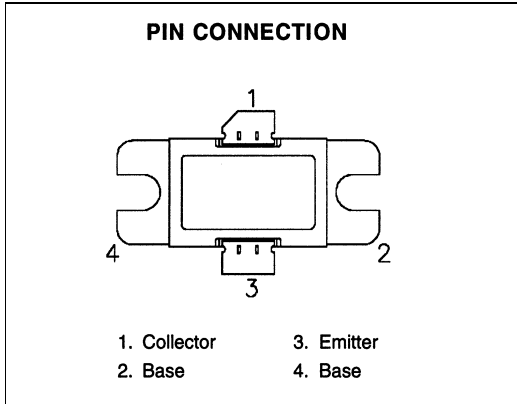
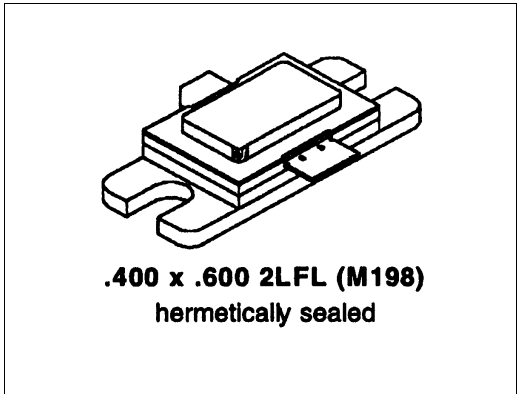


MS2208

**RF & MICROWAVE TRANSISTORS
 AVIONICS APPLICATION**

Features

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



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.

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 mA | I _C =0 mA | 3.0 | --- | --- | V |
| Bvcbo | I _C = 50 mA | I _C =0 mA | 70 | --- | --- | V |
| Bvces | I _C = 50 mA | V _{BE} =0 V | 70 | --- | --- | V |
| Ices | V _{BE} = 50 mA | V _{CE} =50 V | --- | --- | 40 | mA |
| HFE | V _{CE} = 5.0 V | I _C =1 A | 10 | --- | 200 | B |

DYNAMIC

| Symbol | Test Conditions | | | Value | | | Unit |
|------------------|---|------------|----------------------|-------|------|------|------|
| | | | | Min. | Typ. | Max. | |
| P _{out} | P _{in} = 70W | f=1090 MHz | V _{CC} =50V | 500 | --- | --- | W |
| η _c | P _{out} | f=1090 MHz | V _{CC} =50V | 40 | --- | --- | % |
| G _p | P _{out} | f=1090 MHz | V _{CC} =50V | 8.5 | --- | --- | dB |
| Load Mismatch | P _{out} =500W Peak f=1090 MHz, V _{cc} =50V, VSWR=10:1, 10μsec, 1% Duty, VSWR=5:1, 32μsec, 2% Duty | | | | | | |
| Conditions | Pulse width=32μsec, Duty Cycle= 2% | | | | | | |

IMPEDANCE DATA

| FREQ | Z _{IN} (Ω) | Z _{CL} (Ω) |
|----------|---------------------|---------------------|
| 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}=70W V_{CC}=50V

PACKAGE MECHANICAL DATA

