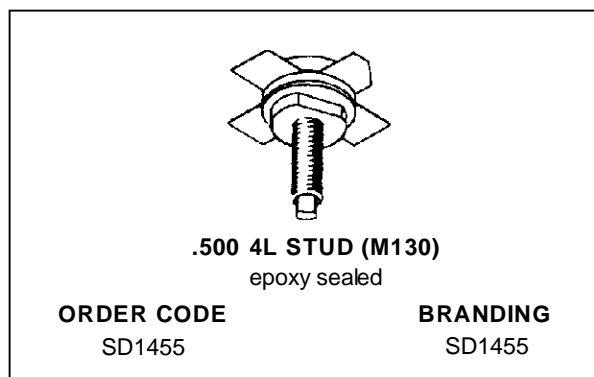


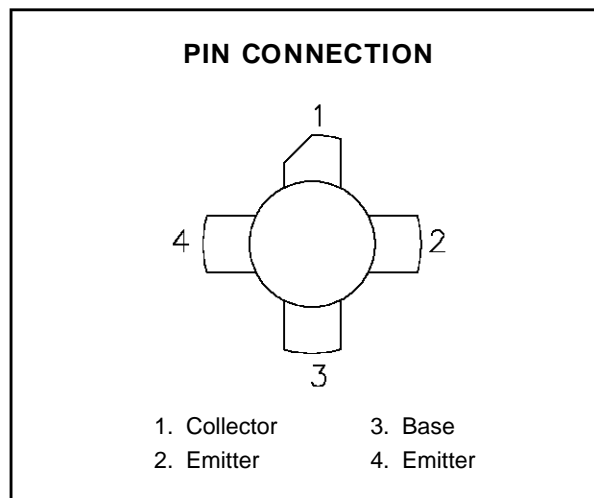
RF & MICROWAVE TRANSISTORS TV/LINEAR APPLICATIONS

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

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	—

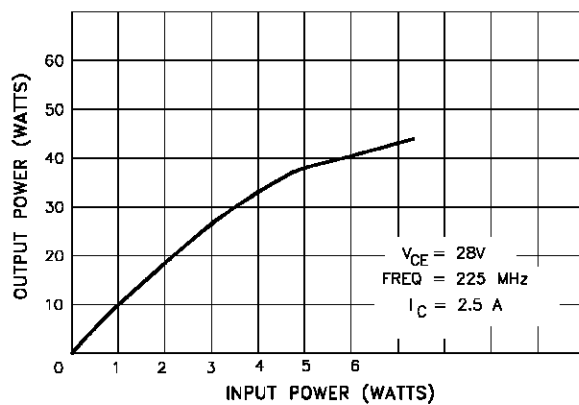
DYNAMIC

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

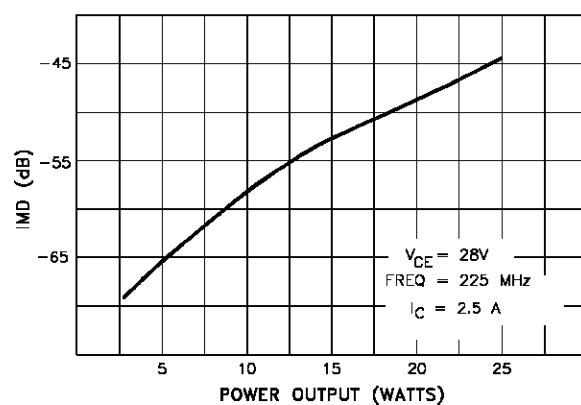
Note: * $f = 225 \text{ MHz}$
3 Tone Testing
Vision Carrier -8dB/ref
Sound Carrier -7dB/ref
Sideband Carrier -16dB/ref

