

**SD1536-08**

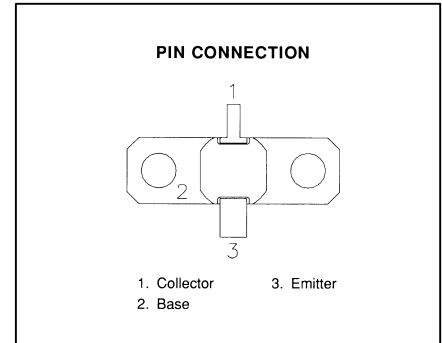
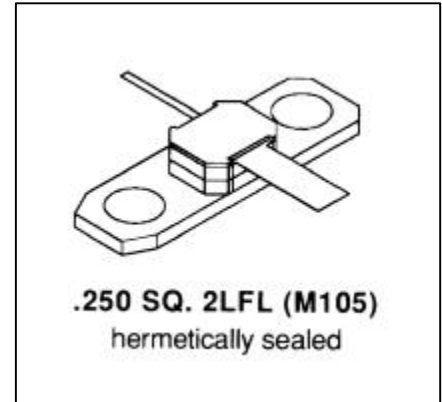
**RF & MICROWAVE TRANSISTORS  
AVIONICS APPLICATIONS**

**Features**

- 1025 – 1150 MHz
- 50 VOLTS
- P<sub>OUT</sub> = 90 WATTS
- G<sub>P</sub> = 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.



**ABSOLUTE MAXIMUM RATINGS (T<sub>CASE</sub> = 25°C)**

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector – Base Voltage	65	V
V <sub>CES</sub>	Collector – Emitter Voltage	65	V
V <sub>EBO</sub>	Emitter – Base Voltage	3.5	V
I <sub>C</sub>	Device Current	10	A
P <sub>DISS</sub>	Power Dissipation	292	W
T <sub>J</sub>	Junction Temperature	+200	°C
T <sub>STG</sub>	Storage Temperature	-65 to +150	°C

**THERMAL DATA**

R <sub>TH(J-C)</sub>	Junction-Case Thermal Resistance	0.60	°C/W
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## ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = 25°C)

### STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
<b>BV<sub>CBO</sub></b>	<b>I<sub>C</sub> = 10 mA</b>	<b>I<sub>E</sub> = 0 mA</b>	<b>65</b>	---	---	<b>V</b>
<b>BV<sub>CER</sub></b>	<b>I<sub>C</sub> = 25 mA</b>	<b>R<sub>BE</sub> = 10 Ω</b>	<b>65</b>	---	---	<b>V</b>
<b>BV<sub>EBO</sub></b>	<b>I<sub>E</sub> = 1 mA</b>	<b>I<sub>C</sub> = 0 mA</b>	<b>3.5</b>	---	---	<b>V</b>
<b>I<sub>CES</sub></b>	<b>V<sub>CE</sub> = 50 V</b>	<b>I<sub>E</sub> = 0 mA</b>	---	---	<b>10</b>	<b>mA</b>
<b>H<sub>FE</sub></b>	<b>V<sub>CE</sub> = 5 V</b>	<b>I<sub>C</sub> = 100 mA</b>	<b>5</b>	---	---	---

### DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
<b>P<sub>OUT</sub></b>	<b>f = 1025 - 1150MHz</b>	<b>P<sub>IN</sub> = 13.0 W</b>	<b>V<sub>CE</sub> = 50 V</b>	<b>90</b>	---	---	<b>W</b>
<b>G<sub>P</sub></b>	<b>f = 1025 - 1150MHz</b>	<b>P<sub>IN</sub> = 13.0 W</b>	<b>V<sub>CE</sub> = 50 V</b>	<b>8.4</b>	---	---	<b>dB</b>

