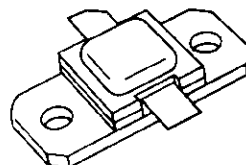


RF & MICROWAVE TRANSISTORS L-BAND AVIONICS APPLICATIONS

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



.400 x .400 2LFL (S036)
hermetically sealed

ORDER CODE

AM1011-075

BRANDING

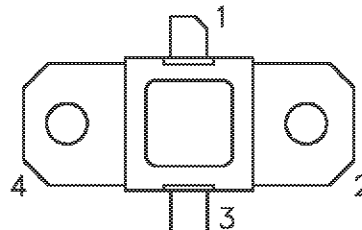
1011-75

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.

PIN CONNECTION


- | | |
|--------------|------------|
| 1. Collector | 3. Emitter |
| 2. Base | 4. Base |

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

Symbol	Parameter	Value	Unit
P_{DISS}	Power Dissipation* ($T_C \leq 100^{\circ}\text{C}$)	175	W
I_C	Device Current*	5.4	A
V_{CC}	Collector-Supply Voltage*	55	V
T_J	Junction Temperature (Pulsed RF Operation)	250	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	- 65 to +200	$^{\circ}\text{C}$

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance*	0.86	$^{\circ}\text{C/W}$
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*Applies only to rated RF amplifier operation

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

STATIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
BV_{CBO}	$I_{\text{C}} = 10\text{mA}$ $I_{\text{E}} = 0\text{mA}$	65	—	—	V
BV_{EBO}	$I_{\text{E}} = 4\text{mA}$ $I_{\text{C}} = 0\text{mA}$	3.5	—	—	V
BV_{CER}	$I_{\text{C}} = 20\text{mA}$ $R_{\text{BE}} = 10\Omega$	65	—	—	V
I_{CES}	$V_{\text{CE}} = 50\text{V}$	—	—	6	mA
h_{FE}	$V_{\text{CE}} = 5\text{V}$ $I_{\text{C}} = 1\text{mA}$	10	—	—	—

DYNAMIC

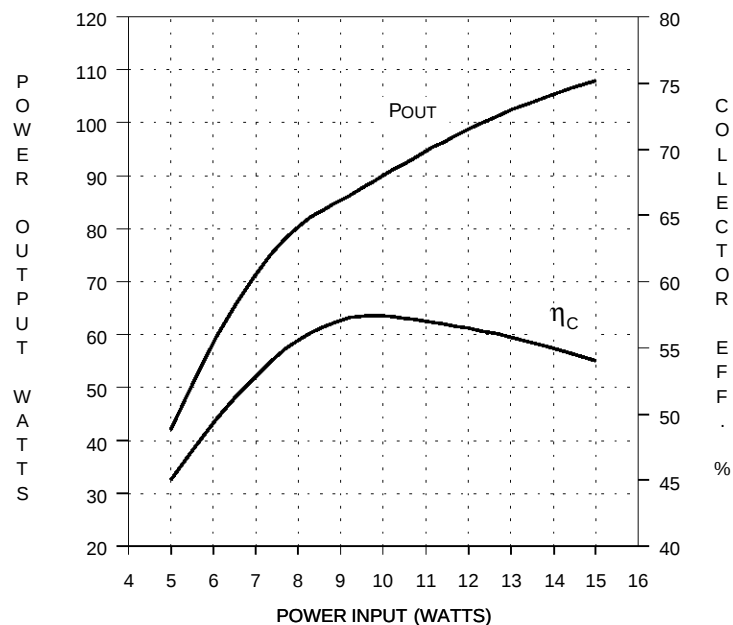
Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
P_{OUT}	$f = 1090\text{MHz}$ $P_{\text{IN}} = 9\text{W Peak}$ $V_{\text{CC}} = 50\text{V}$	75	84	—	W
η_{C}	$f = 1090\text{MHz}$ $P_{\text{IN}} = 9\text{W Peak}$ $V_{\text{CC}} = 50\text{V}$	48	56	—	%
G_{P}	$f = 1090\text{MHz}$ $P_{\text{IN}} = 9\text{W Peak}$ $V_{\text{CC}} = 50\text{V}$	9.2	9.7	—	dB

