	—	dBc
COB	f = 1 MHz	V <sub>CB</sub> = 30 V		—	—	85	pF

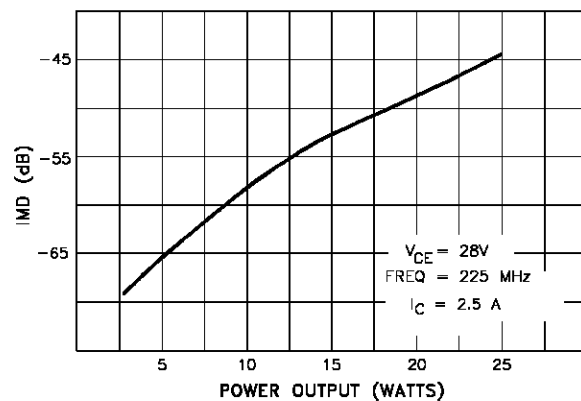
Note: \* f = 225 MHz  
 3 Tone Testing  
 Vision Carrier -8dB/ref  
 Sound Carrier -7dB/ref  
 Sideband Carrier -16dB/ref

### TYPICAL PERFORMANCE

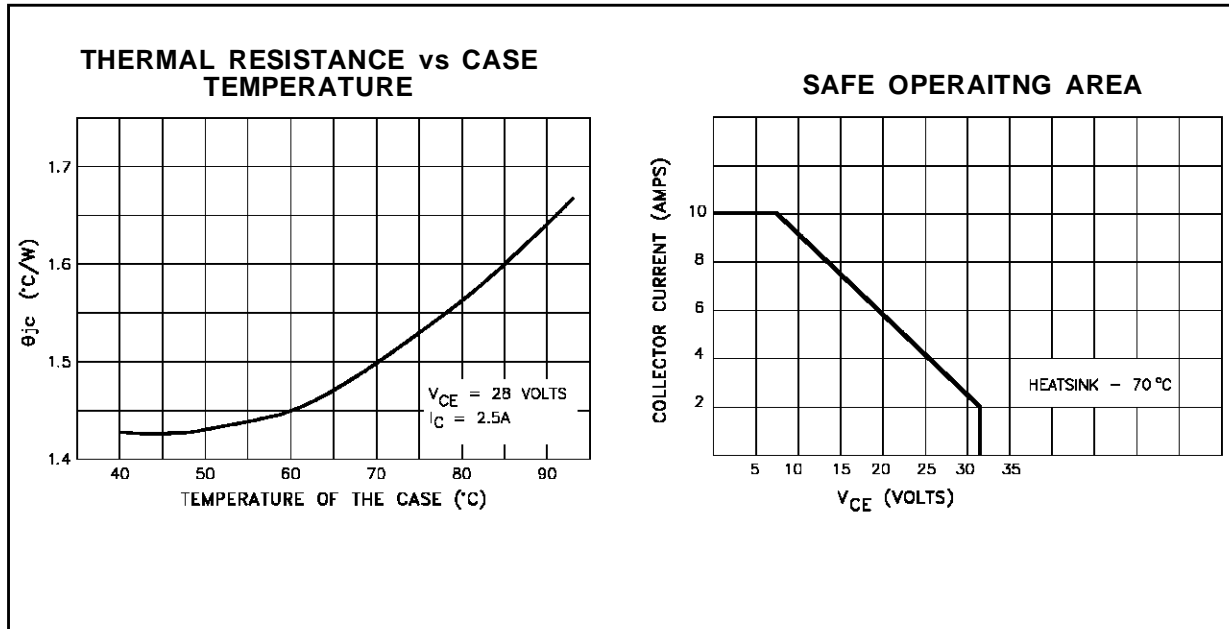
**POWER OUTPUT vs POWER INPUT**



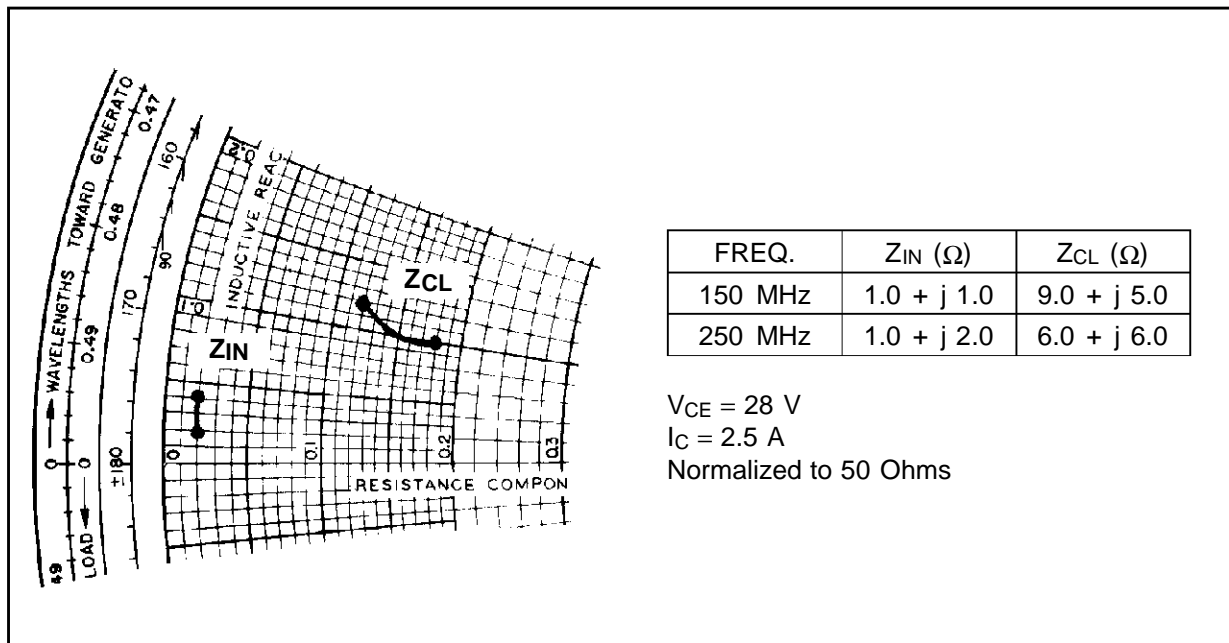
**INTERMODULATION DISTORTION vs POWER OUTPUT**



TYPICAL PERFORMANCE (CONT'D)

