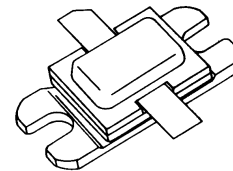


RF & MICROWAVE TRANSISTORS L-BAND AVIONICS APPLICATIONS

- REFRACTORY/GOLD METALLIZATION
- EMITTER SITE BALLASTED
- 15:1 VSWR CAPABILITY
- LOW THERMAL RESISTANCE
- INPUT/OUTPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- P_{OUT} = 400 W MIN. WITH 8.0 dB GAIN



.400 x .500 2LFL (S038)
hermetically sealed

ORDER CODE
AM1011-400

BRANDING
1011-400

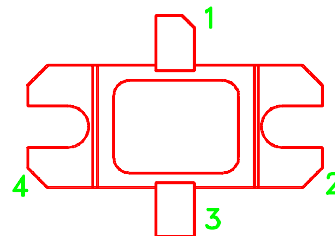
DESCRIPTION

The AM1011-400 device is a high power Class C transistor specifically designed for TCAS and Mode-S pulsed output and driver applications.

This device is designed for operation under moderate pulse width and duty cycle pulse conditions and is capable of withstanding 15:1 output VSWR at rated RF conditions. Low RF thermal resistance and computerized automatic wire bonding techniques ensure high reliability and product consistency.

The AM1011-400 is supplied in the BIGPAC™ Hermetic Metal/Ceramic package Input/Output matching structures.

PIN CONNECTION



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

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

Symbol	Parameter	Value	Unit
P _{DISS}	Power Dissipation* (T _C ≤ 100°C)	880	W
I _C	Device Current*	24	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*	0.17	°C/W
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*Applies only to rated RF amplifier operation

AM1011-400

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

STATIC

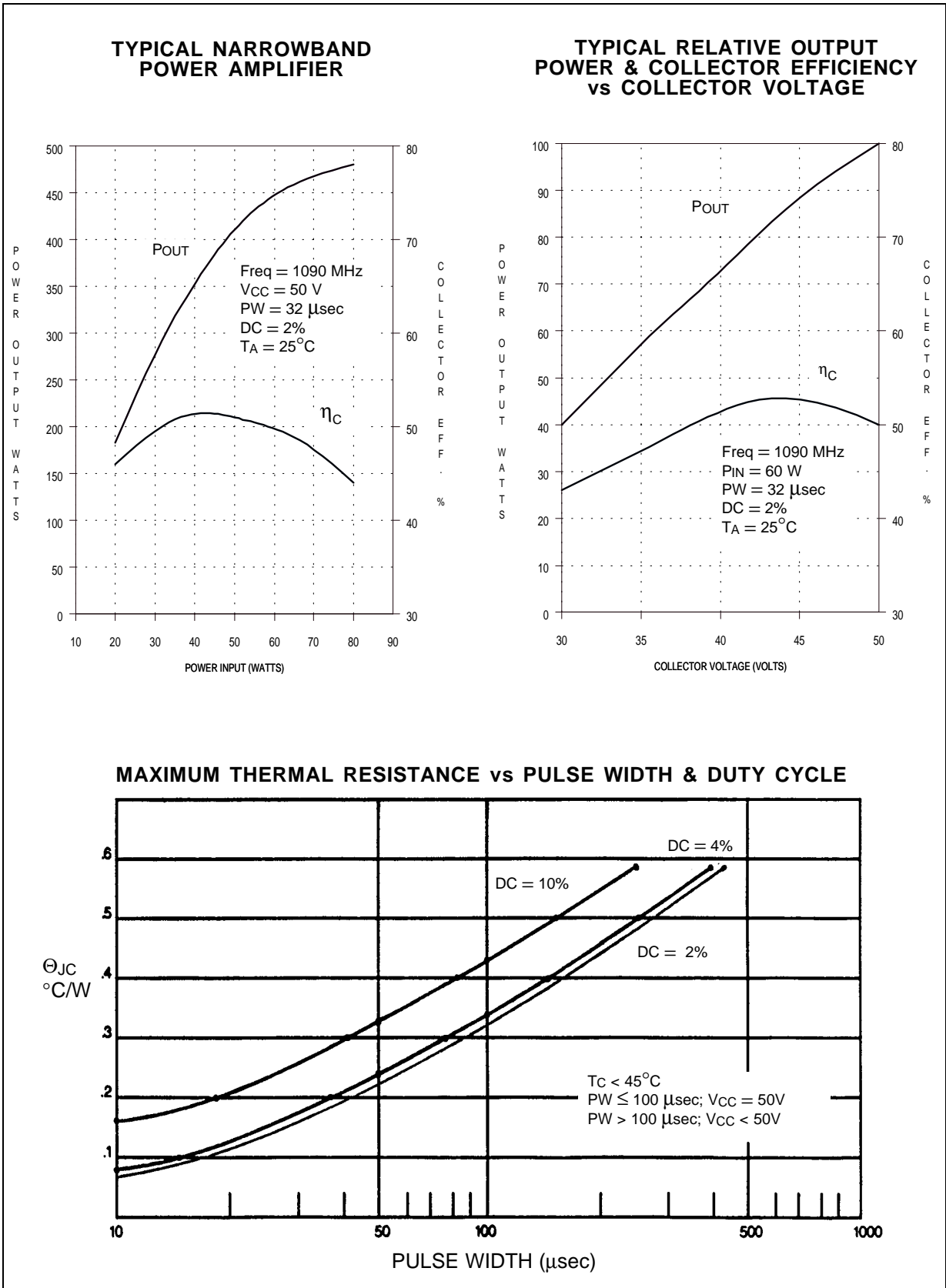
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
BV_{CBO}	$I_C = 50mA$	$I_E = 0mA$	65	—	—	V	
BV_{EBO}	$I_E = 15mA$	$I_C = 0mA$	3.5	—	—	V	
BV_{CER}	$I_C = 50mA$	$R_{BE} = 10\Omega$	65	—	—	V	
I_{CES}	$V_{BE} = 50V$	$V_{CE} = 0V$	—	—	30	mA	
h_{FE}	$V_{CE} = 5V$	$I_C = 5A$	10	—	—	—	

