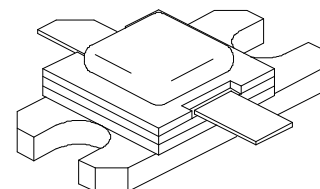


## MS2215

### RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

#### Features

- REFRACTORY/GOLD METALLIZATION
- EMITTER SITE BALLASTED
- LOW THERMAL RESISTANCE
- INPUT/OUTPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- $P_{OUT} = 150 \text{ W MIN. WITH } 7.5 \text{ dB Gain}$

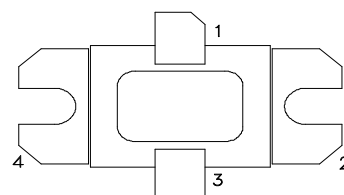


.400 x .500 2LFL  
 hermetically sealed

#### DESCRIPTION:

The MS2215 is designed for specialized avionics applications, including Mode-S, TCAS and JTIDS where power is provided under pulse formats utilizing short pulse widths and high burst 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 * (T <sub>C</sub> ≤ °C)	300	
$I_C$	Device Current *	16.5	A
$V_{CC}$	Collector - Supply Voltage *	35	V
$T_J$	Junction Temperature (Pulsed RF Operation)	250	°C
$T_{STG}$	Storage Temperature *	- 65 to + 200	°C

#### Thermal Data

$R_{TH(j-c)}$	Junction-Case Thermal Resistance *	0.57	°C/W
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\* Applies only to rated RF amplifier operation

## ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

### STATIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
<b>BV<sub>CBO</sub></b>	I <sub>C</sub> = 60 mA    I <sub>E</sub> = 0 mA	55	65	----	V
<b>BV<sub>EBO</sub></b>	I <sub>E</sub> = 10 mA    I <sub>C</sub> = 0 mA	3.5	----	----	V
<b>BV<sub>CES</sub></b>	I <sub>C</sub> = 100 mA	55	----	----	V
<b>I<sub>CES</sub></b>	V <sub>CE</sub> = 35 V	----	----	25	mA
<b>h<sub>FE</sub></b>	V <sub>CE</sub> = 5V    I <sub>C</sub> = 5 A	20	----	----	----

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DataShee

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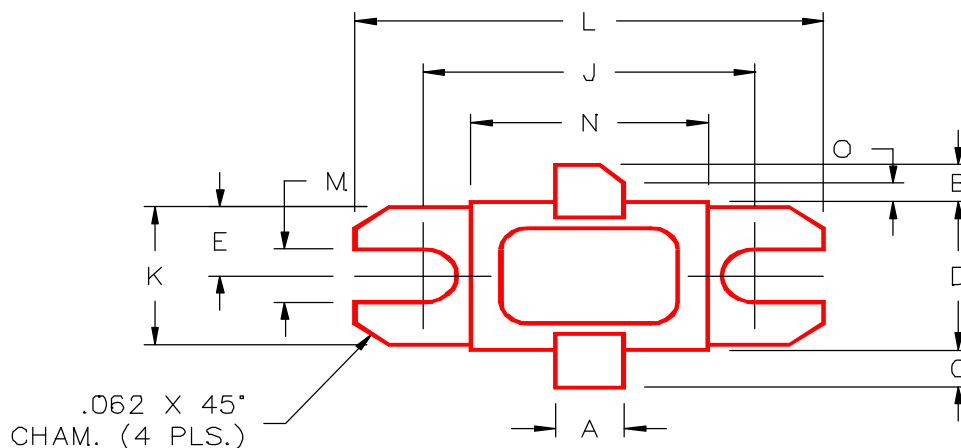
### DYNAMIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
<b>P<sub>OUT</sub></b>	f = 960 - 1215 MHz    P <sub>IN</sub> = 26.7 W    V <sub>CC</sub> = 35 V	150	----	----	W
<b>η<sub>C</sub></b>	f = 960 - 1215 MHz    P <sub>IN</sub> = 26.7 W    V <sub>CC</sub> = 35 V	45	----	----	%
<b>G<sub>P</sub></b>	f = 960 - 1215 MHz    P <sub>IN</sub> = 26.7 W    V <sub>CC</sub> = 35 V	7.5	----	----	dB

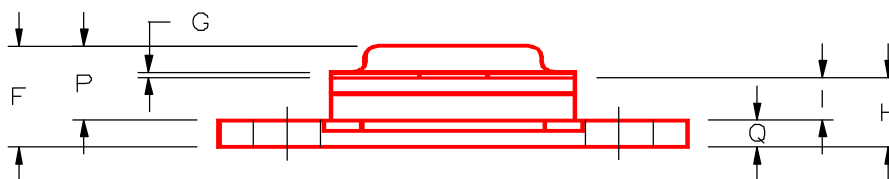
**Note:** Pulse format: 6.4 μs on 6.6 μs off, repeat for 3.3 ms, then off for 4.5125 ms.  
 Duty Cycle: Burst 49.2%, Overall 20.8%

## PACKAGE MECHANICAL DATA

## PACKAGE STYLE M216



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	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.140/3,56		J	.700/17,78	
B	.110/2,80		K	.386/9,80	
C	.110/2,80		L	.900/22,86	
D	.395/10,03	.407/10,34	M	.120/3,05	
E	.193/4,90		N	.500/12,70	
F		.230/5,84	O	.050/1,27	
G	.003/0,08	.006/0,15	P		.170/4,32
H	.118/3,00	.131/3,33	Q	.062/1,58	
I	.063/1,60				