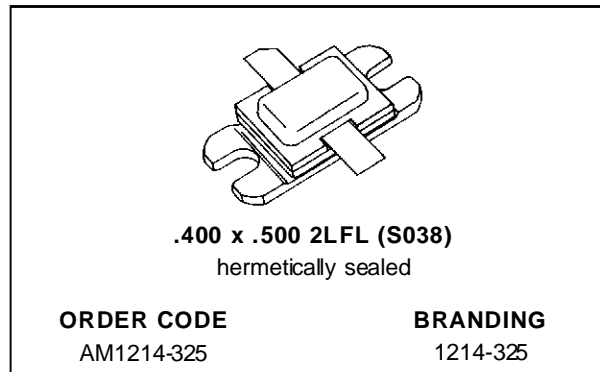


RF & MICROWAVE TRANSISTORS L-BAND RADAR APPLICATIONS

- REFRACTORY/GOLD METALLIZATION
- EMITTER SITE BALLASTED
- 5:1 VSWR CAPABILITY
- LOW THERMAL RESISTANCE
- INPUT/OUTPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- P_{OUT} = 325 W MIN. WITH 6.4 dB GAIN

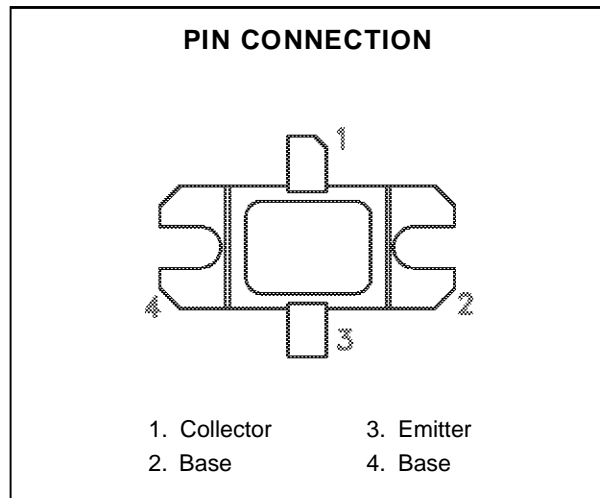


DESCRIPTION

The AM1214-325 device is a high power transistor specifically designed for L-Band radar pulsed output and driver applications.

This device is designed for operation under moderate pulse width and duty cycle conditions and is capable of withstanding 5:1 VSWR at rated RF conditions. Low RF thermal resistance and computerized automatic wire bonding techniques ensure high reliability and product consistency.

The AM1214-325 is supplied in the BIGPAC™ Hermetic Metal/Ceramic package with internal Input/Output matching structures.



ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C)

Symbol	Parameter	Value	Unit
P _{DISS}	Power Dissipation* (T _c ≤ 100°C)	1250	W
I _c	Device Current*	25	A
V _{CC}	Collector-Supply Voltage*	45	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*	0.10	°C/W
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*Applies only to rated RF amplifier operation

AM1214-325

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 = 15mA	I _C = 0mA	3.0	—	—	V
BV _{CES}	I _C = 50mA		65	—	—	V
I _{CES}	V _{CE} = 50V		—	—	30	mA
h _{FE}	V _{CE} = 5V	I _C = 5A	10	—	—	—

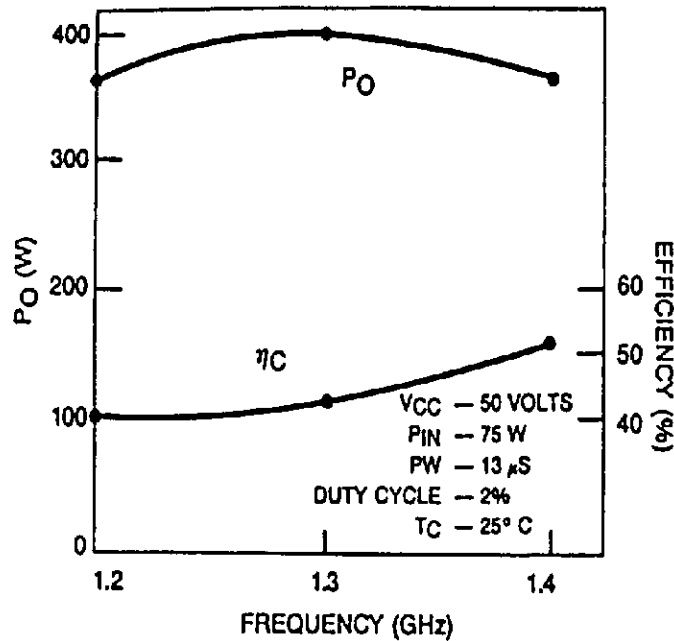
DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P _{OUT}	f = 1200 — 1400MHz	P _{IN} = 75W	V _{CC} = 45V	325	360	—	W
η _c	f = 1200 — 1400MHz	P _{IN} = 75W	V _{CC} = 45V	38	45	—	%
G _P	f = 1200 — 1400MHz	P _{IN} = 75W	V _{CC} = 45V	6.4	6.8	—	dB

