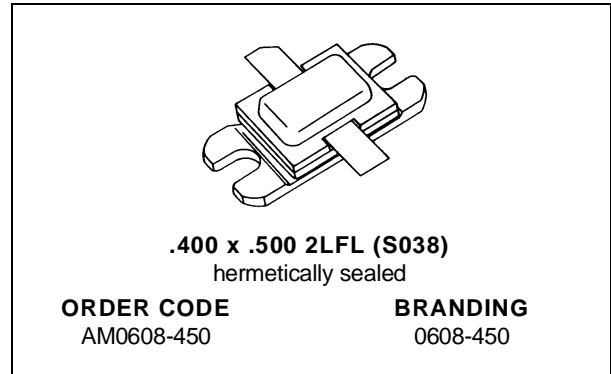


RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

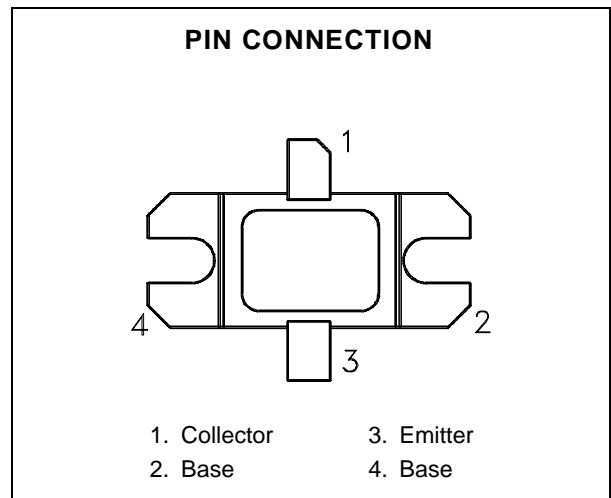
PRELIMINARY DATA

- REFRACTORY/GOLD METALLIZATION
- INPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- P_{OUT} = 445 W MIN. WITH 6.9 dB GAIN



DESCRIPTION

The AM0608-450 is an internally-matched, common base silicon bipolar device optimized pulsed application in the 600 - 750 MHz frequency range. Housed in the industry-standard BIGPAC™ metal/ceramic package, this device uses a refractory/gold overlay die geometry for ruggedness and long-term reliability.



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

| Symbol | Parameter | Value | Unit |
|-------------------|--|--------------|------|
| P _{DISS} | Power Dissipation* (T _C ≤ 50°C) | 1500 | W |
| I _C | Device Current* | 32 | A |
| V _{CC} | Collector-Supply Voltage* | 55 | 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* | 0.13 | °C/W |
|----------------------|-----------------------------------|------|------|

*Applies only to rated RF amplifier operation

AM0608-450

ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)

