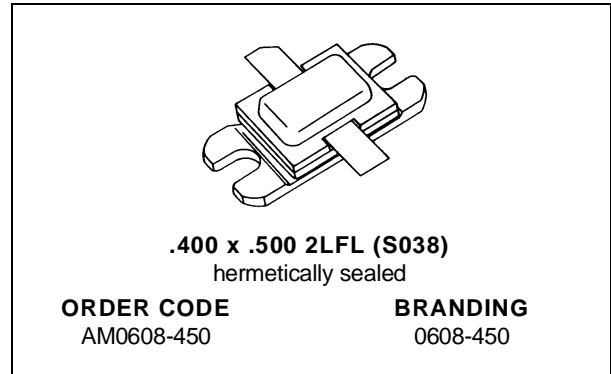


## RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

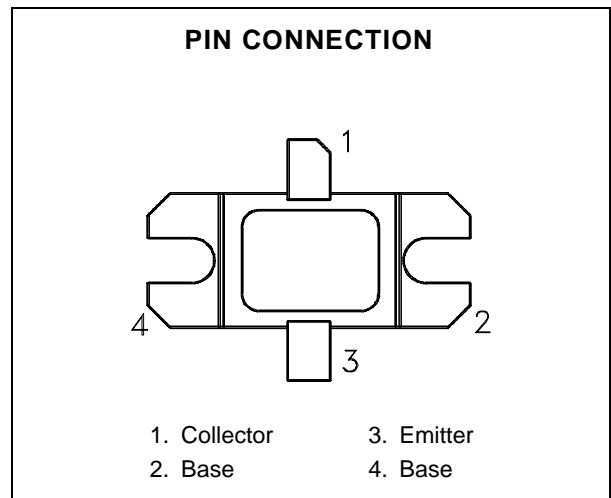
PRELIMINARY DATA

- REFRACTORY/GOLD METALLIZATION
- INPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- P<sub>OUT</sub> = 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<sub>case</sub> = 25°C)

Symbol	Parameter	Value	Unit
P <sub>DISS</sub>	Power Dissipation* (T <sub>C</sub> ≤ 50°C)	1500	W
I <sub>C</sub>	Device Current*	32	A
V <sub>CC</sub>	Collector-Supply Voltage*	55	V
T <sub>J</sub>	Junction Temperature (Pulsed RF Operation)	250	°C
T <sub>STG</sub>	Storage Temperature	- 65 to +200	°C

### THERMAL DATA

R <sub>TH(j-c)</sub>	Junction-Case Thermal Resistance*	0.13	°C/W
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\*Applies only to rated RF amplifier operation

