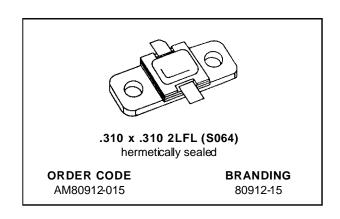


AM80912-015

RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

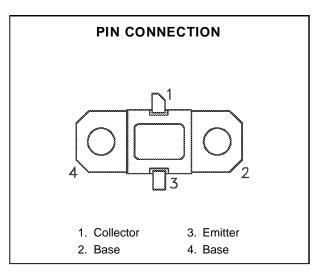
- REFRACTORY/GOLD METALLIZATION
- EMITTER SITE BALLASTED
- ∞:1 VSWR CAPABILITY
- LOW THERMAL RESISTANCE
- INPUT MATCHING
- METAL/CERAMIC HERMETIC PACKAGE
- Pout = 15 W MIN. WITH 8.1 dB GAIN
- BANDWIDTH 255 MHz



DESCRIPTION

The AM80912-015 is designed for specialized avionics applications, including JTIDS, where power is provided under pulse formats utilizing short pulse widths and high burst or overall duty cycles.

The AM80912-015 is housed in the unique IMPAC™ Hermetic Metal/Ceramic package with



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

Symbol	Parameter	Value	Unit
P _{DISS}	Power Dissipation*(T _C ≤ 100°C)	50	W
lc	Device Current*	1.8	А
Vcc	Collector-Supply Voltage*	32	V
TJ	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*	3.0	°C/W
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^{*}Applies only to rated RF amplifier operation

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

STATIC

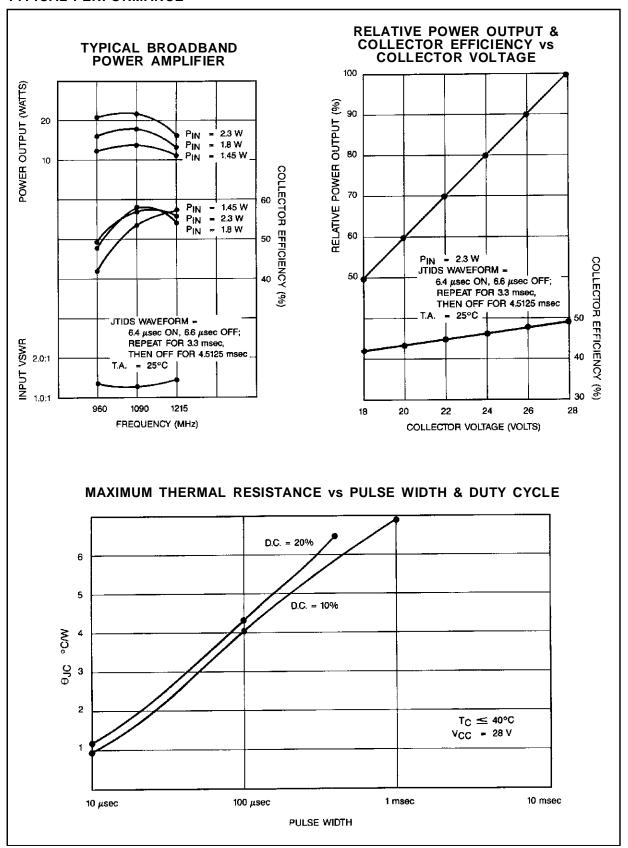
			Value				
Symbol		Test Conditions		Min.	Тур.	Max.	Unit
ВУсво	I _C = 10mA	$I_E = 0mA$		55	_		V
BV _{EBO}	I _E = 1mA	$I_C = 0mA$		3.5	_		V
BV _{CER}	IC = 10mA	$R_{BE} = 10\Omega$		55	_	_	V
I _{CES}	V _{BE} = 0V	V _{CE} = 28V		_	_	2.0	mA
h _{FE}	V _{CE} = 5V	I _C = 500mA		15	_	150	_

DYNAMIC

			Value				
Symbol	Test Conditions			Min.	Тур.	Max.	Unit
Pout	f = 960 — 1215MHz	$P_{IN} = 2.3W$	$V_{CC} = 28V$	15	17	_	W
ης	f = 960 — 1215MHz	$P_{IN} = 2.3W$	$V_{CC} = 28V$	45	49	_	%
G _P	f = 960 — 1215MHz	$P_{IN}=2.3W$	$V_{CC} = 28V$	8.1	8.9	_	dB