TYPICAL PERFORMANCE

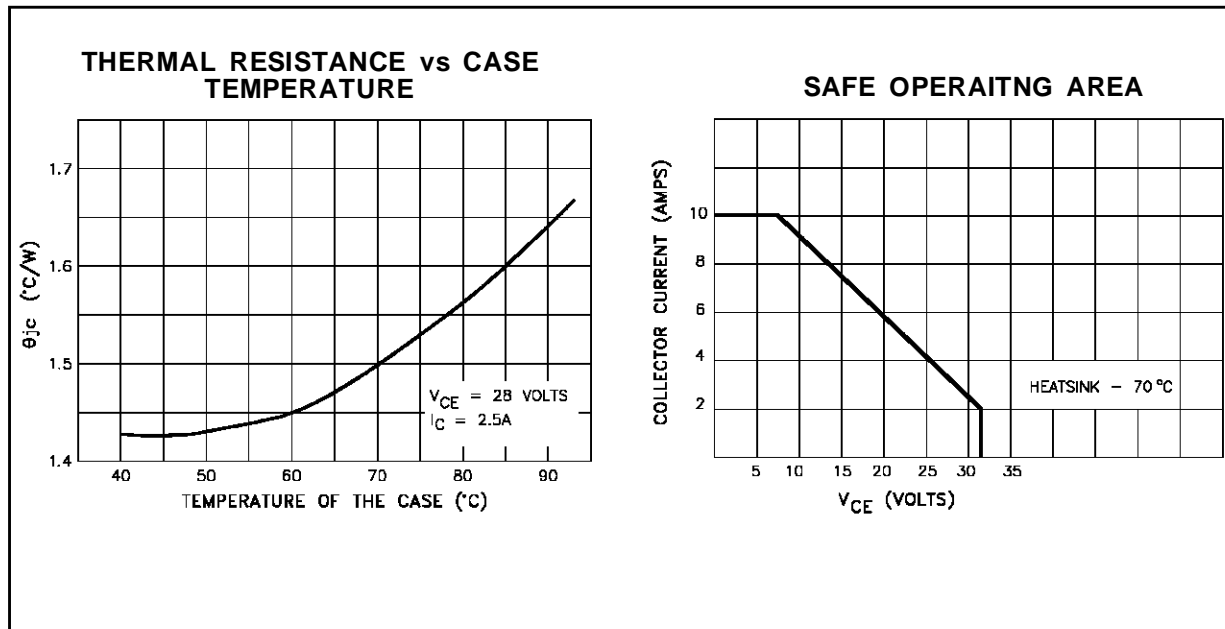
POWER OUTPUT vs POWER INPUT



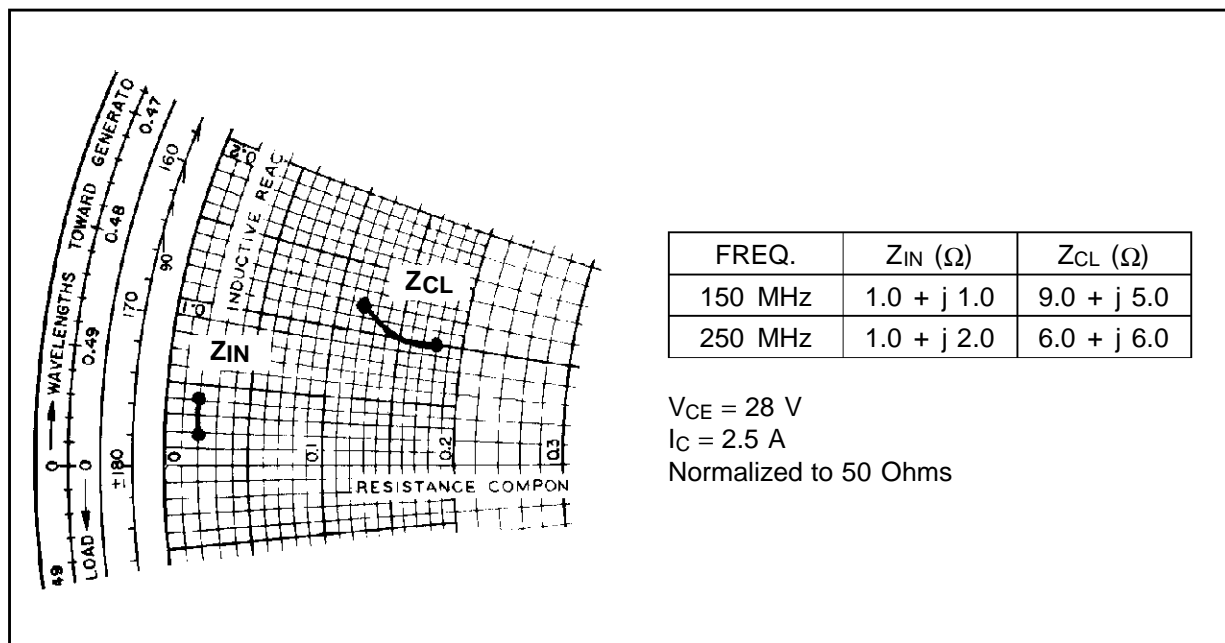
INTERMODULATION DISTORTION vs POWER OUTPUT



TYPICAL PERFORMANCE (CONT'D)

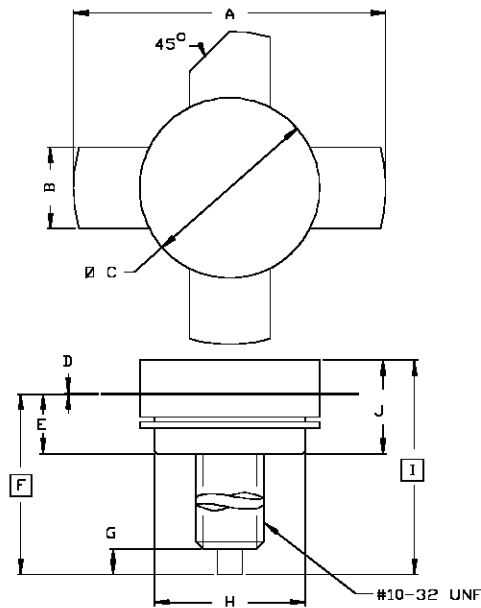


IMPEDANCE DATA



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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