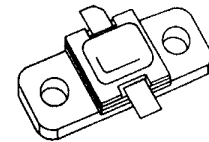


# MS2212

## RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

### Features

- 960 – 1215 MHz
- 28 VOLTS
- INPUT/OUTPUT MATCHING
- $P_{OUT} = 15$  WATTS
- $G_P = 8.1$  dB MINIMUM
- COMMON BASE CONFIGURATION

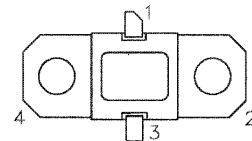


.310 x .310 2LFL (M222)  
hermetically sealed

### DESCRIPTION:

The MS2212 is designed for specialized avionics applications, including JTIDS where power is provided under pulse formats utilizing short pulse widths and highburst or overall duty cycles.

#### PIN CONNECTION



1. Collector      3. Emitter  
2. Base          4. Base

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

Symbol	Parameter	Value	Unit
$P_{DISS}$	Power Dissipation	50	W
$I_C$	Device Current	1.8	A
$V_{CC}$	Collector - Supply Voltage	32	V
$T_J$	Junction Temperature	250	°C
$T_{STG}$	Storage Temperature	-65 to +200	°C

### Thermal Data

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	3.0	°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> = 10 mA</b>	<b>I<sub>E</sub> = 0 mA</b>	<b>55</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>BV<sub>CER</sub></b>	<b>I<sub>C</sub> = 10 mA</b> □	<b>R<sub>BE</sub> = 10 Ohms</b>	<b>55</b>	----	----	<b>V</b>
<b>I<sub>CES</sub></b>	<b>V<sub>CE</sub> = 28 V</b>		----	----	<b>2.0</b>	<b>mA</b>
<b>h<sub>FE</sub></b>	<b>V<sub>CE</sub> = 5V</b>	<b>I<sub>C</sub> = 500 mA</b>	<b>15</b>	----	<b>150</b>	----

**DYNAMIC**

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
<b>P<sub>OUT</sub></b>	<b>f = 960 - 1215 MHz</b>	<b>P<sub>IN</sub> = 2.3 W</b>	<b>V<sub>CC</sub> = 28 V</b>	<b>15</b>	<b>17</b>	----	<b>W</b>
<b>V<sub>C</sub></b>	<b>f = 960 - 1215 MHz</b>	<b>P<sub>IN</sub> = 2.3 W</b>	<b>V<sub>CC</sub> = 28 V</b>	<b>45</b>	----	----	<b>%</b>
<b>G<sub>P</sub></b>	<b>f = 960 - 1215 MHz</b>	<b>P<sub>IN</sub> = 2.3 W</b>	<b>V<sub>CC</sub> = 28 V</b>	<b>8.1</b>	<b>8.9</b>	----	<b>dB</b>
<b>Conditions</b>	<b>Pulse Format: 6.4 μs on 6.6 μs off, repeat for 3.3 ms, then off for 4.5125 ms.</b>						
	<b>Duty Cycle: Burst 49.2%, Overall 20.8%</b>						

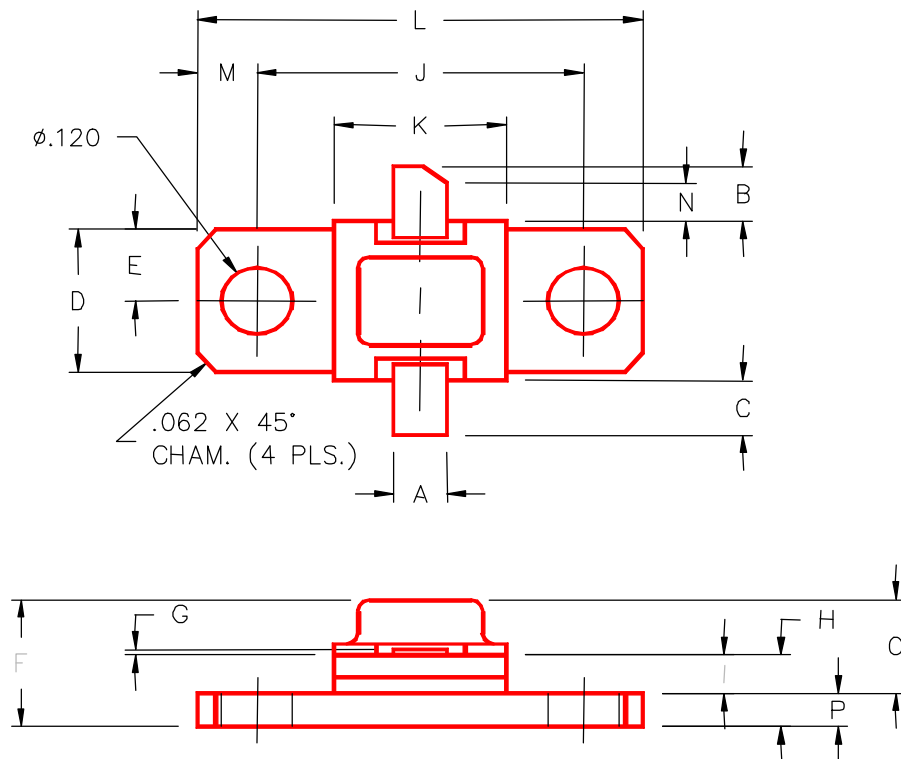
**IMPEDANCE DATA:**

FREQUENCY	Z <sub>in</sub>	Z <sub>cl</sub>
960 MHz	5.7 + j4.3	5.7 - j7.7
1090 MHz	5.8 + j2.5	4.3 - j6.5
1215 MHz	5.0 + j3.0	4.0 - j4.8

Pin = 2.3 W  
Vcc = 28V

**PACKAGE MECHANICAL DATA**

PACKAGE STYLE M222



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.100/2,54		J	.562/14,28	
B	.110/2,80		K	.310/7,87	
C	.110/2,80		L	.800/20,32	
D	.296/7,52		M	.119/3,02	
E	.148/3,76		N	.050/1,27	
F		.230/5,84	O		.170/4,32
G	.003/0,08	.006/0,15	P	.062/1,58	
H	.118/3,00	.131/3,33			
I	.059/1,50				