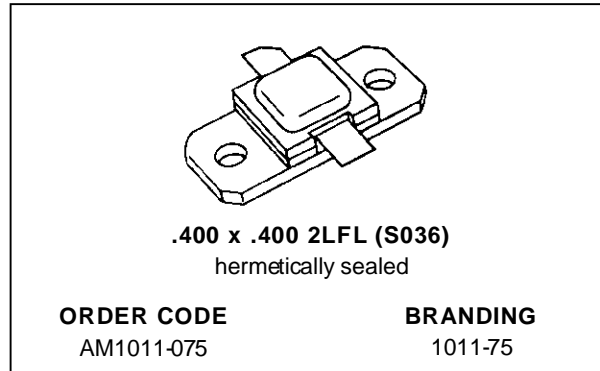


## RF & MICROWAVE TRANSISTORS L-BAND AVIONICS APPLICATIONS

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

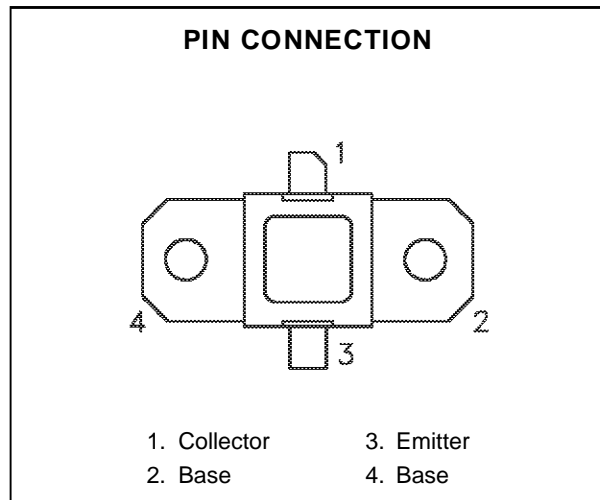


### DESCRIPTION

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<sub>case</sub> = 25°C)

Symbol	Parameter	Value	Unit
P <sub>DISS</sub>	Power Dissipation* (T <sub>C</sub> ≤ 100°C)	175	W
I <sub>C</sub>	Device Current*	5.4	A
V <sub>CC</sub>	Collector-Supply Voltage*	55	V
T <sub>J</sub>	Junction Temperature (Pulsed RF Operation)	250	°C
T <sub>STG</sub>	Storage Temperature	- 65 to +200	°C

### THERMAL DATA

R <sub>TH(j-c)</sub>	Junction-Case Thermal Resistance*	0.86	°C/W
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\*Applies only to rated RF amplifier operation

# AM1011-075

## ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = 25°C)

### STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV <sub>CBO</sub>	I <sub>C</sub> = 10mA	I <sub>E</sub> = 0mA	65	—	—	V
BV <sub>EBO</sub>	I <sub>E</sub> = 4mA	I <sub>C</sub> = 0mA	3.5	—	—	V
BV <sub>CER</sub>	I <sub>C</sub> = 20mA	R <sub>BE</sub> = 10Ω	65	—	—	V
I <sub>CES</sub>	V <sub>CE</sub> = 50V		—	—	6	mA
h <sub>FE</sub>	V <sub>CE</sub> = 5V	I <sub>C</sub> = 1mA	10	—	—	—

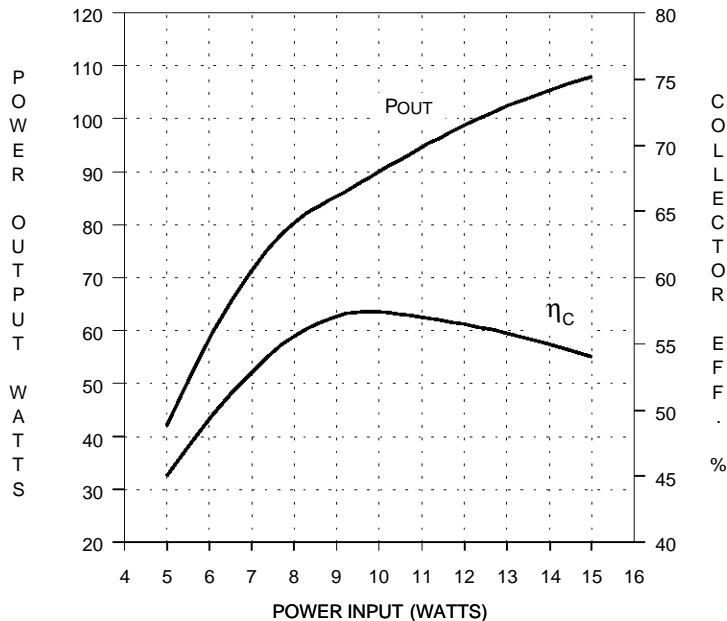
### DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P <sub>OUT</sub>	f = 1090MHz	P <sub>IN</sub> = 9W Peak	V <sub>CC</sub> = 50V	75	84	—	W
η <sub>c</sub>	f = 1090MHz	P <sub>IN</sub> = 9W Peak	V <sub>CC</sub> = 50V	48	56	—	%
G <sub>P</sub>	f = 1090MHz	P <sub>IN</sub> = 9W Peak	V <sub>CC</sub> = 50V	9.2	9.7	—	dB

