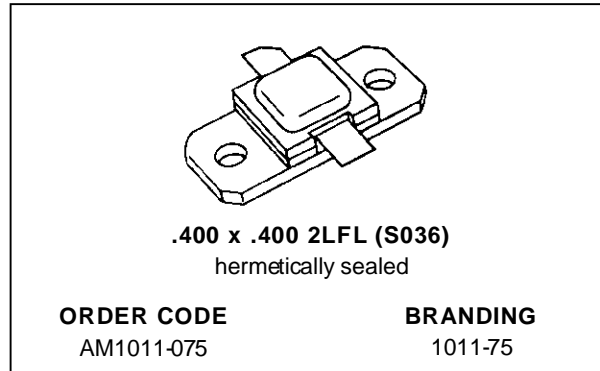


RF & MICROWAVE TRANSISTORS L-BAND AVIONICS APPLICATIONS

- REFRACTORY/GOLD METALLIZATION
- EMITTER SITE BALLASTED
- 10:1 VSWR CAPABILITY
- LOW THERMAL RESISTANCE
- INPUT/OUTPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- P_{OUT} = 75 W MIN. WITH 9.2 dB GAIN

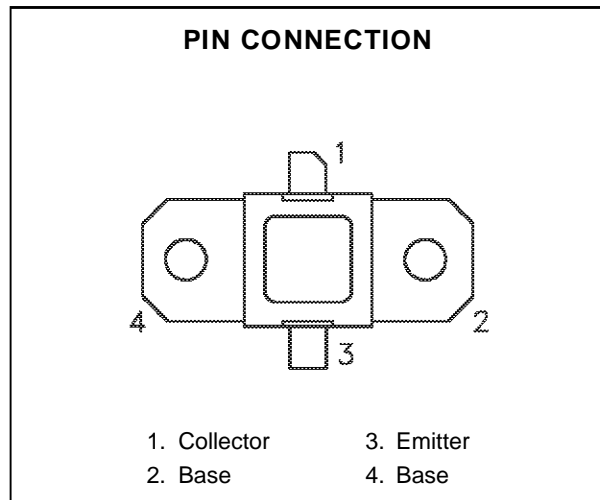


DESCRIPTION

The AM1011-075 device is a high power Class C transistor specifically designed for L-Band Avionics transponder/interrogator pulsed output and driver applications.

This device is capable of operation over a wide range of pulse widths, duty cycles, and temperatures and is capable of withstanding 10:1 output VSWR at rated RF conditions. Low RF thermal resistance and computerized automatic wire bonding techniques ensure high reliability and product consistency.

The AM1011-075 is supplied in the AMPAC™ 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)	175	W
I _C	Device Current*	5.4	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*	0.86	°C/W
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*Applies only to rated RF amplifier operation

AM1011-075

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

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV _{CBO}	I _C = 10mA	I _E = 0mA	65	—	—	V
BV _{EBO}	I _E = 4mA	I _C = 0mA	3.5	—	—	V
BV _{CER}	I _C = 20mA	R _{BE} = 10Ω	65	—	—	V
I _{CES}	V _{CE} = 50V		—	—	6	mA
h _{FE}	V _{CE} = 5V	I _C = 1mA	10	—	—	—

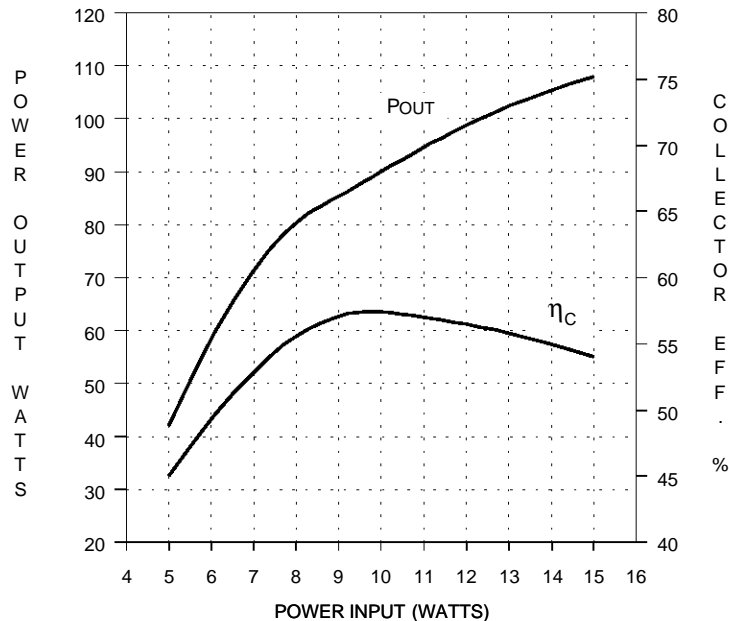
DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P _{OUT}	f = 1090MHz	P _{IN} = 9W Peak	V _{CC} = 50V	75	84	—	W
η _c	f = 1090MHz	P _{IN} = 9W Peak	V _{CC} = 50V	48	56	—	%
G _P	f = 1090MHz	P _{IN} = 9W Peak	V _{CC} = 50V	9.2	9.7	—	dB

