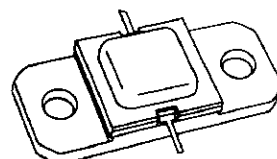


RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

- 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

AM0912-080

BRANDING

0912-80

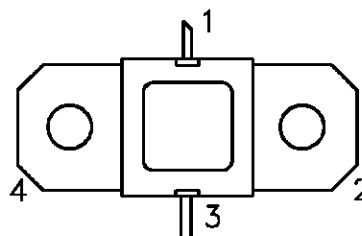
DESCRIPTION

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

2. Base

3. Emitter

4. Base

ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}C$)

Symbol	Parameter	Value	Unit
P_{DISS}	Power Dissipation* ($T_C \leq 100^{\circ}C$)	220	W
I_C	Device Current*	7.0	A
V_{CC}	Collector-Supply Voltage*	50	V
T_J	Junction Temperature (Pulsed RF Operation)	250	$^{\circ}C$
T_{STG}	Storage Temperature	- 65 to +200	$^{\circ}C$

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance*	0.80	$^{\circ}C/W$
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*Applies only to rated RF amplifier operation

AM0912-080

ELECTRICAL SPECIFICATIONS ($T_{\text{case}} = 25^{\circ}\text{C}$)

STATIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
BV_{CBO}	$I_{\text{C}} = 40\text{mA}$ $I_{\text{E}} = 0\text{mA}$	65	—	—	V
BV_{EBO}	$I_{\text{E}} = 10\text{mA}$ $I_{\text{C}} = 0\text{mA}$	3.0	—	—	V
BV_{CER}	$I_{\text{C}} = 40\text{mA}$ $R_{\text{BE}} = 10\Omega$	65	—	—	V
I_{CBO}	$V_{\text{CB}} = 50\text{V}$	—	—	12	mA
h_{FE}	$V_{\text{CE}} = 5\text{V}$ $I_{\text{C}} = 2\text{A}$	20	—	120	—

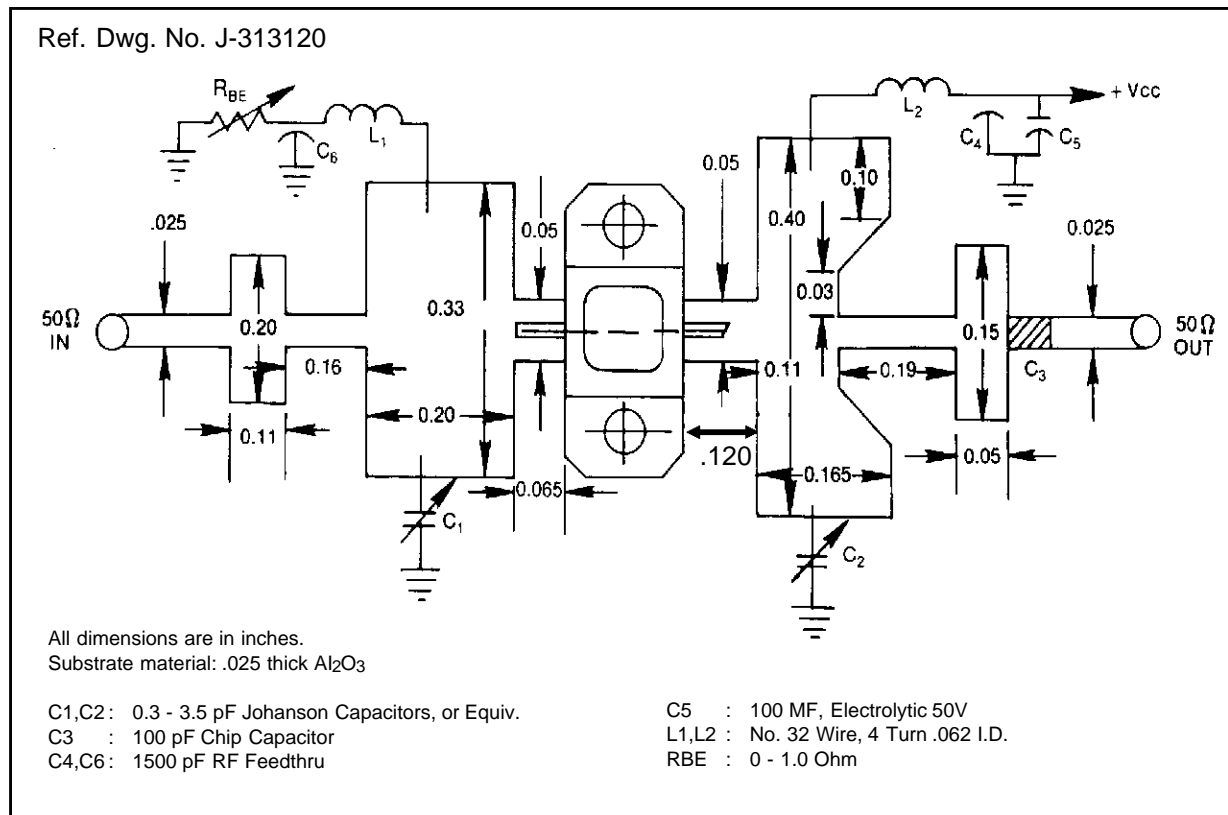
DYNAMIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
P_{OUT}	$f = 960 - 1215\text{MHz}$ $P_{\text{IN}} = 13\text{W}$ $V_{\text{CC}} = 50\text{V}$	90	100	—	W
η_{C}	$f = 960 - 1215\text{MHz}$ $P_{\text{IN}} = 13\text{W}$ $V_{\text{CC}} = 50\text{V}$	38	44	—	%
G_{P}	$f = 960 - 1215\text{MHz}$ $P_{\text{IN}} = 13\text{W}$ $V_{\text{CC}} = 50\text{V}$	8.4	—	—	dB

Note: Pulse Width = $10\mu\text{Sec}$

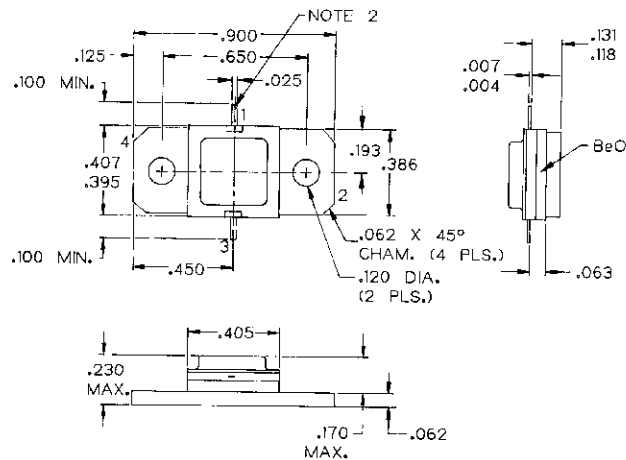
Duty Cycle = 10%

TEST CIRCUIT



PACKAGE MECHANICAL DATA

Ref.: Dwg. No.: J113214F



NOTES:

1. ALL TOLERANCE $\pm .010$ EXCEPT WHERE NOTED;
DIMENSIONS IN INCHES.
2. COLLECTOR LEAD SLANT CUT.

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