STATIC

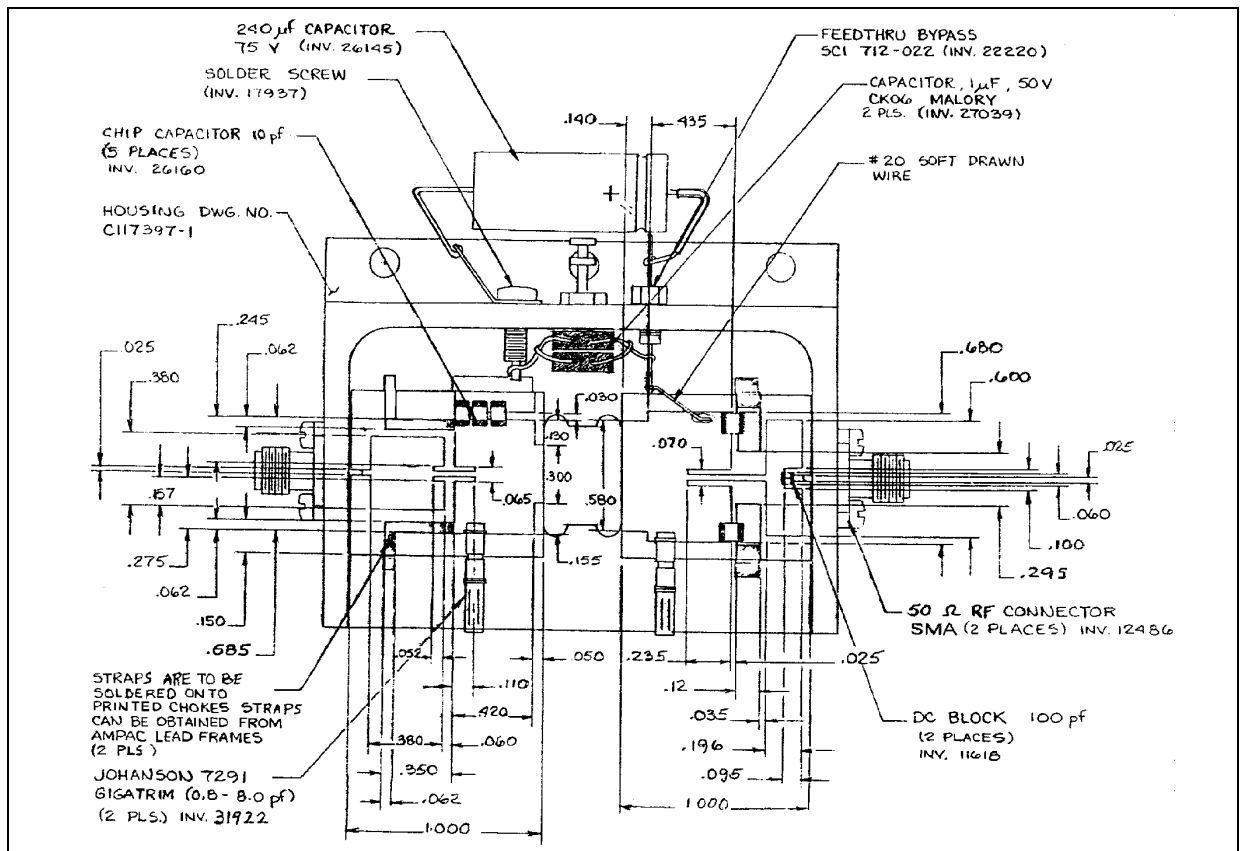
| Symbol | Test Conditions | | Value | | | Unit |
|-------------------|-----------------------|-----------------------|-------|------|------|------|
| | | | Min. | Typ. | Max. | |
| BV _{CBO} | I _C = 50mA | I _E = 0mA | 65 | — | — | V |
| BV _{EBO} | I _E = 5mA | I _C = 0mA | 3.5 | — | — | V |
| BV _{CER} | I _C = 50mA | R _{BE} = 10Ω | 65 | — | — | V |
| I _{CES} | V _{CE} = 50V | | — | — | 35 | mA |
| I _{CBO} | V _{CB} = 50V | | — | — | 25 | mA |
| h _{FE} | V _{CE} = 5V | I _C = 1A | 15 | — | 300 | — |

DYNAMIC

| Symbol | Test Conditions | | | Value | | | Unit |
|------------------|------------------|-----------------------|-----------------------|-------|------|------|------|
| | | | | Min. | Typ. | Max. | |
| P _{OUT} | f = 600 — 750MHz | P _{IN} = 90W | V _{CC} = 50V | 445 | — | — | W |
| η _c | f = 600 — 750MHz | P _{IN} = 90W | V _{CC} = 50V | 35 | — | — | % |
| G _p | f = 600 — 750MHz | P _{IN} = 90W | V _{CC} = 50V | 6.9 | — | — | dB |

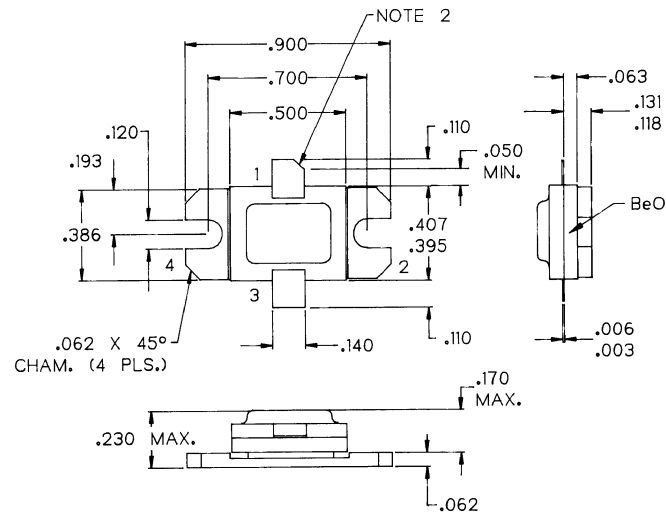
Note: Pulse Width = 10μS
Duty Cycle = 1%

TEST CIRCUIT



PACKAGE MECHANICAL DATA

Ref.: Dwg. No.: J135066F



NOTES:

1. ALL TOLERANCE $\pm .010$ EXCEPT WHERE NOTED;
DIMENSIONS IN INCHES.
2. COLLECTOR LEAD CHAMFER 45° NOM. X .040 NOM.

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