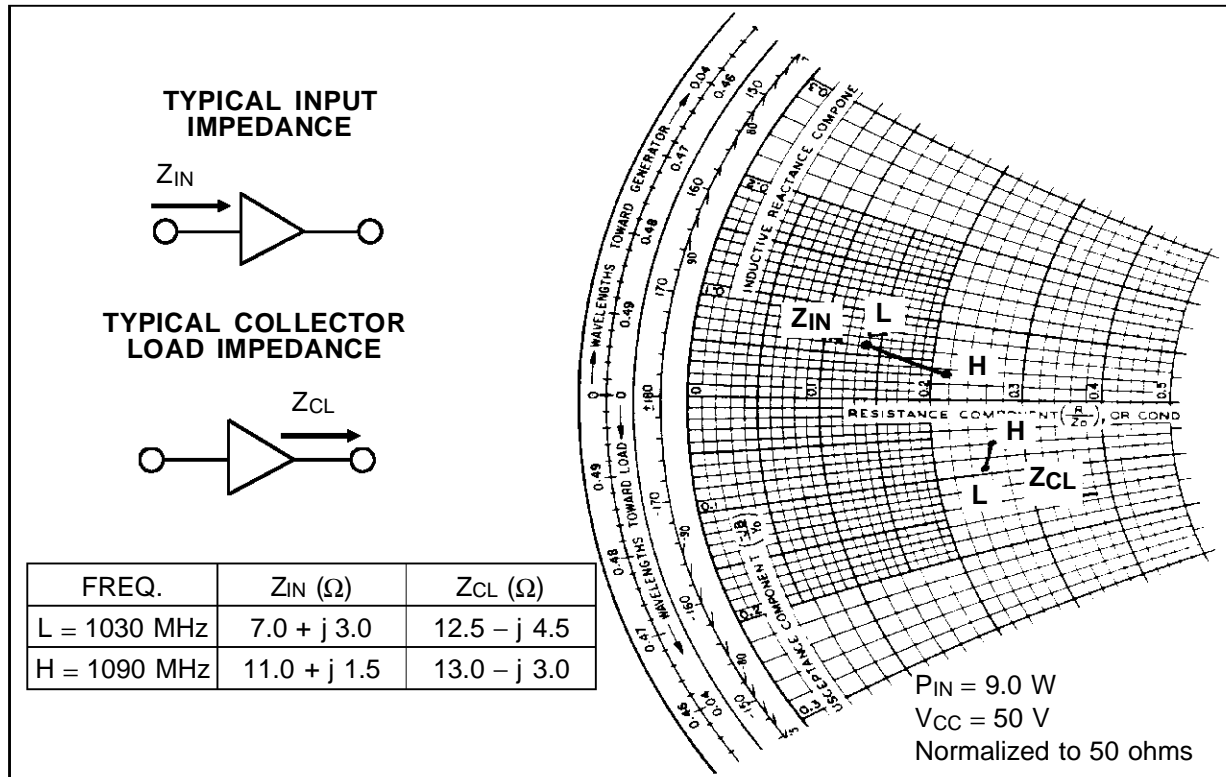
Note: Pulse Width = 32μSec
Duty Cycle = 2%

