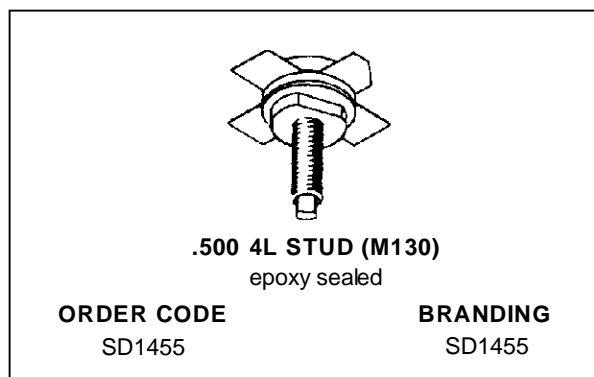


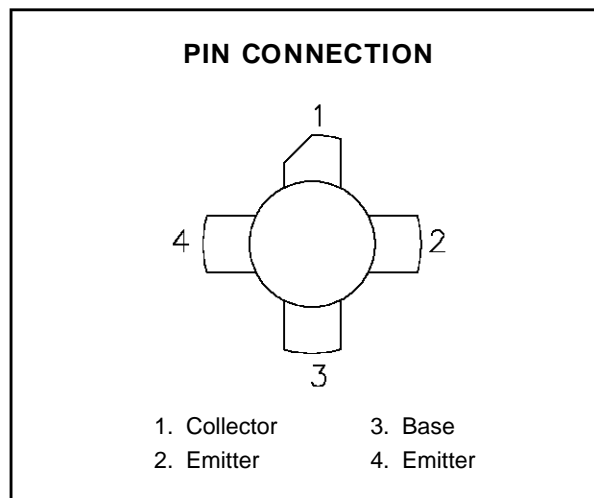
## RF & MICROWAVE TRANSISTORS TV/LINEAR APPLICATIONS

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

#### STATIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
$BV_{CBO}$	$I_C = 50 \text{ mA}$ $I_E = 0 \text{ mA}$	65	—	—	V
$BV_{CER}$	$I_C = 50 \text{ mA}$ $R_{BE} = 10 \Omega$	60	—	—	V
$BV_{CEO}$	$I_C = 50 \text{ mA}$ $I_B = 0 \text{ mA}$	35	—	—	V
$BV_{EBO}$	$I_E = 10 \text{ mA}$ $I_C = 0 \text{ mA}$	4.0	—	—	V
$I_{CES}$	$V_{CE} = 50 \text{ V}$ $V_{BE} = 0 \text{ V}$	—	—	5	mA
$h_{FE}$	$V_{CE} = 5 \text{ V}$ $I_C = 1 \text{ A}$	20	—	120	—

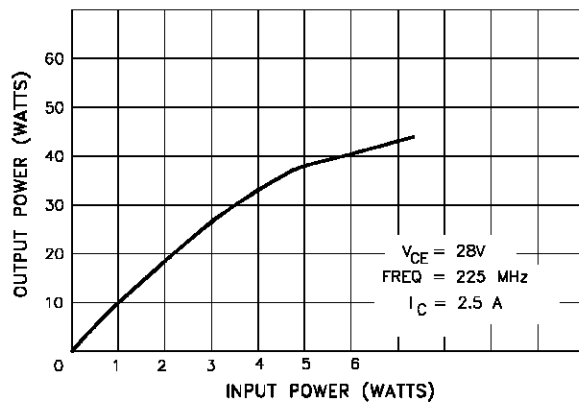
#### DYNAMIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
$P_{OUT}$	$f = 225 \text{ MHz}$ $V_{CE} = 25 \text{ V}$ $I_C = 2.5 \text{ A}$	20	—	—	W
$G_P$	$f = 225 \text{ MHz}$ $V_{CE} = 25 \text{ V}$ $I_C = 2.5 \text{ A}$	8.0	9.0	—	dB
$IMD_3^*$	$P_{OUT} = 14 \text{ W}$ $V_{CE} = 25 \text{ V}$ $I_C = 2.5 \text{ A}$	—	-55	—	dBc
$C_{OB}$	$f = 1 \text{ MHz}$ $V_{CB} = 30 \text{ V}$	—	—	85	pF

