

SD1536-08

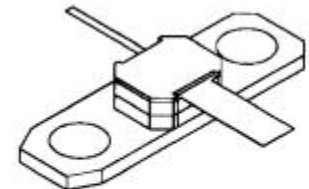
RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

Features

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

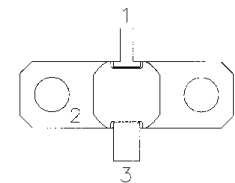
DESCRIPTION:

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.



.250 SQ. 2LFL (M105)
hermetically sealed

PIN CONNECTION



1. Collector 3. Emitter
2. Base

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

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	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	0.60	$^{\circ}\text{C/W}$
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ELECTRICAL SPECIFICATIONS (T_{case} = 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

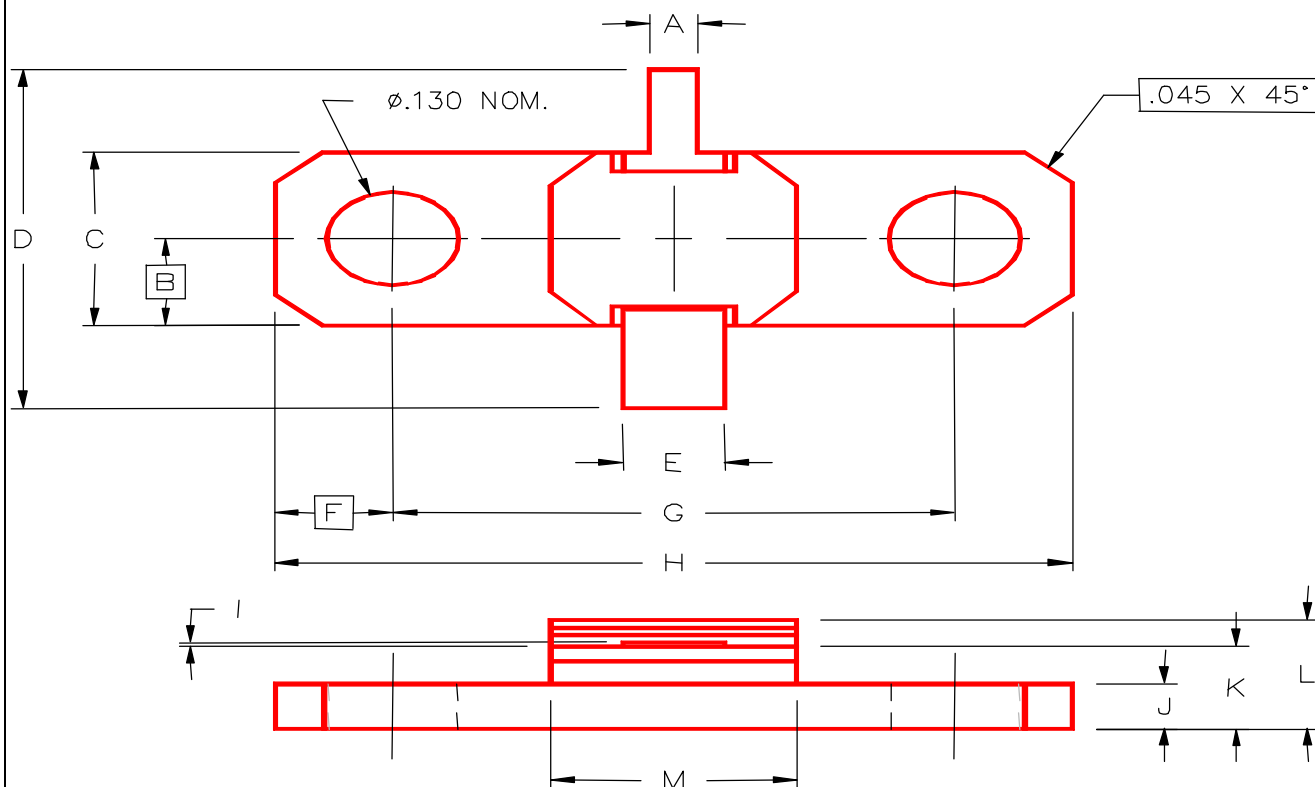
FREQ	Z_{IN}(Ω)	Z_{CL}(Ω)
960 MHz	2.8 + j7.5	6.4 – j1.3
1050 MHz	3.9 + j8.2	5.8 – j1.4
1150 MHz	4.3 + j4.3	5.0 – j0.0
1215 MHz	4.9 + j4.3	4.8 – j0.0

P_{IN} = 13W

V_{CE} = 50 V

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			