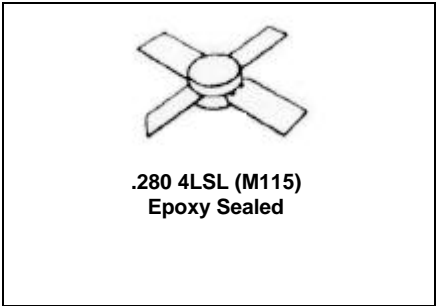


# MS2322

## RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

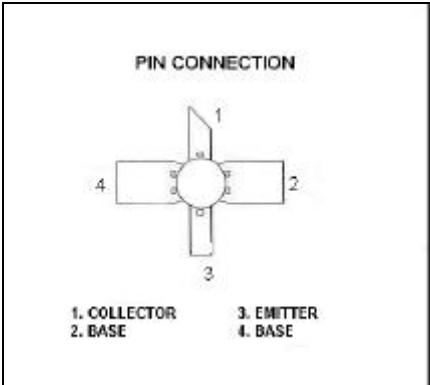
### Features

- 1025 - 1150 MHz
- 50 VOLT OPERATION
- $P_{OUT} = 15$  WATTS
- $G_P = 10$  dB MINIMUM
- 20:1 VSWR CAPABILITY @ RATED CONDITIONS
- COMMON BASE CONFIGURATION



### DESCRIPTION:

The MS2322 is a gold metallized, silicon NPN power transistor designed for pulsed applications with low duty cycles such as IFF, DME and TACAN. Internal impedance matching is utilized for maximum broadband performance and simplified external matching.



### 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	1.5	A
P <sub>DISS</sub>	Power Dissipation	87.5	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>	Thermal Resistance Junction-case	2.0	°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> = 10mA</b>	<b>I<sub>E</sub> = 0mA</b>	<b>65</b>	---	---	<b>V</b>
<b>BV<sub>CES</sub></b>	<b>I<sub>C</sub> = 25mA</b>	<b>V<sub>BE</sub> = 0V</b>	<b>65</b>	---	---	<b>V</b>
<b>BV<sub>EBO</sub></b>	<b>I<sub>E</sub> = 1mA</b>	<b>I<sub>C</sub> = 0mA</b>	<b>3.5</b>	---	---	<b>V</b>
<b>I<sub>CES</sub></b>	<b>V<sub>CE</sub> = 50V</b>	<b>I<sub>E</sub> = 0mA</b>	---	---	<b>2</b>	<b>mA</b>
<b>HFE</b>	<b>V<sub>CE</sub> = 5V</b>	<b>I<sub>C</sub> = 100mA</b>	<b>10</b>	---	<b>200</b>	---

**DYNAMIC**

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
<b>P<sub>OUT</sub></b>	<b>f = 1025 - 1150 MHz</b>	<b>P<sub>IN</sub> = 1.5W</b>	<b>V<sub>CC</sub> = 50V</b>	<b>15</b>	---	---	<b>W</b>
<b>G<sub>P</sub></b>	<b>f = 1025 - 1150 MHz</b>	<b>P<sub>IN</sub> = 1.5W</b>	<b>V<sub>CC</sub> = 50V</b>	<b>10</b>	---	---	<b>dB</b>
<b>η<sub>C</sub></b>	<b>f = 1025 - 1150 MHz</b>	<b>P<sub>IN</sub> = 1.5W</b>	<b>V<sub>CC</sub> = 50V</b>	<b>30</b>	---	---	<b>%</b>
<b>Conditions</b>	<b>Pulse Width = 10 μs   Duty Cycle = 1%</b>						

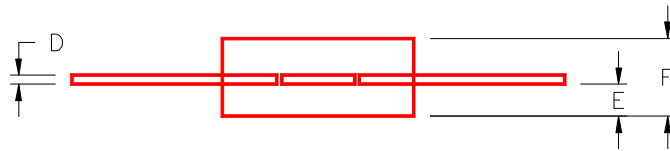
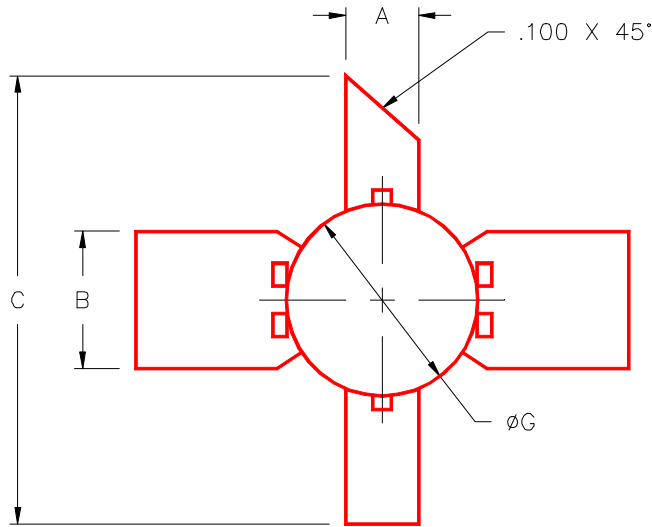
**IMPEDANCE DATA**

FREQ	Z <sub>IN</sub> (Ω)	Z <sub>CL</sub> (Ω)
<b>1030 MHz</b>	<b>3.5 + j12.5</b>	<b>17.0 + j14.5</b>
<b>1090 MHz</b>	<b>3.0 + j13.5</b>	<b>19.5 + j12.5</b>
<b>1150 MHz</b>	<b>3.5 + j14.0</b>	<b>18.0 + j12.0</b>

**V<sub>CC</sub> = 50V**  
**P<sub>IN</sub> = 1.5W**

**PACKAGE MECHANICAL DATA**

PACKAGE STYLE M115



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.095/2,41	.105/2,67			
B	.195/4,95	.205/5,21			
C	1.000/25,40				
D	.004/0,10	.007/0,18			
E	.050/1,27	.065/1,65			
F	.120/3,05	.135/3,43			
G	.275/6,99	.285/7,21			