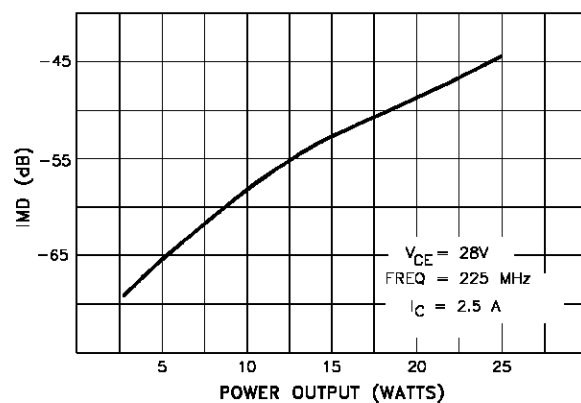
Note: \*  $f = 225 \text{ MHz}$   
 3 Tone Testing  
 Vision Carrier -8dB/ref  
 Sound Carrier -7dB/ref  
 Sideband Carrier -16dB/ref

#### TYPICAL PERFORMANCE

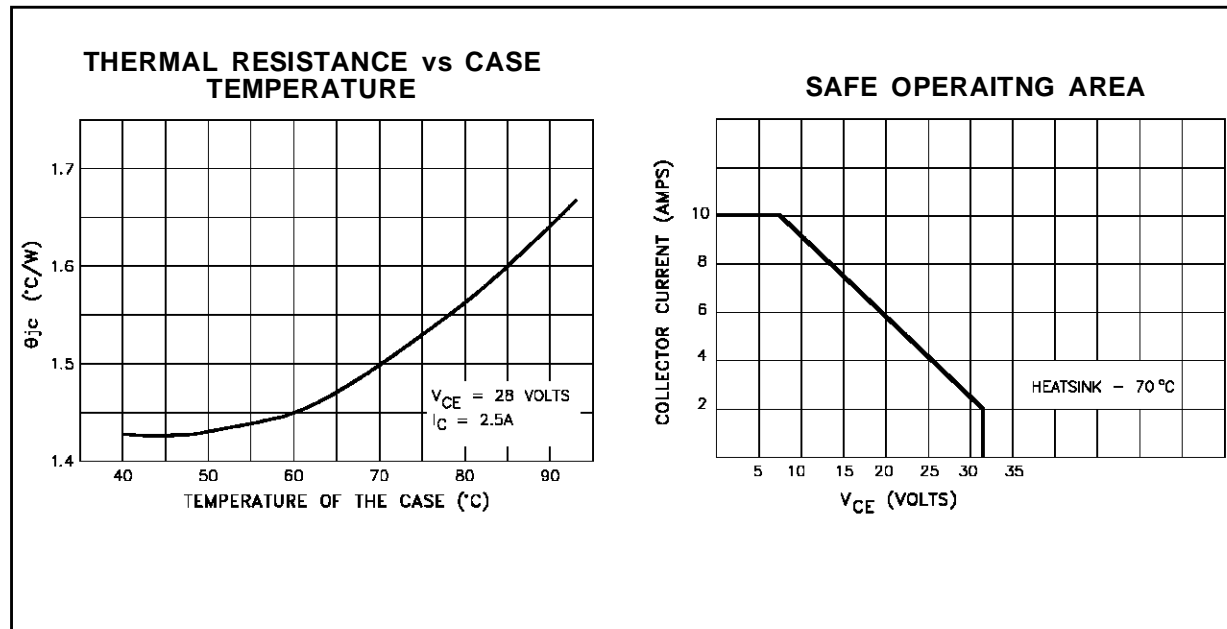
POWER OUTPUT vs POWER INPUT



