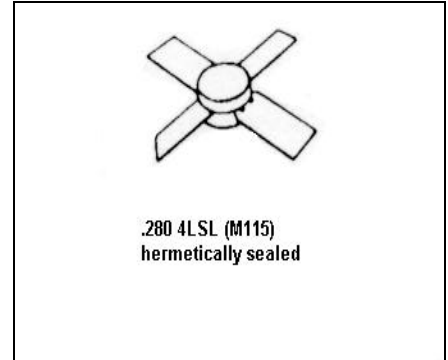


# MS2290

## RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

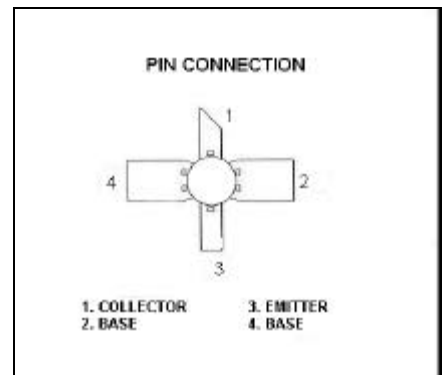
### Features

- 1090 MHz
- 18 VOLTS
- $P_{out} = 0.2$  WATTS
- $G_p = 10$  dB MINIMUM
- CLASS A OPERATION
- INFINITE VSWR CAPABILITY @ RATED CONDITIONS
- COMMON EMITTER CONFIGURATION



### DESCRIPTION:

The MS2290 is a common emitter, silicon NPN, microwave transistor designed for Class A driver applications under DME or IFF pulse conditions. This device is capable of withstanding an infinite load VSWR at any phase angle under rated conditions.



### ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C)

Symbol	Parameter	Value	Unit
V <sub>CEO</sub>	Collector-Emitter	20	V
V <sub>CBO</sub>	Collector-Base Voltage	50	V
V <sub>EBO</sub>	Emitter-Base Voltage	3.5	V
I <sub>C</sub>	Collector Current	200	mA
P <sub>D</sub>	Total Device Dissipation	7.0	W
T <sub>stg</sub>	Storage Temperature Range	-65 + 150	°C

### Thermal Data

R <sub>TH(J-C)</sub>	Thermal Resistance Junction-case	25	°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>CEO</sub></b>	<b>I<sub>C</sub> = 5.0 mA</b>	<b>I<sub>B</sub> = 0 mA</b>	<b>20</b>	---	---	<b>V</b>
<b>BV<sub>CES</sub></b>	<b>I<sub>C</sub> = 5.0 mA</b>	<b>V<sub>BE</sub> = 0mA</b>	<b>50</b>	---	---	<b>V</b>
<b>BV<sub>CBO</sub></b>	<b>I<sub>C</sub> = 5.0 mA</b>	<b>I<sub>E</sub> = 0 mA</b>	<b>50</b>	---	---	<b>V</b>
<b>BV<sub>EBO</sub></b>	<b>I<sub>E</sub> = 1.0 mA</b>	<b>I<sub>C</sub> = 0 mA</b>	<b>3.5</b>	---	---	<b>V</b>
<b>I<sub>CBO</sub></b>	<b>V<sub>CB</sub> = 20 V</b>	<b>I<sub>E</sub> = 0 mA</b>	---	---	<b>0.5</b>	<b>mA</b>
<b>HFE</b>	<b>V<sub>CE</sub> = 5.0 V</b>	<b>I<sub>C</sub> = 100 mA</b>	<b>10</b>	---	<b>100</b>	---

### DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
<b>G<sub>PE</sub></b>	<b>f = 1090 MHz</b>	<b>P<sub>OUT</sub> = 0.2 W</b>	<b>V<sub>CE</sub> = 18 V</b>	<b>10</b>	---	---	<b>dB</b>
<b>C<sub>OB</sub></b>	<b>f = 1.0 MHz</b>	<b>V<sub>CB</sub> = 28 V</b>		---	---	<b>5.0</b>	<b>pf</b>

Conditions:            **V<sub>CE</sub> = 18V**            **I<sub>CQ</sub> = 100mA**

### IMPEDANCE DATA

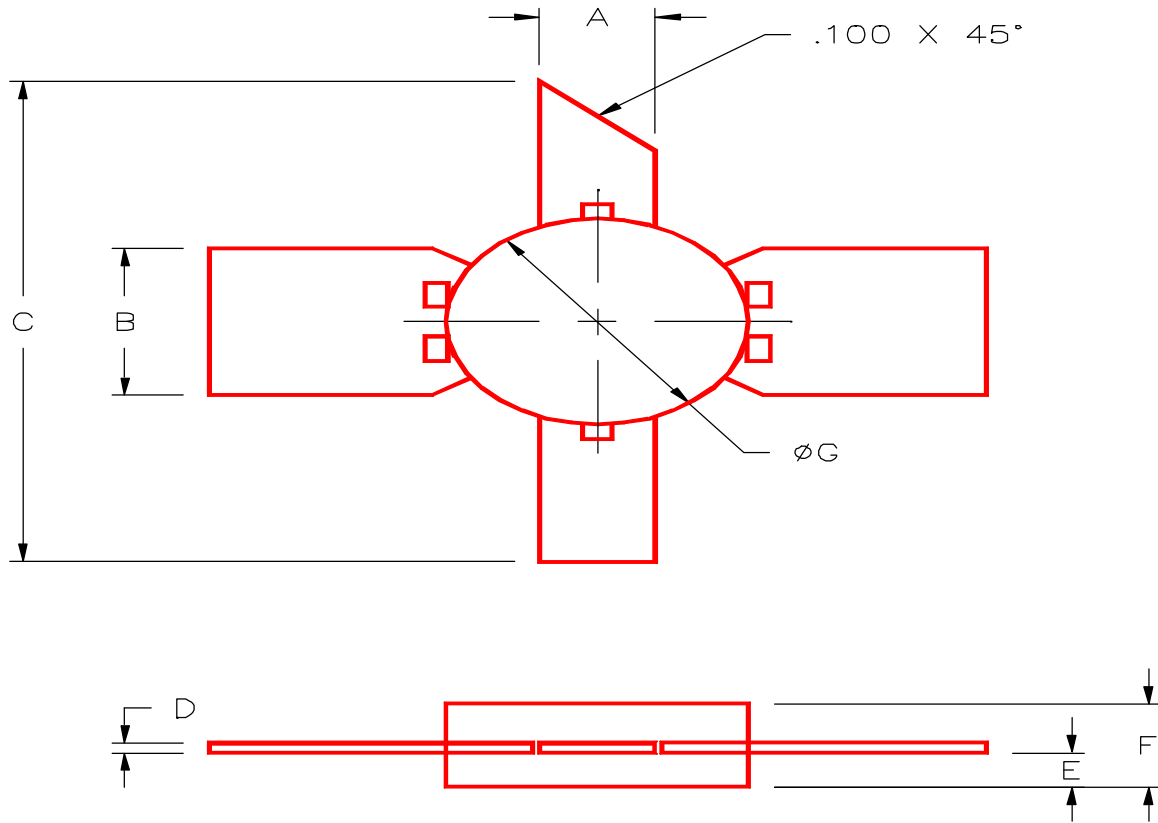
Freq	Z <sub>IN</sub> (Ω)	Z <sub>CL</sub> (Ω)
1090 MHz	3.4 + j12	8.2 + j27

**P<sub>OUT</sub> = 200 mW**

**V<sub>CE</sub> = 18 V**

**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			