 Note: Pulse Width = $32\mu\text{Sec}$

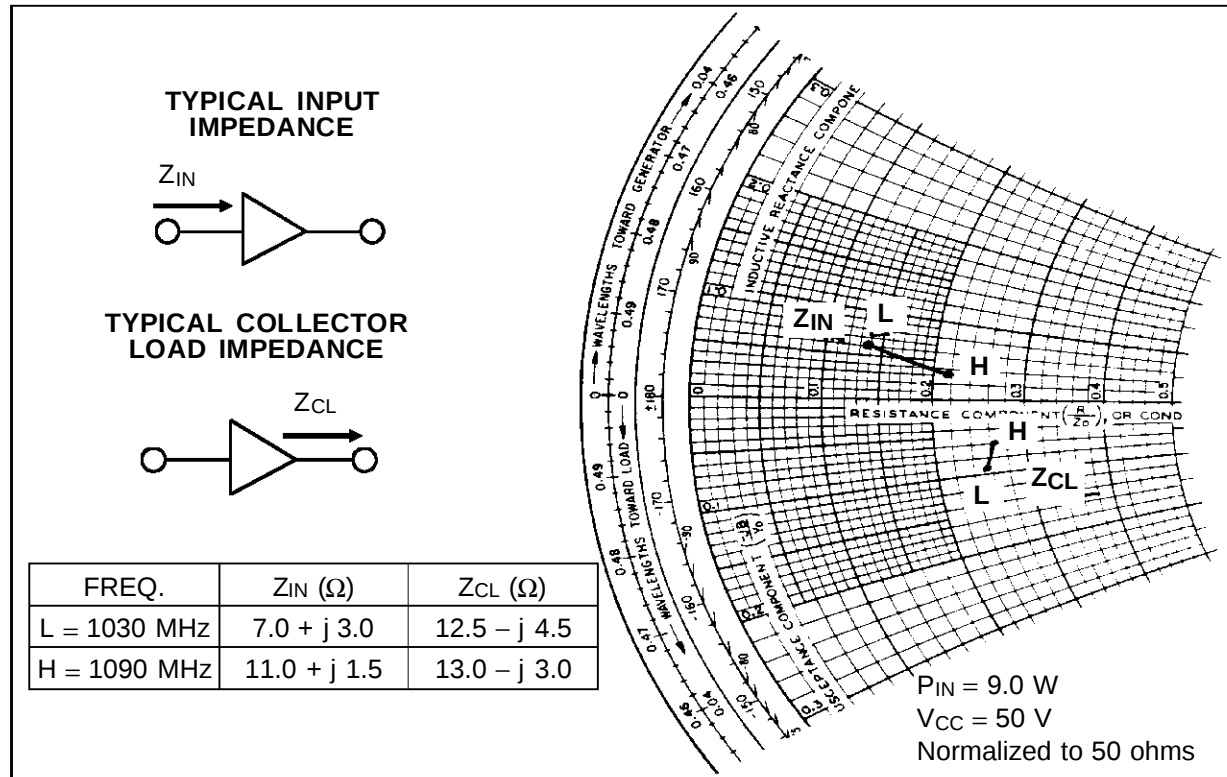
Duty Cycle = 2%

TYPICAL PERFORMANCE

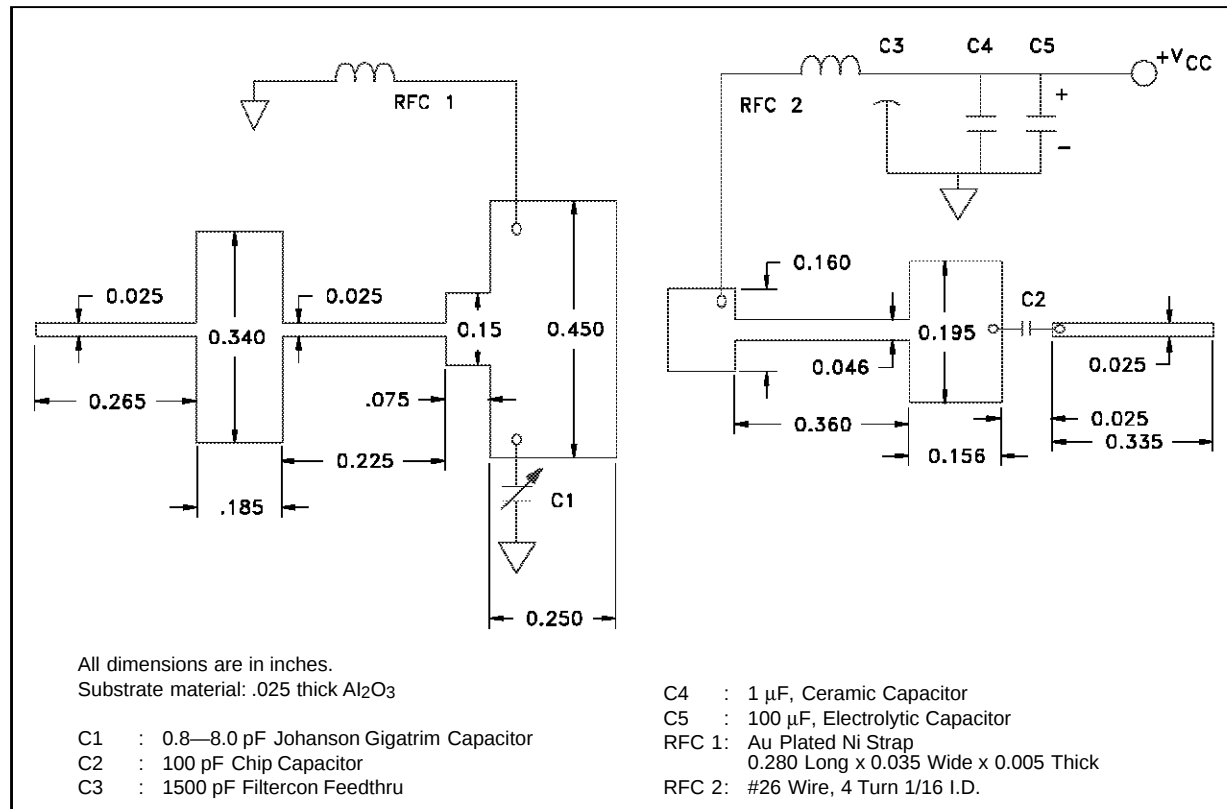
TYPICAL POWER OUTPUT & COLLECTOR EFFICIENCY vs POWER INPUT



IMPEDANCE DATA

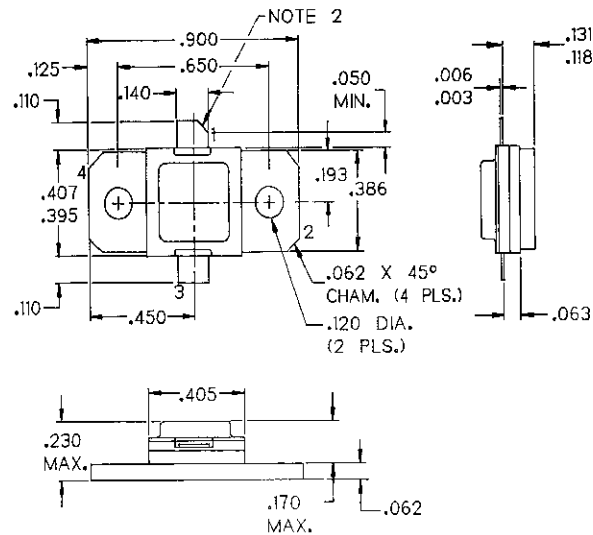


TEST CIRCUIT



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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