# AM0608-450

## ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = 25°C)

### STATIC

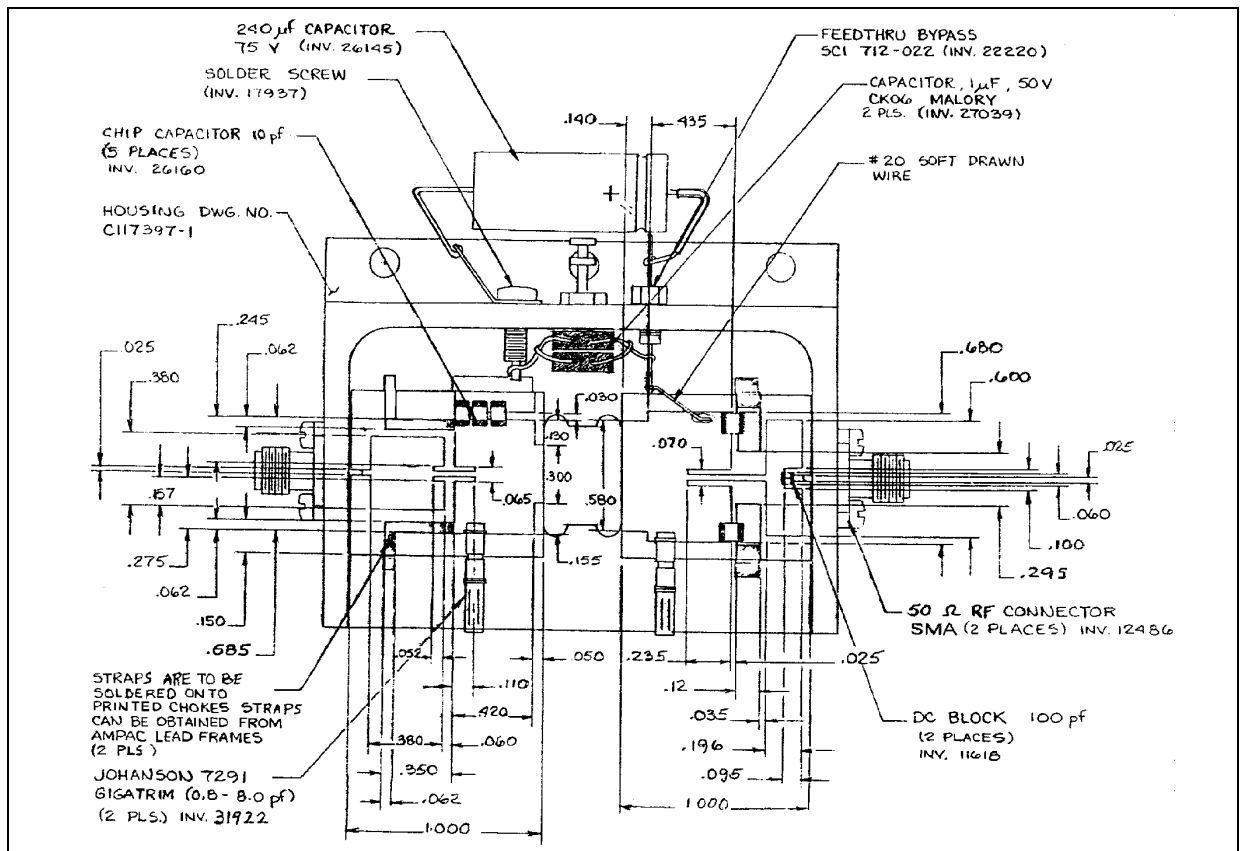
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV <sub>CBO</sub>	I <sub>C</sub> = 50mA	I <sub>E</sub> = 0mA	65	—	—	V
BV <sub>EBO</sub>	I <sub>E</sub> = 5mA	I <sub>C</sub> = 0mA	3.5	—	—	V
BV <sub>CER</sub>	I <sub>C</sub> = 50mA	R <sub>BE</sub> = 10Ω	65	—	—	V
I <sub>CES</sub>	V <sub>CE</sub> = 50V		—	—	35	mA
I <sub>CBO</sub>	V <sub>CB</sub> = 50V		—	—	25	mA
h <sub>FE</sub>	V <sub>CE</sub> = 5V	I <sub>C</sub> = 1A	15	—	300	—

### DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P <sub>OUT</sub>	f = 600 — 750MHz	P <sub>IN</sub> = 90W	V <sub>CC</sub> = 50V	445	—	—	W
η <sub>c</sub>	f = 600 — 750MHz	P <sub>IN</sub> = 90W	V <sub>CC</sub> = 50V	35	—	—	%
G <sub>p</sub>	f = 600 — 750MHz	P <sub>IN</sub> = 90W	V <sub>CC</sub> = 50V	6.9	—	—	dB

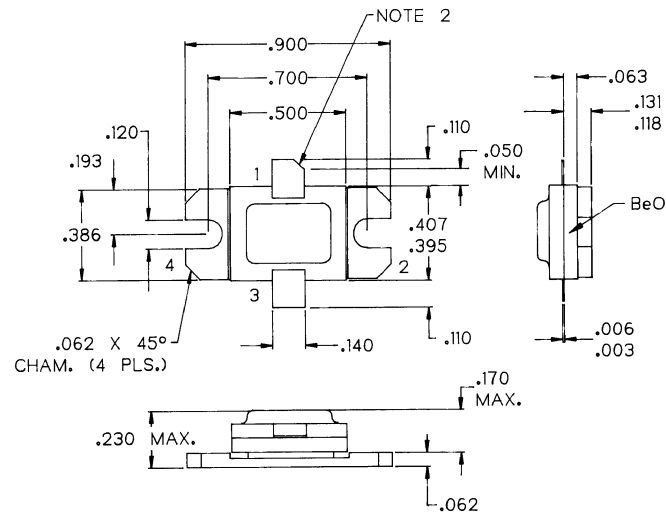
Note: Pulse Width = 10μS  
 Duty Cycle = 1%

### 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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