ADVANCED POWER TECHNOLOGY RF®

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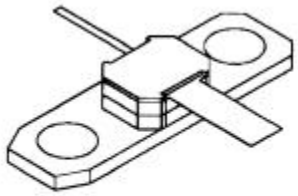
SD1536-08

RF & MICROWAVE TRANSISTORS
AVIONICS APPLICATIONS

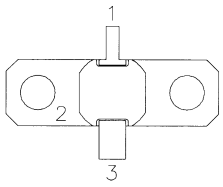


.250 SQ. 2LFL (M105)
hermetically sealed

Features

- 1025 – 1150 MHz
- 50 VOLTS
- P_{OUT} = 90 WATTS
- G_P = 8.4 dB MINIMUM
- INPUT MATCHED
- COMMON BASE CONFIGURATION

PIN CONNECTION



1. Collector
2. Base
3. Emitter

DESCRIPTION:

The SD1536-08 is a gold metallized silicon NPN power transistor designed for applications requiring high peak power and low duty cycles such as IFF, DME and TACAN. Internal Impedance matching provides improved broadband performance.

ABSOLUTE MAXIMUM RATINGS (T_{CASE} = 25°C)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector – Base Voltage	65	V
V_{CES}	Collector – Emitter Voltage	65	V
V_{EBO}	Emitter – Base Voltage	3.5	V
I_C	Device Current	10	A
P_{DISS}	Power Dissipation	292	W
T_J	Juction Temperature	+200	°C
T_{STG}	Storage Temperature	-65 to +150	°C

THERMAL DATA

$R_{TH(J-C)}$	Junction-Case Thermal Resistance	0.60	°C/W

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ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 10 mA	I_E = 0 mA	65	---	---	V
BV_{CER}	I_C = 25 mA	R_{BE} =10 Ω	65	---	---	V
BV_{EBO}	I_E = 1 mA	I_C = 0 mA	3.5	---	---	V
I_{CES}	V_{CE} = 50 V	I_E = 0 mA	---	---	10	mA
H_{FE}	V_{CE} = 5 V	I_C = 100 mA	5	---	---	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 1025 - 1150MHz	P_{IN} = 13.0 W	V_{CE} = 50 V	90	---	---	W
G_P	f = 1025 - 1150MHz	P_{IN} = 13.0 W	V_{CE} = 50 V	8.4	---	---	dB

Conditions: Pulse Width = 10 μsec Duty Cycle = 1%

IMPEDANCE DATA

FREQ	$Z_{IN}(\Omega)$	$Z_{CL}(\Omega)$
960 MHz	2.8 + j7.5	6.4 – j1.3
1050 MHz	3.9 + j8.2	5.8 – j1.4
1150 MHz	4.3 + j4.3	5.0 – j0.0
1215 MHz	4.9 + j4.3	4.8 – j0.0

P_{IN} = 13W
V_{CE} = 50 V

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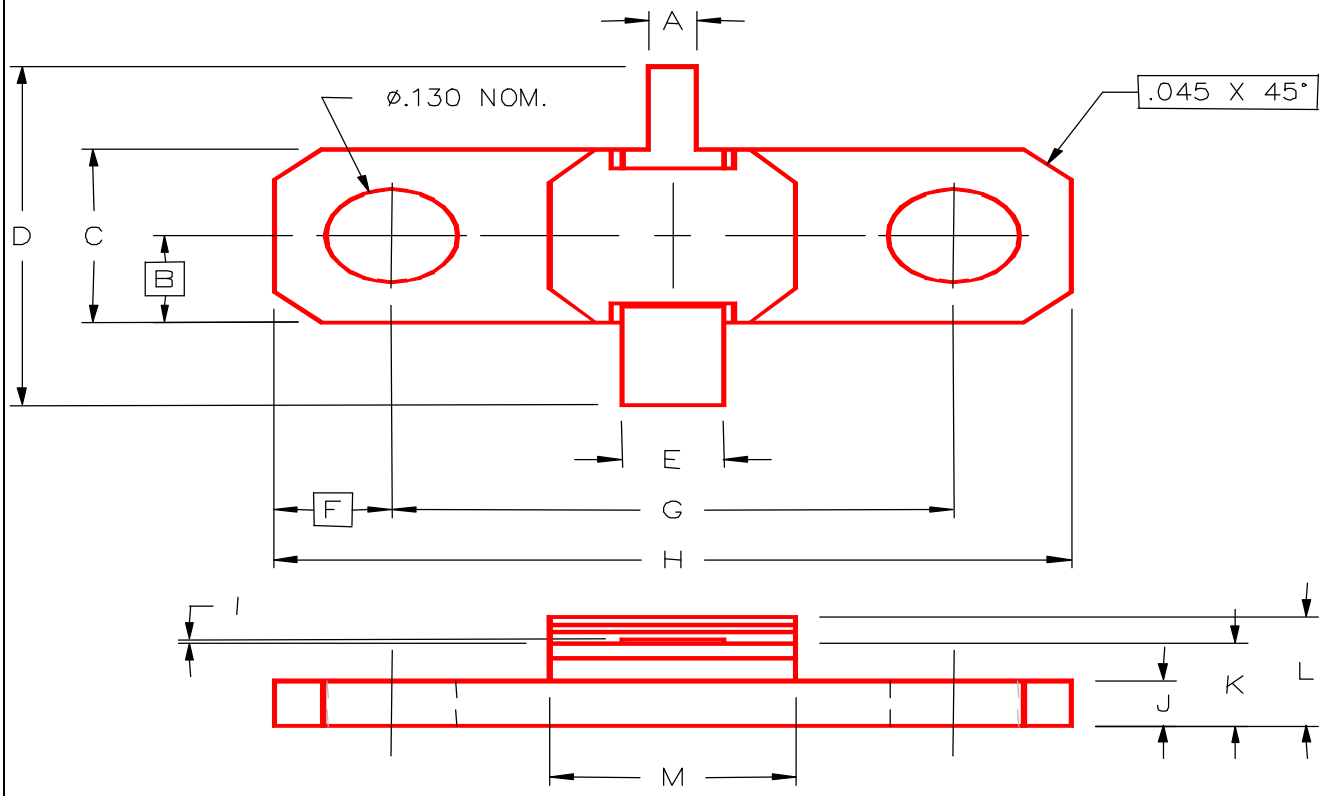
PACKAGE MECHANICAL DATA

PACKAGE STYLE M105



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.045/1,14	.055/1,40	I	.002/0,05	.006/0,15
B	.125/3,18		J	.057/1,45	.067/1,70
C	.245/6,22	.255/6,48	K	.112/2,84	.132/3,35
D	1.235/31,37		L		.175/4,45
E	.095/2,41	.105/2,67	M	.245/6,48	.405/10,29
F	.120/3,05				
G	.557/14,15	.567/14,40			
H	.795/20,19	.805/20,45			

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