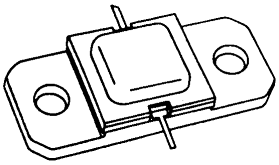
AM0912-080

RF & MICROWAVE TRANSISTORS
AVIONICS APPLICATIONS

- REFRACTORY/GOLD METALLIZATION
- EMITTER SITE BALLASTED
- LOW THERMAL RESISTANCE
- INPUT/OUTPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- P_{OUT} = 90 W MIN. WITH 13 dB GAIN
- BANDWIDTH 225 MHz



.400 x .400 2NLFL (S042)
hermetically sealed

ORDER CODE	BRANDING
AM0912-080	0912-80

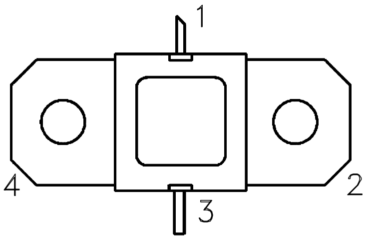
DESCRIPTION

The AM0912-080 Avionics power transistor is a broadband, high peak pulse power device specifically designed for avionics applications requiring broad bandwidth with moderate duty cycle and pulse width constraints such as ground/ship based DME/TACAN.

This device is also designed for specialized applications including JTIDS where reduced power provided under pulse formats utilizing short pulse widths and high burst or overall duty cycles.

The AM0912-080 is housed in the unique AMPAC™ Hermetic Metal/Ceramic package with internal Input/Output matching structures.

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* ($T_C \leq 100°C$)	220	W
I_C	Device Current*	7.0	A
V_{CC}	Collector-Supply Voltage*	50	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*	0.80	°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 = 40mA	I_E = 0mA	65	—	—	V
BV_{EBO}	I_E = 10mA	I_C = 0mA	3.0	—	—	V
BV_{CER}	IC = 40mA	R_{BE} = 10Ω	65	—	—	V
I_{CBO}	V_{CB} = 50V		—	—	12	mA
h_{FE}	V_{CE} = 5V	I_C = 2A	20	—	120	—

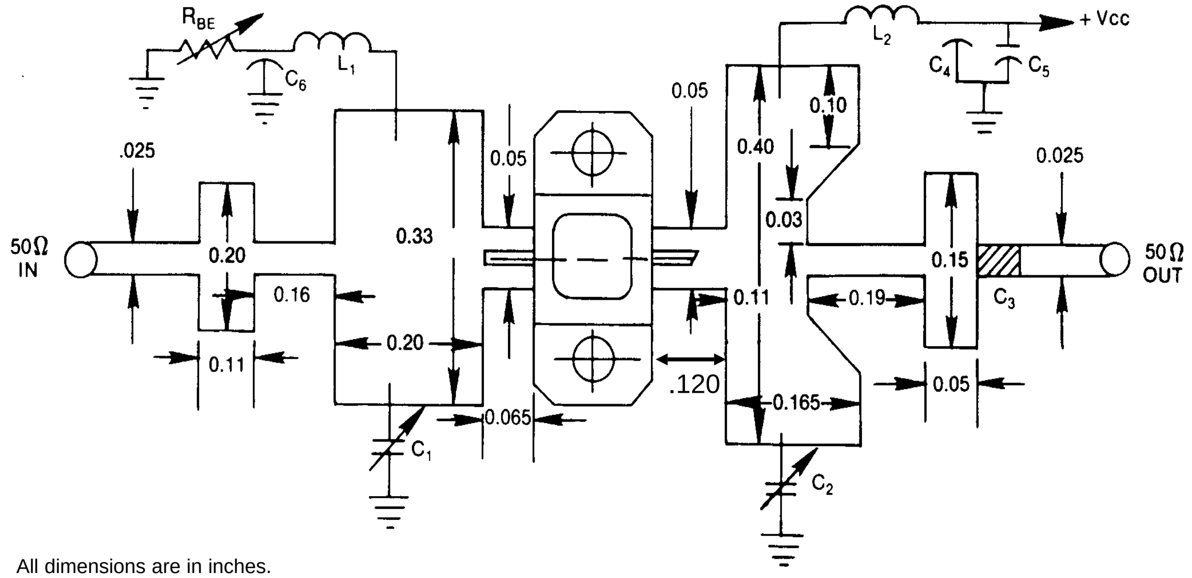
DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 960 — 1215MHz	P_{IN} = 13W	V_{CC} = 50V	90	100	—	W
η_c	f = 960 — 1215MHz	P_{IN} = 13W	V_{CC} = 50V	38	44	—	%
G_P	f = 960 — 1215MHz	P_{IN} = 13W	V_{CC} = 50V	8.4	—	—	dB

Note: Pulse Width = 10μSec
Duty Cycle = 10%

TEST CIRCUIT

Ref. Dwg. No. J-313120

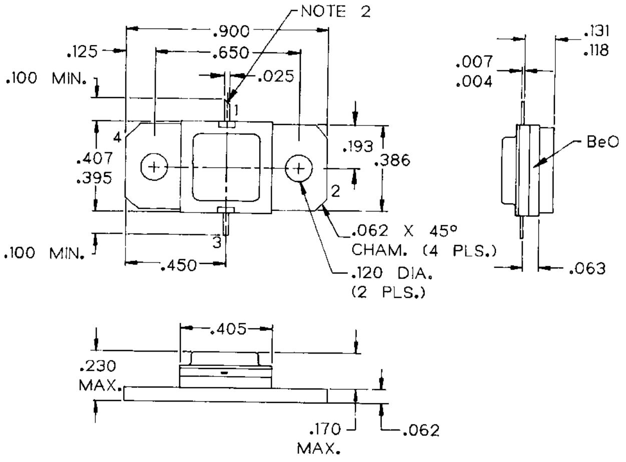


All dimensions are in inches.
Substrate material: .025 thick Al_2O_3

C1,C2 : 0.3 - 3.5 pF Johanson Capacitors, or Equiv.
C3 : 100 pF Chip Capacitor
C4,C6 : 1500 pF RF Feedthru
C5 : 100 MF, Electrolytic 50V
L1,L2 : No. 32 Wire, 4 Turn .062 I.D.
RBE : 0 - 1.0 Ohm

PACKAGE MECHANICAL DATA

Ref.: Dwg. No.: J113214F



NOTES:
1. ALL TOLERANCE ± .010 EXCEPT WHERE NOTED; DIMENSIONS IN INCHES.
2. COLLECTOR LEAD SLANT CUT.

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