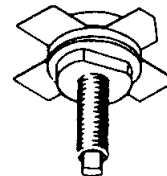


RF & MICROWAVE TRANSISTORS TV/LINEAR APPLICATIONS

- 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
- $P_{OUT} = 20 \text{ W MIN. WITH } 8.0 \text{ dB GAIN}$



.500 4L STUD (M130)
epoxy sealed

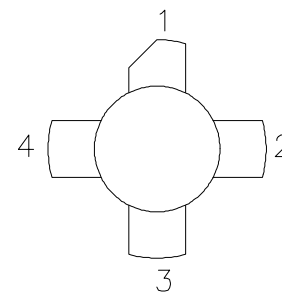
ORDER CODE
SD1455

BRANDING
SD1455

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.

PIN CONNECTION



1. Collector 3. Base
2. Emitter 4. Emitter

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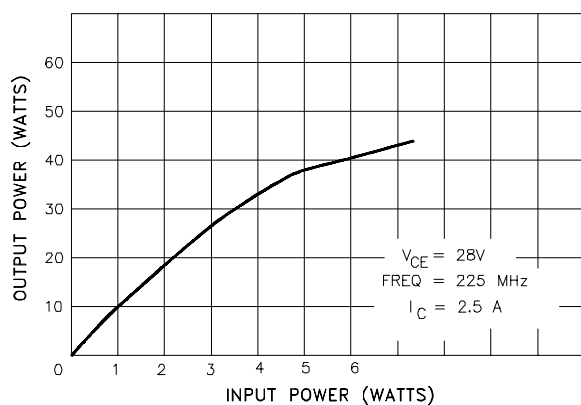
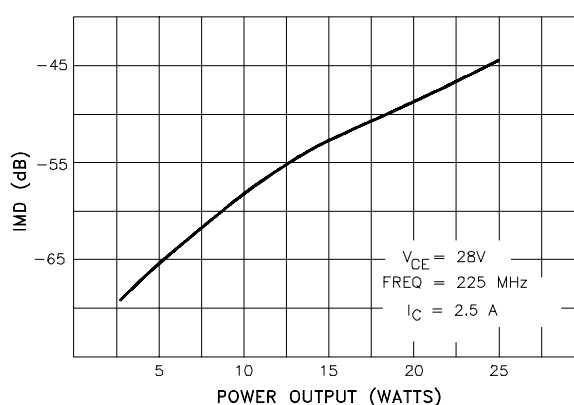
ELECTRICAL SPECIFICATIONS ($T_{\text{case}} = 25^{\circ}\text{C}$)**STATIC**

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

DYNAMIC

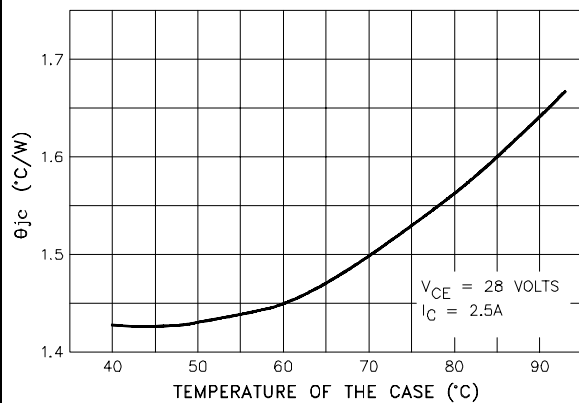
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	$f = 225 \text{ MHz}$	$V_{\text{CE}} = 25 \text{ V}$	$I_{\text{C}} = 2.5 \text{ A}$	20	—	—	W
G_{P}	$f = 225 \text{ MHz}$	$V_{\text{CE}} = 25 \text{ V}$	$I_{\text{C}} = 2.5 \text{ A}$	8.0	9.0	—	dB
IMD_3^*	$P_{\text{OUT}} = 14 \text{ W}$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

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

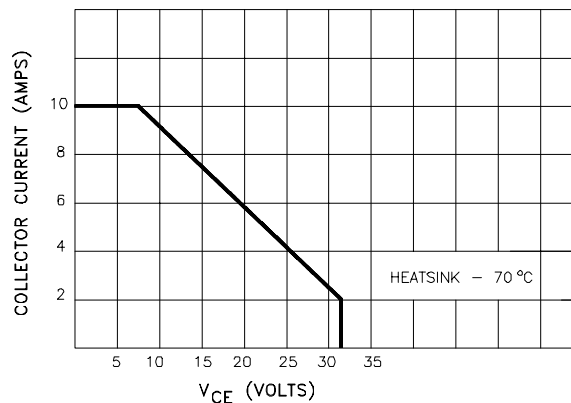
TYPICAL PERFORMANCE**POWER OUTPUT vs POWER INPUT****INTERMODULATION DISTORTION vs POWER OUTPUT**

TYPICAL PERFORMANCE (CONT'D)

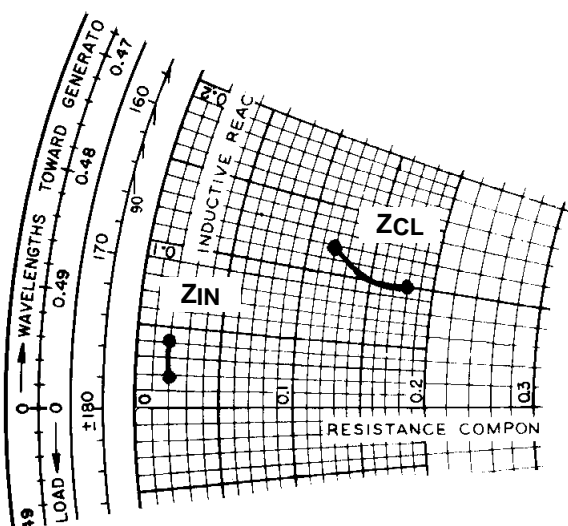
THERMAL RESISTANCE vs CASE TEMPERATURE



SAFE OPERATING AREA



IMPEDANCE DATA

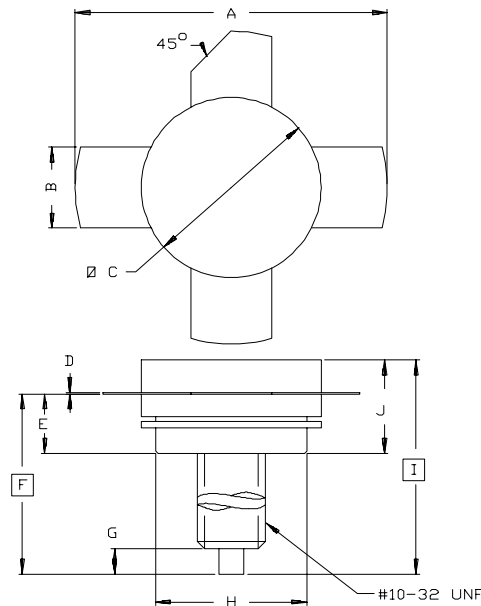


FREQ.	Z_{IN} (Ω)	Z_{CL} (Ω)
150 MHz	$1.0 + j 1.0$	$9.0 + j 5.0$
250 MHz	$1.0 + j 2.0$	$6.0 + j 6.0$

$V_{CE} = 28$ V
 $I_C = 2.5$ A
 Normalized to 50 Ohms

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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