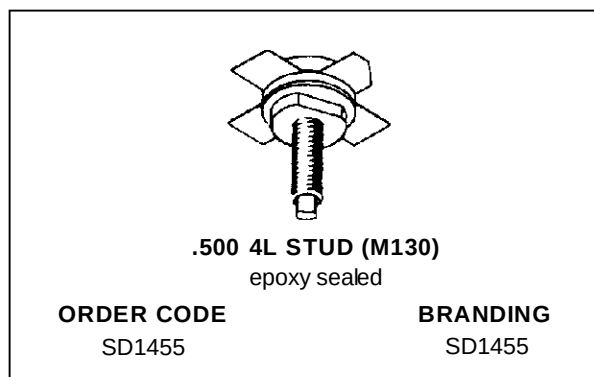


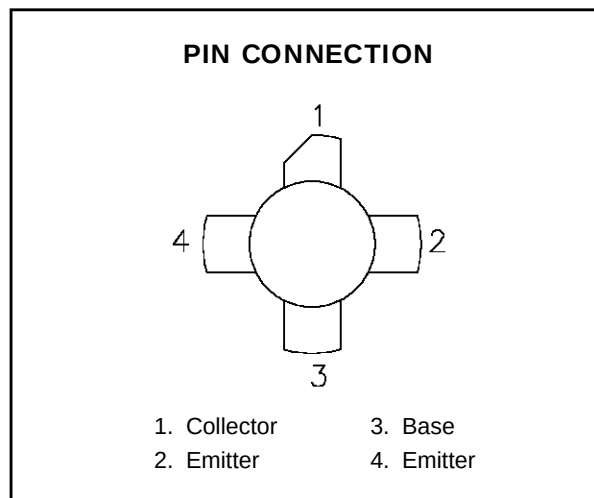
RF & MICROWAVE TRANSISTORS TV/LINEAR APPLICATIONS

- 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	$^{\circ}\text{C/W}$
---------------	----------------------------------	-----	----------------------

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	—

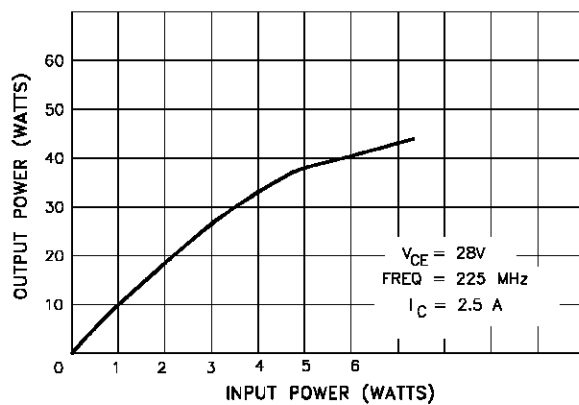
DYNAMIC

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

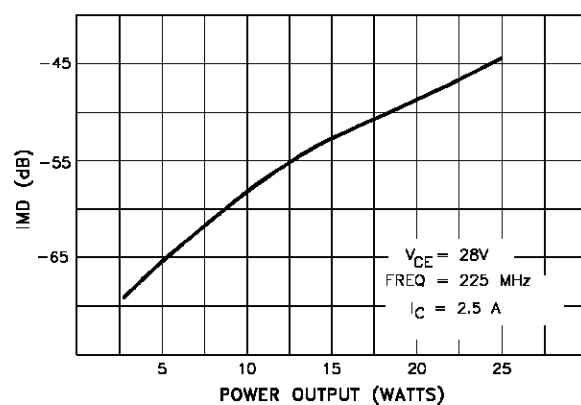
Note: * $f = 225\text{ MHz}$
 3 Tone Testing
 Vision Carrier -8dB/ref
 Sound Carrier -7dB/ref
 Sideband Carrier -16dB/ref