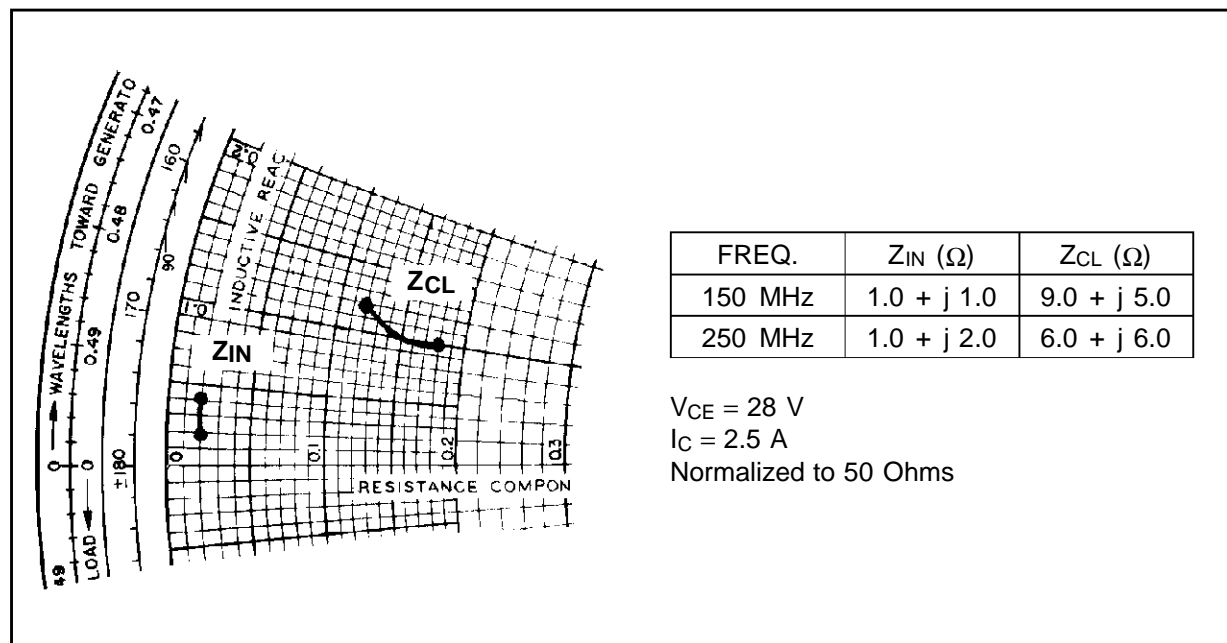
INTERMODULATION DISTORTION vs POWER OUTPUT



## TYPICAL PERFORMANCE (CONT'D)

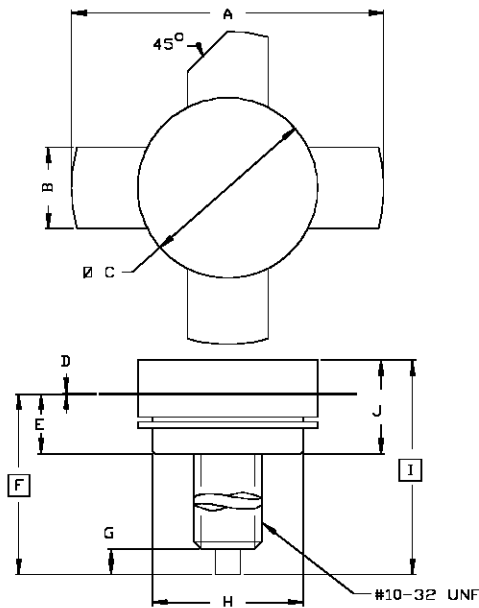


## IMPEDANCE DATA



## 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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