RF Products
Microsemi
Progress Powered by Technology

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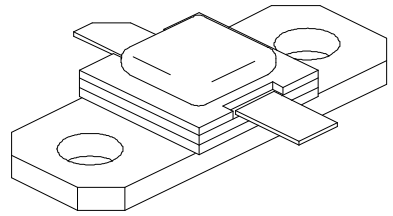
MS2213

RF & MICROWAVE TRANSISTORS SPECIALITY AVIONICS/JTIDS APPLICATIONS



.400 x .400 2LFL
hermetically sealed

Features

- REFRACTORY/GOLD METALLIZATION
- EMITTER SITE BALLASTED
- 15:1 VSWR CAPABILITY
- LOW RF THERMAL RESISTANCE
- INPUT/OUTPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- P_{OUT} = 30 W MIN. WITH 7.8 dB Gain

DESCRIPTION:

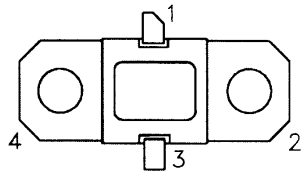
The MS2213 device is a high power Class C transistor specifically designed for JTIDS pulsed output and driver applications.

The device is capable of operation over a wide range of pulse widths, duty cycles and temperatures and is capable of withstanding 15:1 output VSWR at rated RF conditions.

Low RF thermal resistance and computerized automatic wire bonding techniques ensure high reliability and product consistency.

The MS2213 is supplied in the hermetic metal/ceramic package with internal input matching structures.

PIN CONNECTION



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

ABSOLUTE MAXIMUM RATINGS (Tcase = 25°C)

Symbol	Parameter	Value	Unit
P_{DISS}	Power Dissipation * ($T_C \leq 85°C$)	75	W
I_C	Device Current *	3.5	A
V_{CC}	Collector - Supply Voltage *	40	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	2.2	°C/W

* Applies only to rated RF amplifier operation

ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

Symbol	Test Conditions	Value			
		Min.	Typ.	Max.	Unit
BV_{CBO}	I_C = 10 mA	55	----	----	V
BV_{EBO}	I_E = 1 mA	3.5	----	----	V
BV_{CER}	I_C = 20 mA R_{BE} =10Ω	55	----	----	V
I_{CES}	V_{CE} = 35 V	----	----	5.0	mA
h_{FE}	V_{CE} = 5V I_C = 1.0 A	15	----	150	----

DYNAMIC

Symbol	Test Conditions	Value			
		Min.	Typ.	Max.	Unit
P_{OUT}	f = 960 - 1215 MHz P_{IN} = 5.0 W V_{CC} = +35 V	30	36	----	W
η_C	f = 960 - 1215 MHz P_{IN} = 5.0 W V_{CC} = +35 V	40	45	----	%
G_P	f = 960 - 1215 MHz P_{IN} = 5.0 W V_{CC} = +35 V	7.8	8.6	----	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%

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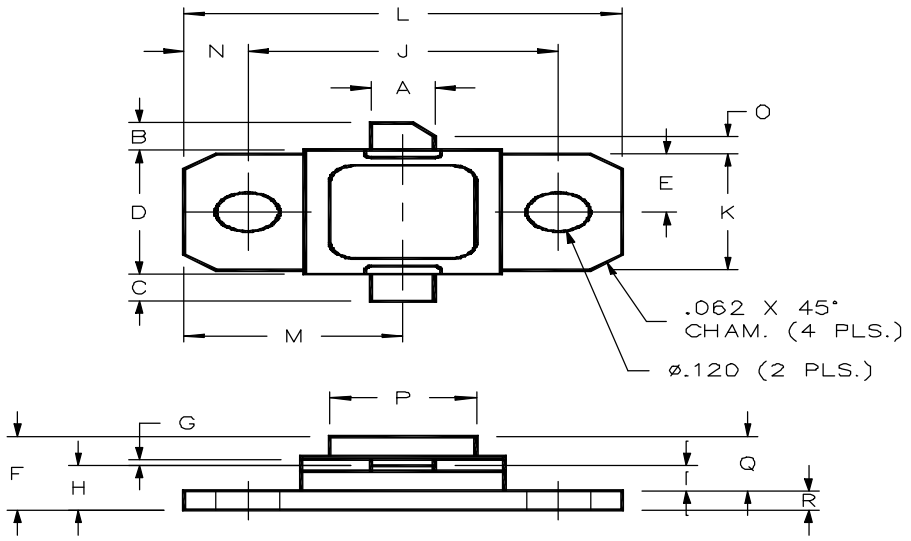
PACKAGE MECHANICAL DATA



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.140/3,56		J	.650/16,51	
B	.110/2,80		K	.386/9,80	
C	.110/2,80		L	.900/22.86	
D	.395/10,03	.407/10,34	M	.450/11,43	
E	.193/4,90		N	.125/3,18	
F		.230/5,84	O	.050/1,27	
G	.003/0,08	.006/0,15	P	.405/10,29	
H	.118/3,00	.131/3,33	Q	.170/4,32	
I	.063/1,60		R	.062/1,58	