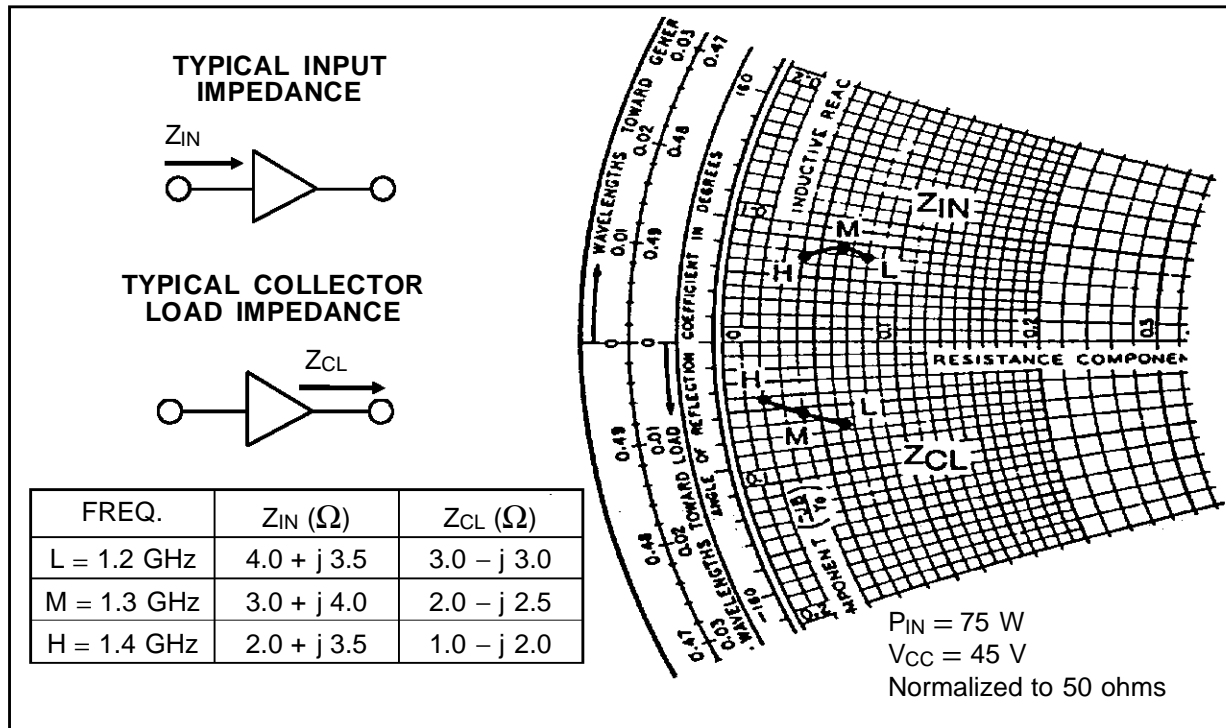
Note: Pulse Width = 13μSec
Duty Cycle = 2%