TYPICAL PERFORMANCE

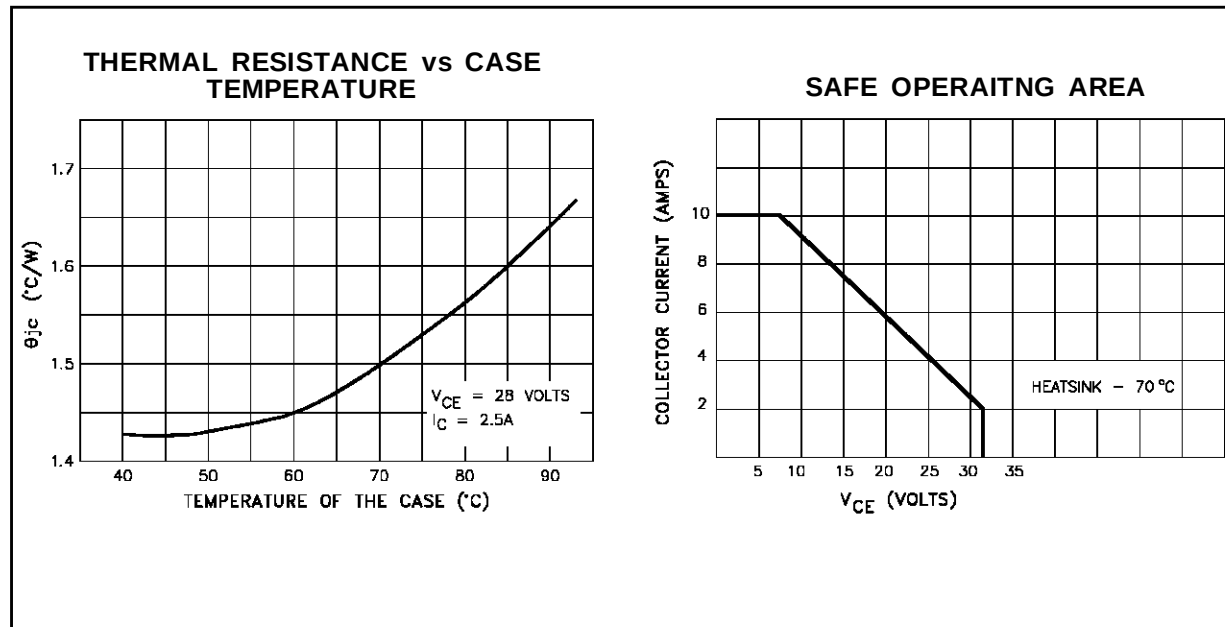
POWER OUTPUT vs POWER INPUT



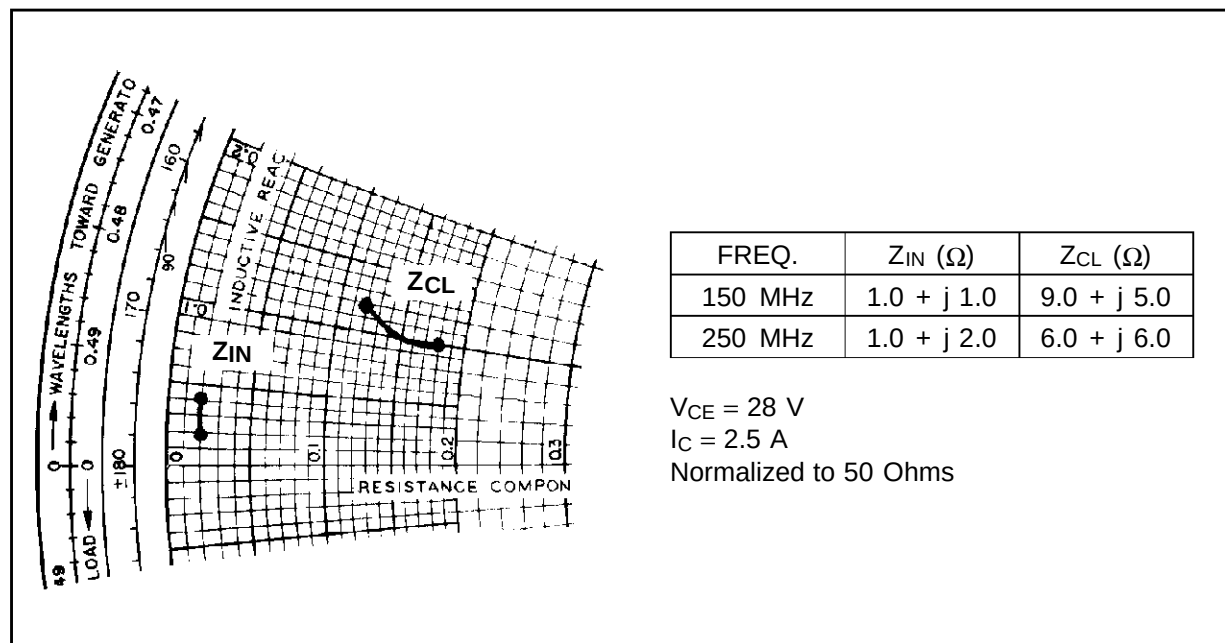
INTERMODULATION DISTORTION vs POWER OUTPUT



TYPICAL PERFORMANCE (CONT'D)

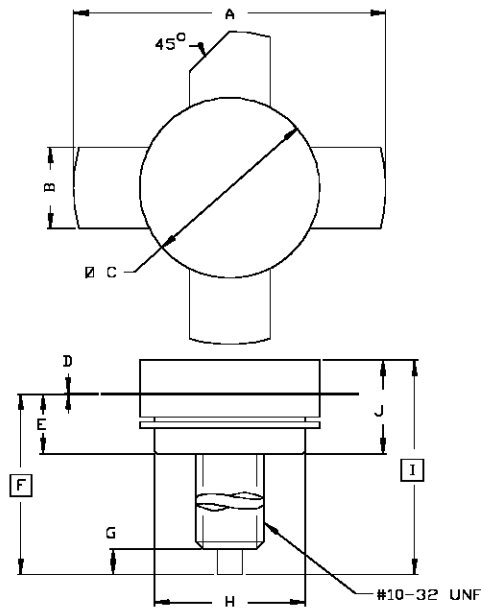


IMPEDANCE DATA



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

Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of SGS-THOMSON Microelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. SGS-THOMSON Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of SGS-THOMSON Microelectronics.

© 1994 SGS-THOMSON Microelectronics - All Rights Reserved

SGS-THOMSON Microelectronics GROUP OF COMPANIES

Australia - Brazil - France - Germany - Hong Kong - Italy - Japan - Korea - Malaysia - Malta - Morocco - The Netherlands - Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A