TYPICAL PERFORMANCE

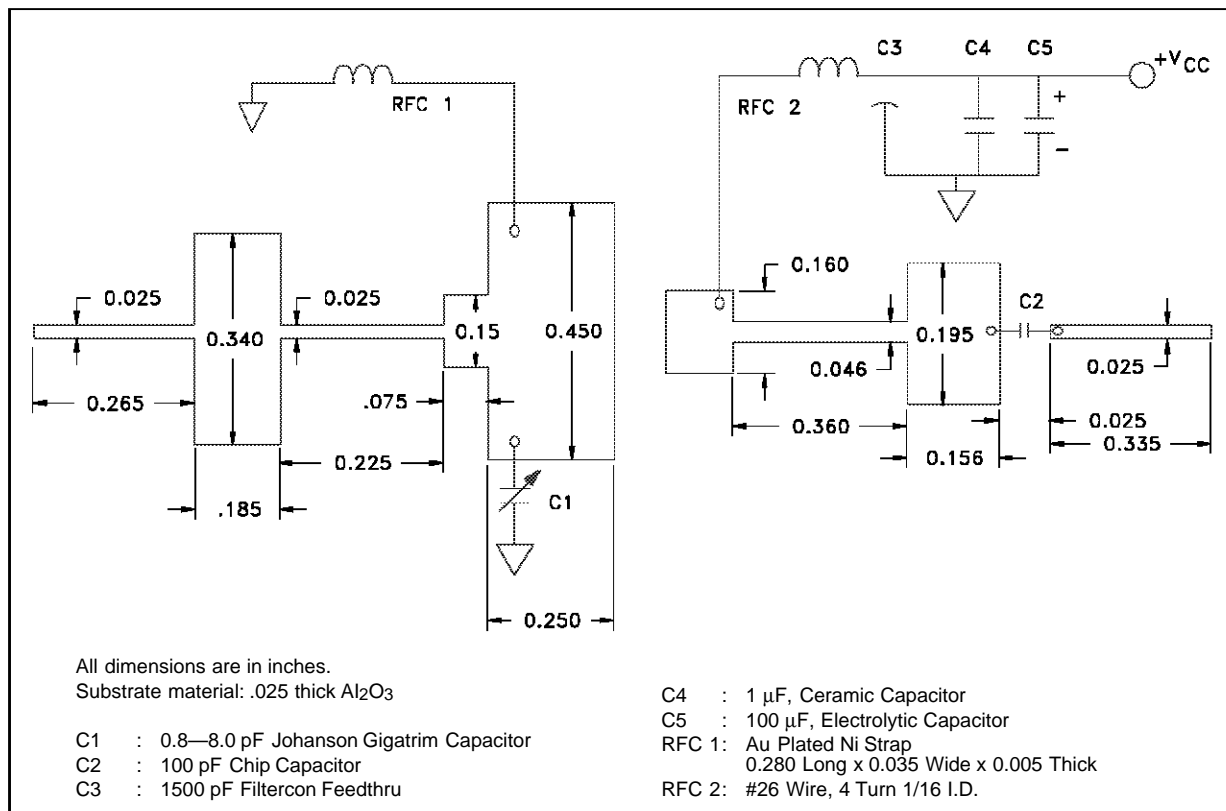
TYPICAL POWER OUTPUT & COLLECTOR EFFICIENCY vs POWER INPUT



IMPEDANCE DATA

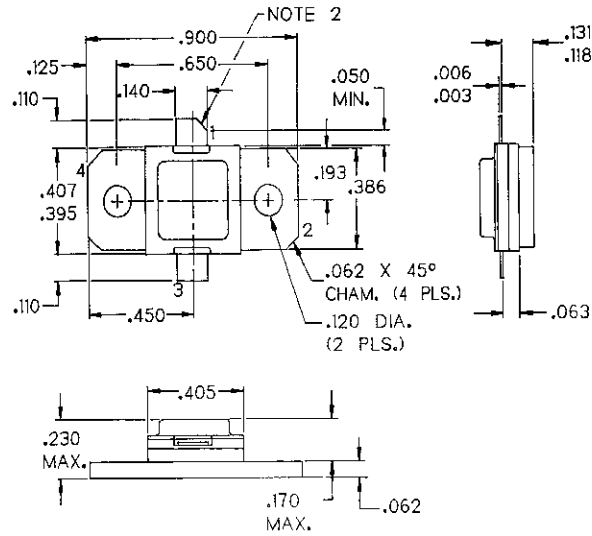


TEST CIRCUIT



PACKAGE MECHANICAL DATA

Ref.: Dwg. No.: J133102E



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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