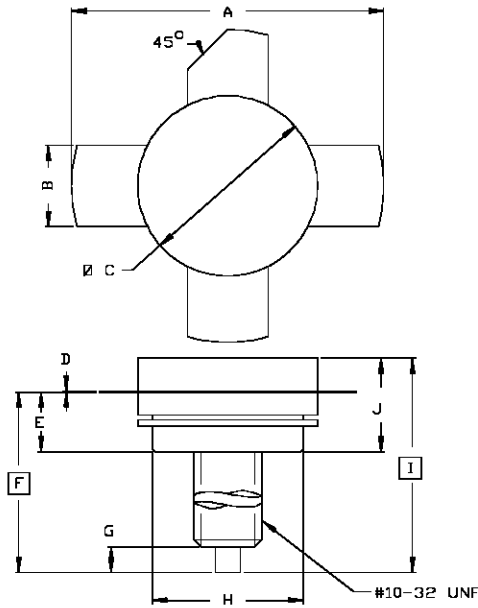


IMPEDANCE DATA



PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0130



SGS-THOMSON MICROELECTRONICS		
	MINIMUM Inches/mm	MAXIMUM Inches/mm
A	1.010/25,65	1.050/26,67
B	.220/5,59	.230/5,84
C	.495/12,57	.505/12,83
D	.003/0,08	.007/0,18
E	.160/4,06	.180/4,57
F	.622/15,80	
G	.100/2,54	.130/3,31
H	.415/10,54	.425/10,80
I	.720/18,29	
J	.250/6,35	.290/7,37

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