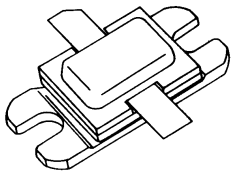
SGS-THOMSON MICROELECTRONICS

AM0608-450

RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

PRELIMINARY DATA

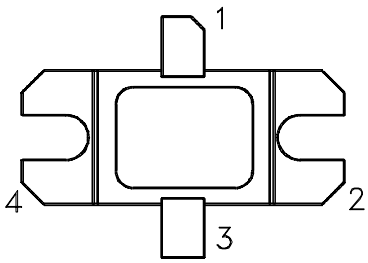
- REFRACTORY/GOLD METALLIZATION
- INPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- P_{OUT} = 445 W MIN. WITH 6.9 dB GAIN



.400 x .500 2LFL (S038)
hermetically sealed

ORDER CODE	BRANDING
AM0608-450	0608-450

PIN CONNECTION



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

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* ($T_C \leq 50°C$)	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

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

STATIC

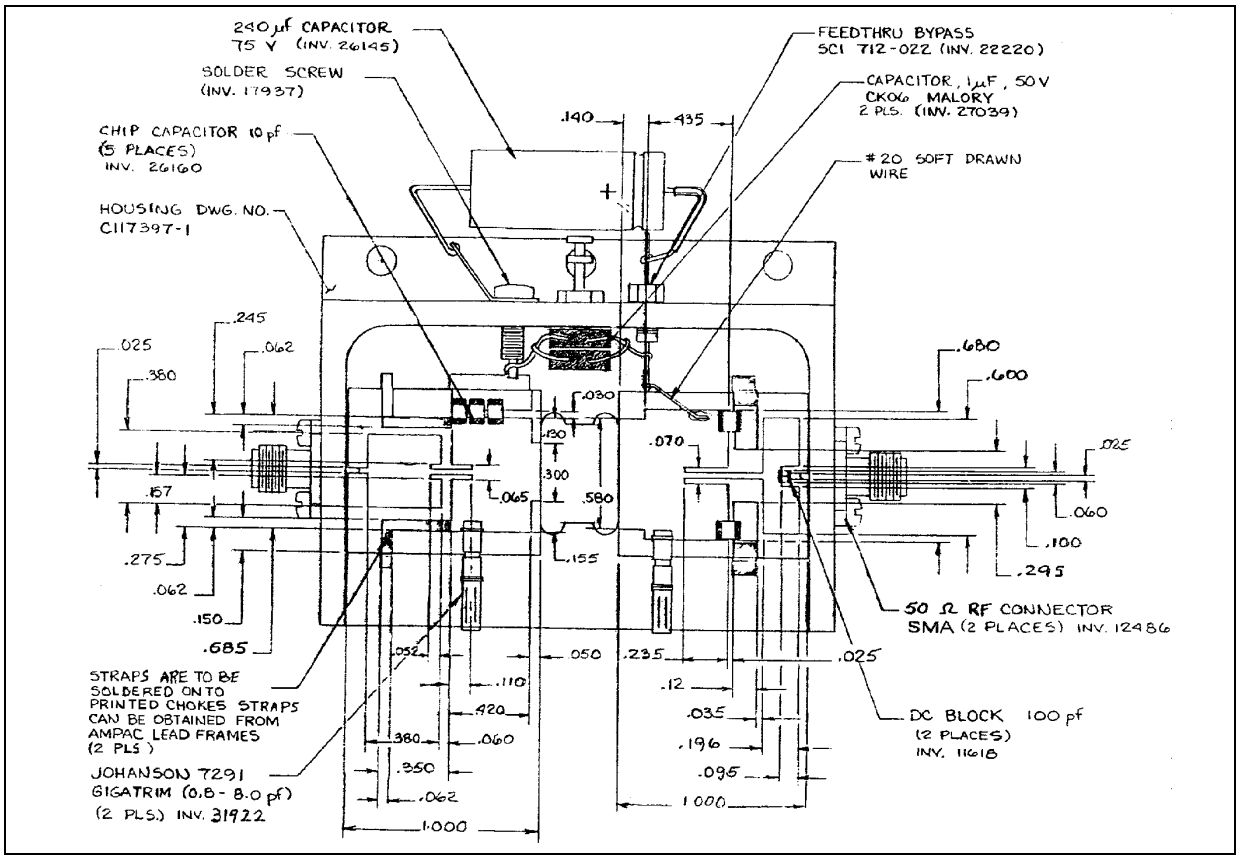
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 50mA	I_E = 0mA	65	—	—	V
BV_{EBO}	I_E = 5mA	I_C = 0mA	3.5	—	—	V
BV_{CER}	IC = 50mA	R_{BE} = 10Ω	65	—	—	V
I_{CES}	V_{CE} = 50V		—	—	35	mA
I_{CBO}	V_{CB} = 50V		—	—	25	mA
h_{FE}	V_{CE} = 5V	I_C = 1A	15	—	300	—

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 600 — 750MHz	P_{IN} = 90W	V_{CC} = 50V	445	—	—	W
ηc	f = 600 — 750MHz	P_{IN} = 90W	V_{CC} = 50V	35	—	—	%
G_P	f = 600 — 750MHz	P_{IN} = 90W	V_{CC} = 50V	6.9	—	—	dB

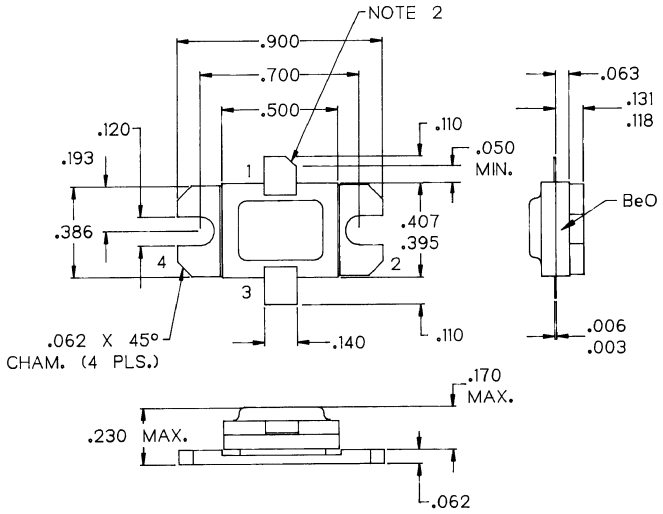
Note: Pulse Width = 10µS
Duty Cycle = 1%

TEST CIRCUIT



PACKAGE MECHANICAL DATA

Ref.: Dwg. No.: J135066F



NOTES:
1. ALL TOLERANCE ± .010 EXCEPT WHERE NOTED; DIMENSIONS IN INCHES.
2. COLLECTOR LEAD CHAMFER 45° NOM. X .040 NOM.