TYPICAL PERFORMANCE

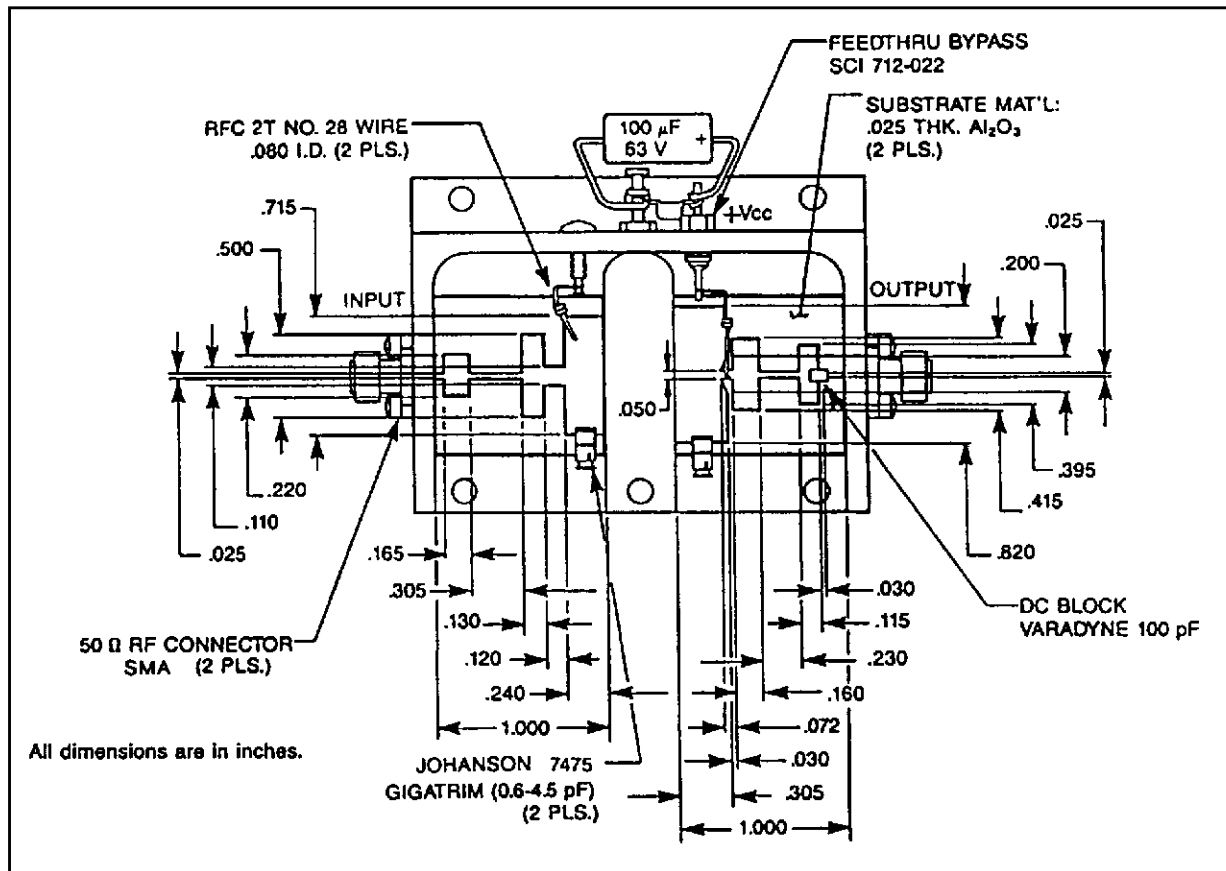
POWER OUTPUT & EFFICIENCY
vs FREQUENCY



IMPEDANCE DATA

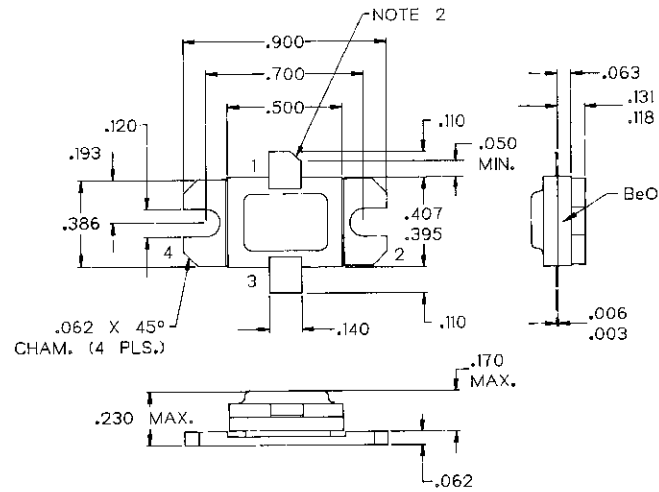


TEST CIRCUIT



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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