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

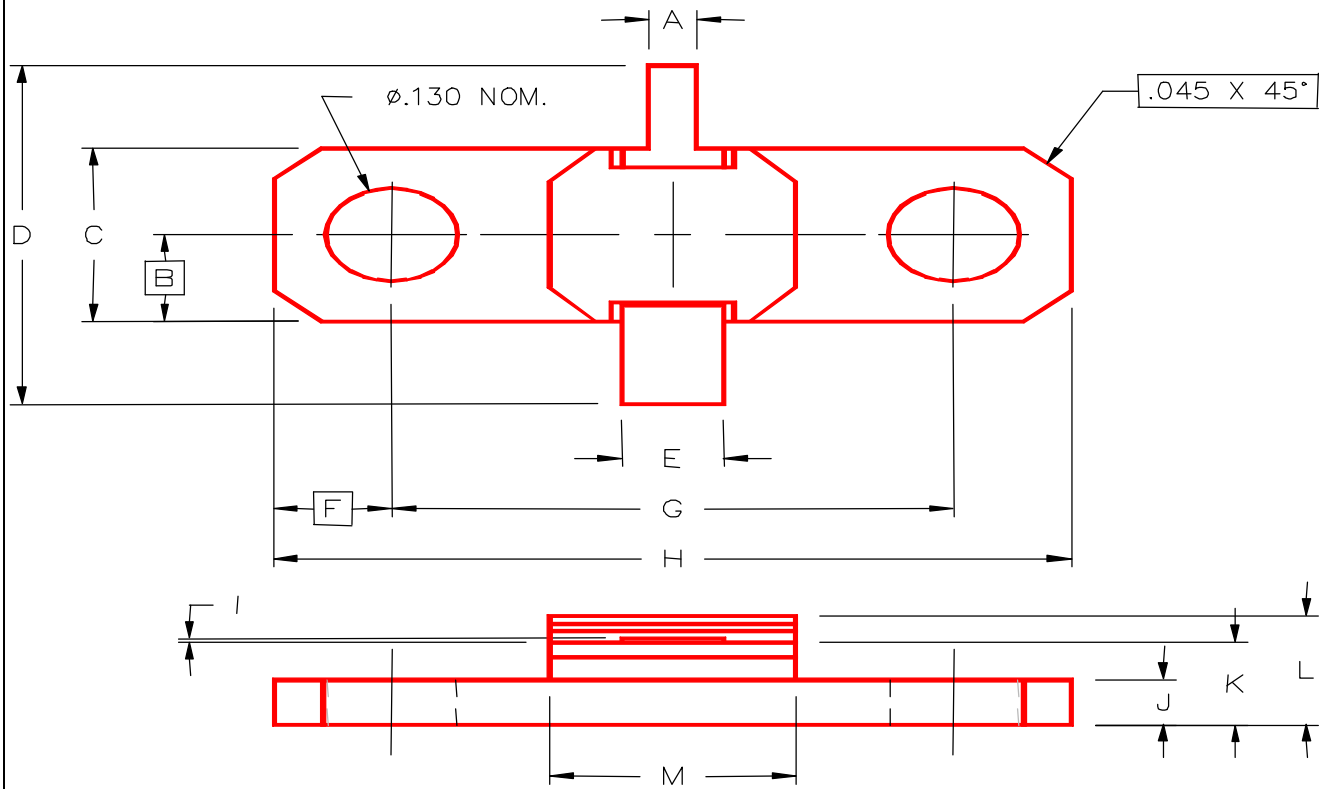
### IMPEDANCE DATA

FREQ	Z <sub>IN</sub> (Ω)	Z <sub>CL</sub> (Ω)
<b>960 MHz</b>	<b>2.8 + j7.5</b>	<b>6.4 – j1.3</b>
<b>1050 MHz</b>	<b>3.9 + j8.2</b>	<b>5.8 – j1.4</b>
<b>1150 MHz</b>	<b>4.3 + j4.3</b>	<b>5.0 – j0.0</b>
<b>1215 MHz</b>	<b>4.9 + j4.3</b>	<b>4.8 – j0.0</b>

**P<sub>IN</sub> = 13W**  
**V<sub>CE</sub> = 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			