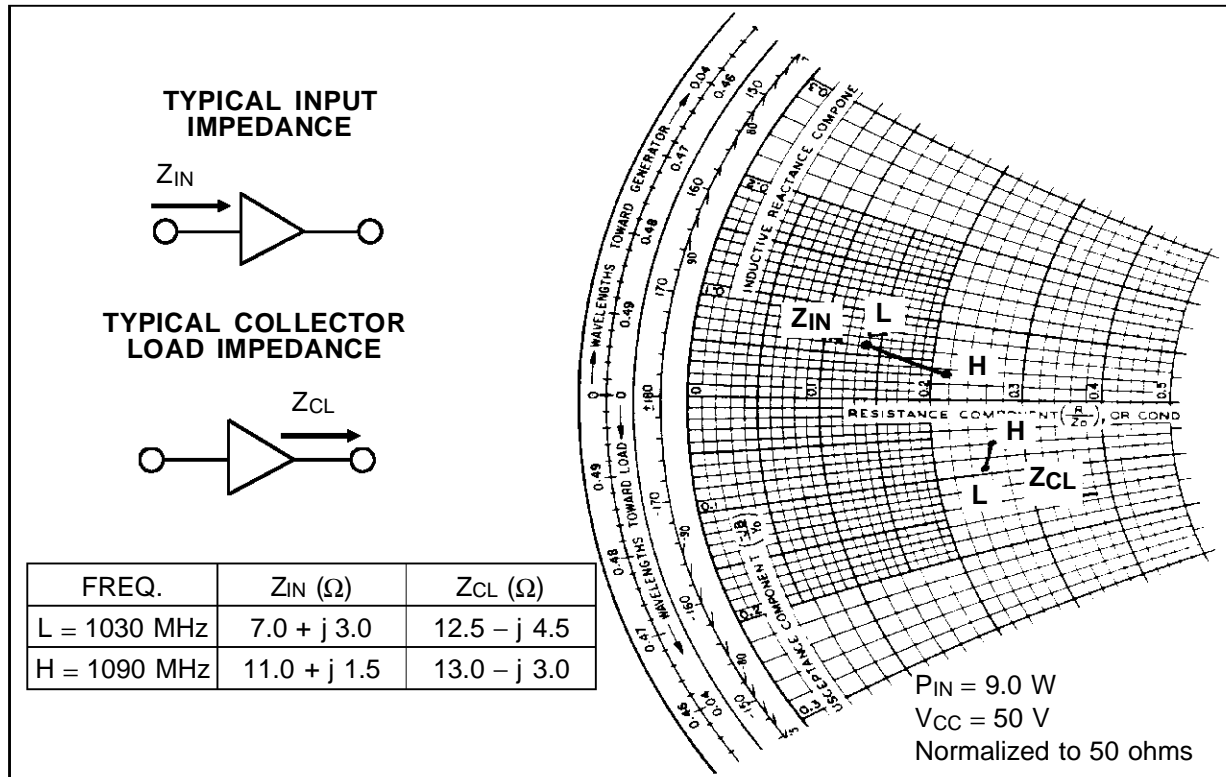
Note: Pulse Width = 32μSec  
Duty Cycle = 2%

