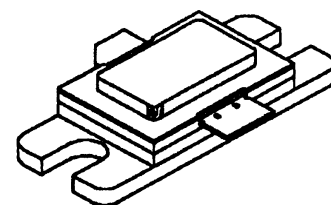


MS2208

RF & MICROWAVE TRANSISTORS AVIONICS APPLICATION

Features

- HERMETIC METAL/CERAMIC PACKAGE
- LOW THERMAL RESISTANCE
- 10:1 LOAD VSWR CAPABILITY
- BALLASTED OVERLAY GEOMETRY
- COMMON EMITTER CONFIGURATION

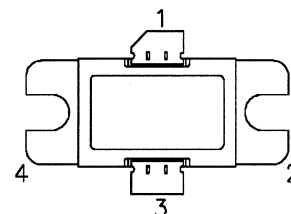


.400 x .600 2LFL (M198)
 hermetically sealed

DESCRIPTION:

THE MS2208 DEVICE IS A HIGH POWER CLASS C TRANSISTOR SPECIFICALLY DESIGNED FOR L-BAND AVIONIC APPLICATIONS INVOLVING HIGH PULSE BURST DUTY CYCLES. THE DEVICE IS CAPABLE OF OPERATION OVER A WIDE RANGE OF PULSE WIDTHS, DUTY CYCLES AND TEMPERATURES.

PIN CONNECTION



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

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C)

Symbol	Parameter	Value	Unit
P _{DISS}	Power Dissipation* (T _c ≤ 100°C)	1360	W
I _c	Device Current *	27	A
V _{CC}	Collector Supply Voltage*	55	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	0.11	°C/W
----------------------	------------------------------------	------	------

*Applies only to rated RF amplifier operation

ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
Bvebo	$I_E = 30 \text{ mA}$	$I_C = 0 \text{ mA}$	3.0	---	---	V
Bvcbo	$I_C = 50 \text{ mA}$	$I_C = 0 \text{ mA}$	70	---	---	V
Bvces	$I_C = 50 \text{ mA}$	$V_{BE} = 0 \text{ V}$	70	---	---	V
Ices	$V_{BE} = 50 \text{ mA}$	$V_{CE} = 50 \text{ V}$	---	---	40	mA
HFE	$V_{CE} = 5.0 \text{ V}$	$I_C = 1 \text{ A}$	10	---	200	B

DYNAMIC

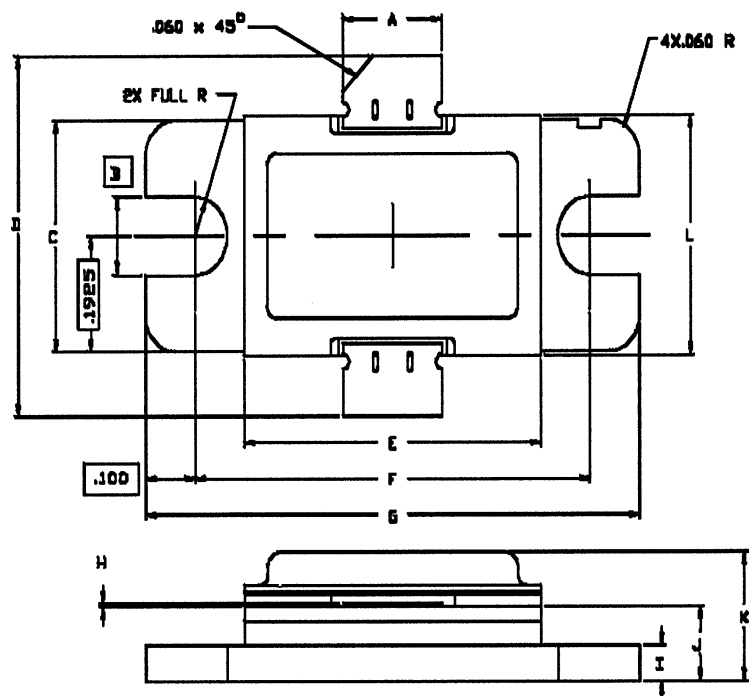
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{out}	$P_{in} = 70 \text{ W}$	$f = 1090 \text{ MHz}$	$V_{CC} = 50 \text{ V}$	500	---	---	W
η_c	P_{out}	$f = 1090 \text{ MHz}$	$V_{CC} = 50 \text{ V}$	40	---	---	%
G_P	P_{out}	$f = 1090 \text{ MHz}$	$V_{CC} = 50 \text{ V}$	8.5	---	---	dB
Load Mismatch	$P_{out} = 500 \text{ W Peak}$ $f = 1090 \text{ MHz}$, $V_{CC} = 50 \text{ V}$, $VS_{WR} = 10:1$, $10 \mu\text{sec}$, 1% Duty, $VS_{WR} = 5:1$, $32 \mu\text{sec}$, 2% Duty						
Conditions	Pulse width = $32 \mu\text{sec}$, Duty Cycle = 2%						

IMPEDANCE DATA

FREQ	$Z_{IN}(\Omega)$	$Z_{CL}(\Omega)$
1030 MHz	$4.35 + j 6.97$	$1.38 - j 4.08$
1090 MHz	$4.38 + j 2.75$	$0.874 - j 3.55$
1120 MHz	$4.69 + j 2.95$	$1.3 - j 4.97$

$P_{IN} = 70 \text{ W}$ $V_{CC} = 50 \text{ V}$

PACKAGE MECHANICAL DATA



	MINIMUM Inches/mm	MAXIMUM Inches/mm		MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.195/4.95	.205/5.21	K		.230/5.84
B	.130/3.30		L	.393/9.98	.407/10.34
C	.380/9.65	.390/9.91			
D	.570/14.48				
E	.593/15.06	.607/15.42			
F	.790/20.07	.810/20.57			
G	.995/25.27	1.005/25.53			
H	.002/0.05	.006/0.15			
I	.055/1.40	.065/1.65			
J	.110/2.79	.130/3.30			