ADVANCED POWER TECHNOLOGY RF®

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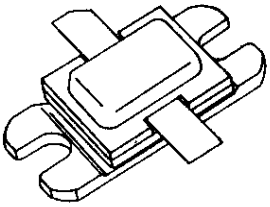
MS2231

RF AND MICROWAVE TRANSISTORS L-BAND APPLICATIONS

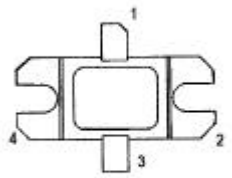


.400 x .500 2LFL (M216)
hermetically sealed

Features

- **REFRACTORY/GOLD METALLIZATION**
- **EMITTER SITE BALLASTED**
- **LOW THERMAL RESISTANCE**
- **INPUT / OUTPUT MATCHING**
- **METAL/CERAMIC HERMETIC PACKAGE**
- **P_{OUT} = 100 W MIN.**
- **G_P = 6.0 dB GAIN**

PIN CONNECTION



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

DESCRIPTION:

The MS2231 is a high-power Class C transistor specifically designed for L-Band Radar pulsed driver applications.
This device is capable of operation over a wide range of pulse widths, duty cycles, and termperatures and is capable of withstanding 3:1 output WSWR at rated RF conditions. Low RF thermal resistance and computerized automatic wire bonding techniques ensure high reliability and product consistency.
The MS2231 is supplied in the grounded IMPAC™ hermetic metal/ceramic package with internal input/output matching structures.

ABSOLUTE MAXIMUM RATINGS (Tcase = 25°C)

Symbol	Parameter	Value	Unit
P_{DISS}	**Power Dissipation*** ($T_C \leq 100°C$)	**270**	**W**
I_C	**Device Current***	**13.5**	**A**
V_{CC}	**Collector-Supply Voltage***	**32**	**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***	**0.55**	**°C/W**

***Applies only to rated RF amplifier operation**

ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
BV_{CBO}	I_C = 50 mA I_E = 0 mA	65			V
BV_{EBO}	I_E = 10 mA I_C = 0 mA	3.5			V
BV_{CES}	I_C = 100 mA	65			V
I_{CES}	V_{BE} = 0 V V_{CE} = 32 V			20	mA
h_{FE}	V_{CE} = 5 V I_C = 5 A	15			

DYNAMIC

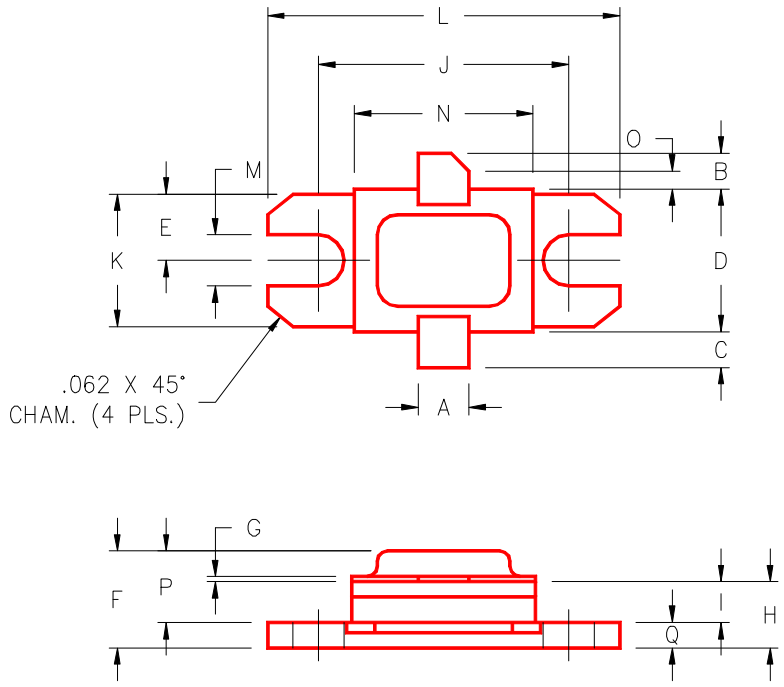
Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
P_{OUT}	f = 1215 – 1400 MHz P_{IN} = 25 W V_{CE} = 28 V	100			W
çC	f = 1215 – 1400 MHz P_{IN} = 25 W V_{CE} = 28 V	50			%
G_P	f = 1215 – 1400 MHz P_{IN} = 25 W V_{CE} = 28 V	6			dB

Note: **Pulse width = 100µSec**
Duty Cycle = 10%

MS2231

PACKAGE MECHANICAL DATA

PACKAGE STYLE M216



	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				