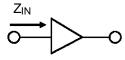
Note: Pulse format: $6.4~\mu S$ on $6.6~\mu S$ off, repeat for 3.3~m s, then off for 4.5125~m s. Duty Cycle: Burst 49.2%, overall 20.8%

TYPICAL PERFORMANCE



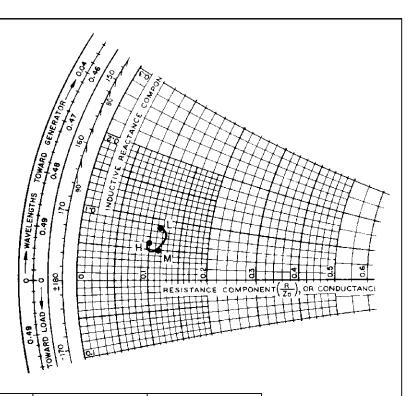
IMPEDANCE DATA

TYPICAL INPUT IMPEDANCE



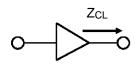
 $P_{IN} = 2.3 W$ $V_{CC} = 28 V$

 $Z_{O}^* = 50 \text{ ohms}$



FREQ.	$Z_{IN} \; (\Omega)$	$Z_{CL}\left(\Omega\right)$
L = 960 MHz	5.7 + j 4.3	5.7 + j 7.7
M = 1090 MHz	5.8 + j 2.5	4.3 + j 6.5
H = 1215 MHz	5.0 + j 3.0	4.0 + j 4.8

TYPICAL COLLECTOR LOAD IMPEDANCE

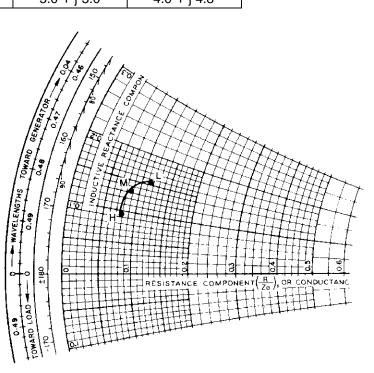


 $P_{IN} = 2.3 \text{ W}$

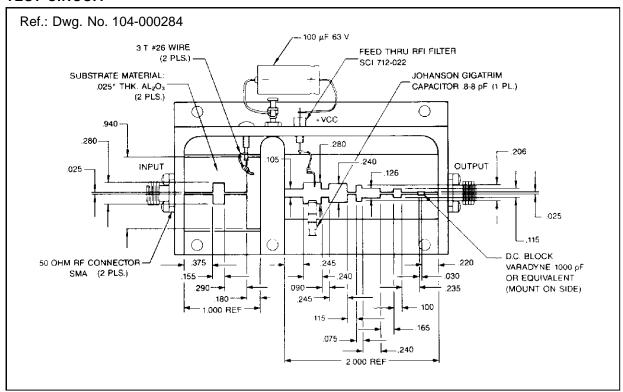
 $V_{CC} = 28 V$

 $Z_{O}^* = 50 \text{ ohms}$

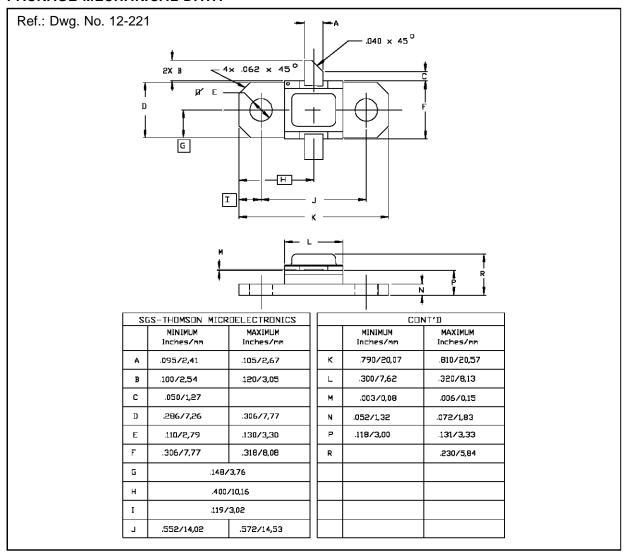
*Normalized Impedance



TEST CIRCUIT



PACKAGE MECHANICAL DATA



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