### TYPICAL PERFORMANCE

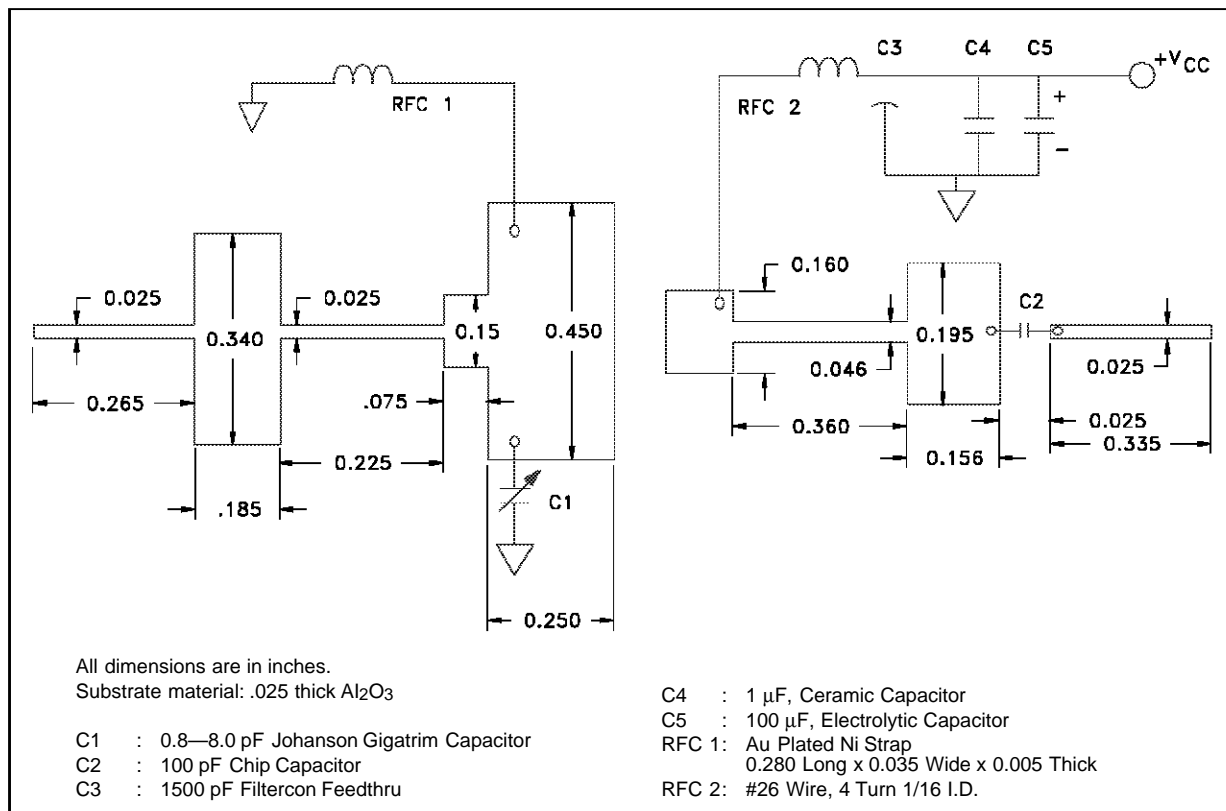
TYPICAL POWER OUTPUT & COLLECTOR EFFICIENCY vs POWER INPUT



IMPEDANCE DATA

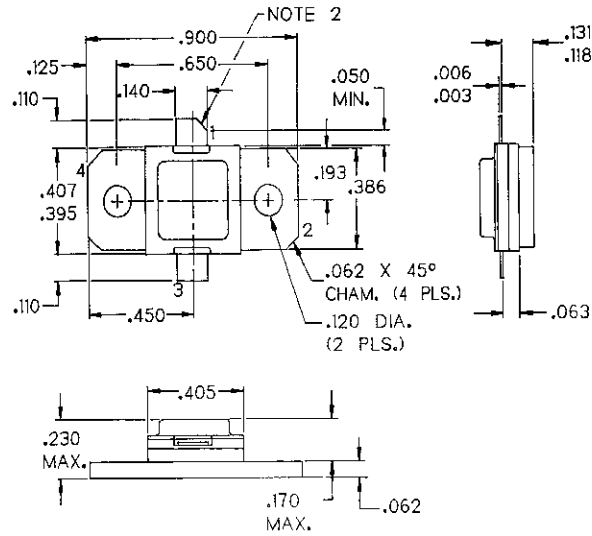


TEST CIRCUIT



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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