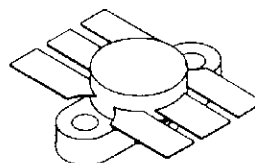


RF & MICROWAVE TRANSISTORS TV/LINEAR APPLICATIONS

- 170 - 230 MHz
- 28 VOLTS
- IMD -55 dB
- COMMON EMITTER
- GOLD METALLIZATION
- INTERNAL INPUT MATCHING
- HIGH SATURATED POWER CAPABILITY
- DESIGNED FOR HIGH POWER LINEAR OPERATION
- $P_{OUT} = 14 \text{ W MIN. WITH } 14.0 \text{ dB GAIN}$



.500 6LFL (M111)
epoxy sealed

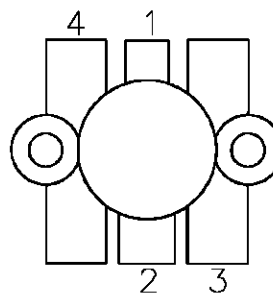
ORDER CODE
SD1458

BRANDING
SD1458

DESCRIPTION

The SD1458 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. Emitter |
| 2. Base | 4. Emitter |

ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}\text{C}$)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	35	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Device Current	10	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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SD1458

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

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
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}	$V_{\text{CE}} = 50\text{V}$	$I_{\text{E}} = 0\text{mA}$	—	—	5	mA
h_{FE}	$V_{\text{CE}} = 5\text{V}$	$I_{\text{C}} = 1\text{A}$	10	—	100	—

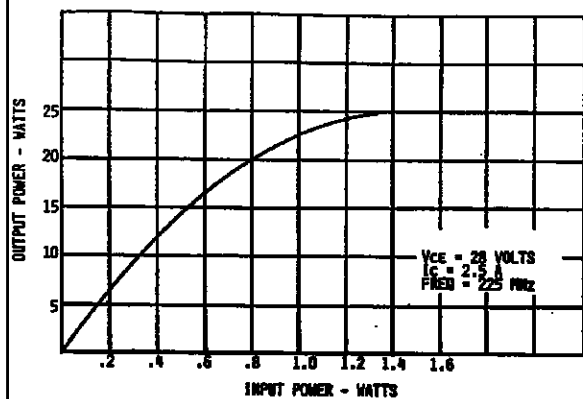
DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	$f = 225\text{ MHz}$	$V_{\text{CE}} = 28\text{ V}$	$I_{\text{C}} = 2.5\text{ A}$	14	—	—	W
G_{P}	$f = 225\text{ MHz}$	$V_{\text{CE}} = 28\text{ V}$	$I_{\text{C}} = 2.5\text{ A}$	14	—	—	dB
IMD_3	$f = 225\text{ MHz}$	$V_{\text{CE}} = 28\text{ V}$	$I_{\text{C}} = 2.5\text{ A}$	—	—	-55	dBc
C_{OB}	$f = 1\text{ MHz}$	$V_{\text{CB}} = 28\text{ V}$		—	—	80	pF

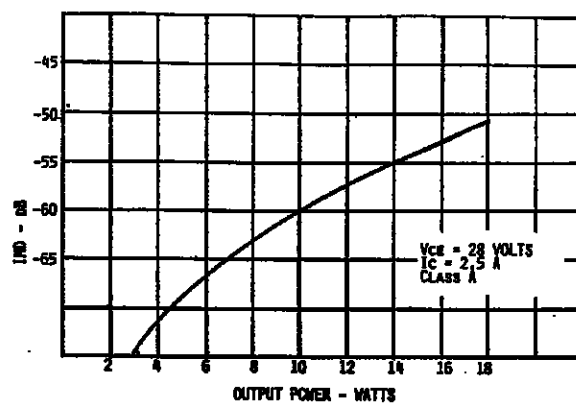
Note: IMD_3
- Vision Carrier - 8dB
- Sound Carrier - 7dB
- Sideband Carrier - 16dB

TYPICAL PERFORMANCE

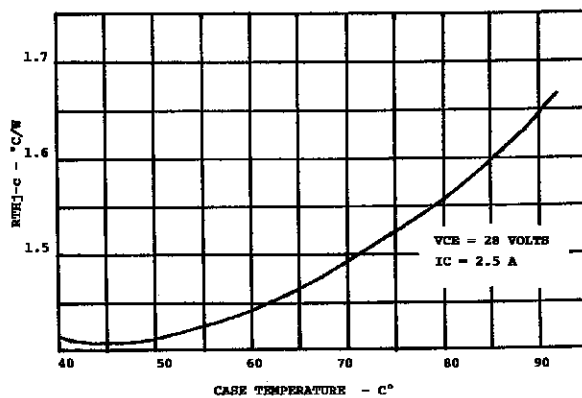
POWER OUTPUT vs POWER INPUT



IMD vs POWER OUTPUT

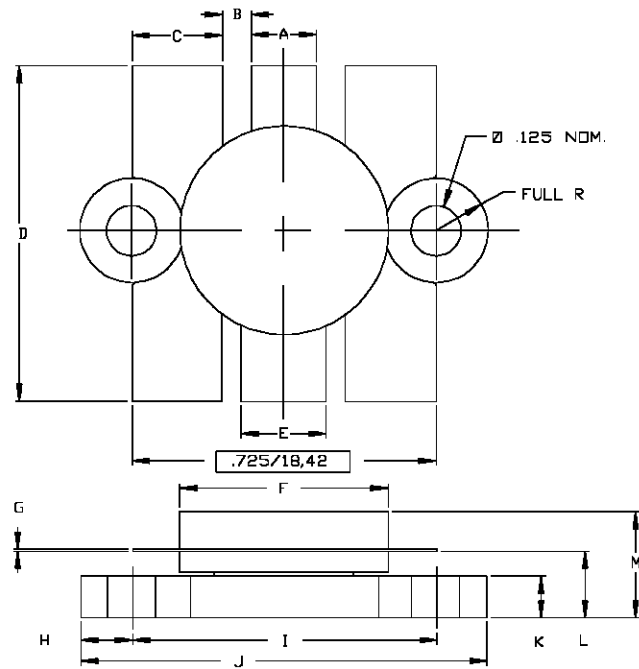


THERMAL RESISTANCE vs CASE TEMPERATURE



PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0111



SGS-THOMSON MICROELECTRONICS			CONT'D		
	MINIMUM Inches/mm	MAXIMUM Inches/mm		MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.150/3,43	.160/4,06	K	.095/2,41	.105/2,67
B	.045/1,14		L	.150/3,81	.170/4,32
C	.210/5,33	.220/5,59	M		.280/7,11
D	.835/21,21	.865/21,97			
E	.200/5,08	.210/5,33			
F	.490/12,45	.510/12,95			
G	.003/0,08	.007/0,18			
H	.125/3,18				
I	.720/18,29	.730/18,54			
J	.970/24,64	.980/24,89			

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