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	$f = 1090MHz$	$P_{IN} = 63W$	$V_{CC} = 50V$	400	450	—	W
η_c	$f = 1090MHz$	$P_{IN} = 63W$	$V_{CC} = 50V$	45	50	—	%
G_P	$f = 1090MHz$	$P_{IN} = 63W$	$V_{CC} = 50V$	8.0	8.5	—	dB

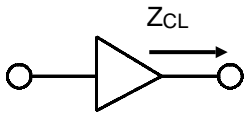
Note: Pulse Width = $32\mu Sec$
Duty Cycle = 2%

TYPICAL PERFORMANCE



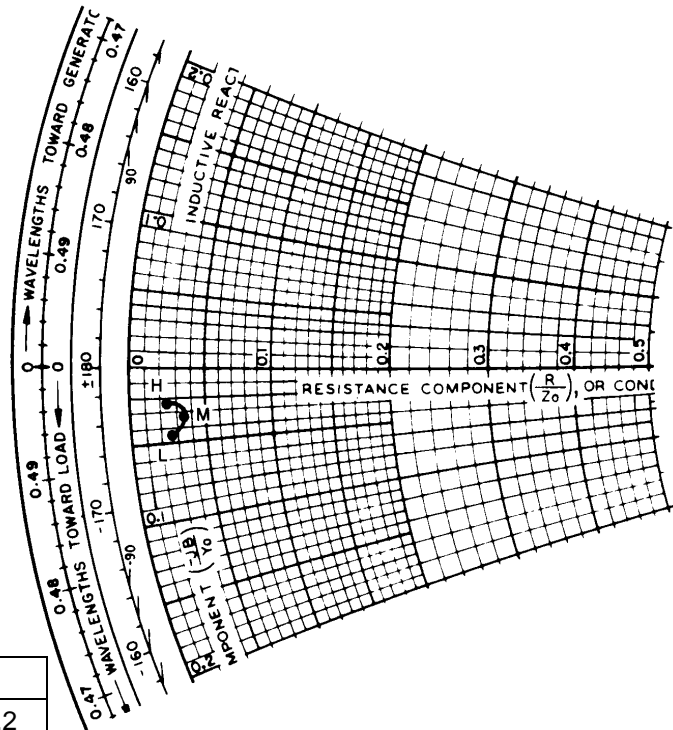
IMPEDANCE DATA

TYPICAL COLLECTOR LOAD IMPEDANCE

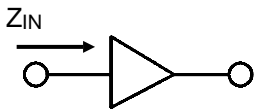


$P_{IN} = 63 \text{ W}$
 $V_{CC} = +50 \text{ V}$
 $Z_{O^*} = 50 \Omega$

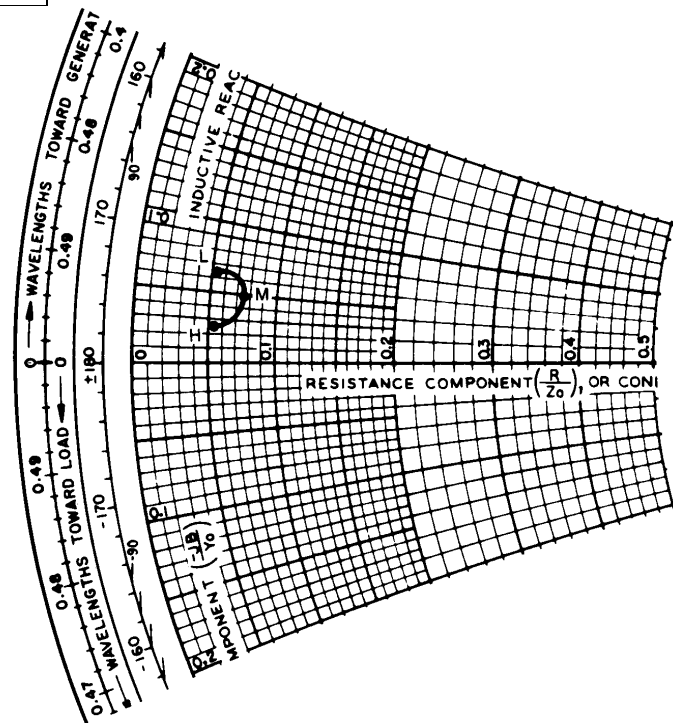
FREQ.	$Z_{IN} (\Omega)$	$Z_{CL} (\Omega)$
L = 1025 MHz	$2.4 + j 3.2$	$1.4 - j 2.2$
M = 1090 MHz	$3.8 + j 2.5$	$1.6 - j 1.6$
H = 1150 MHz	$2.3 + j 1.3$	$1.2 - j 1.1$



TYPICAL INPUT IMPEDANCE

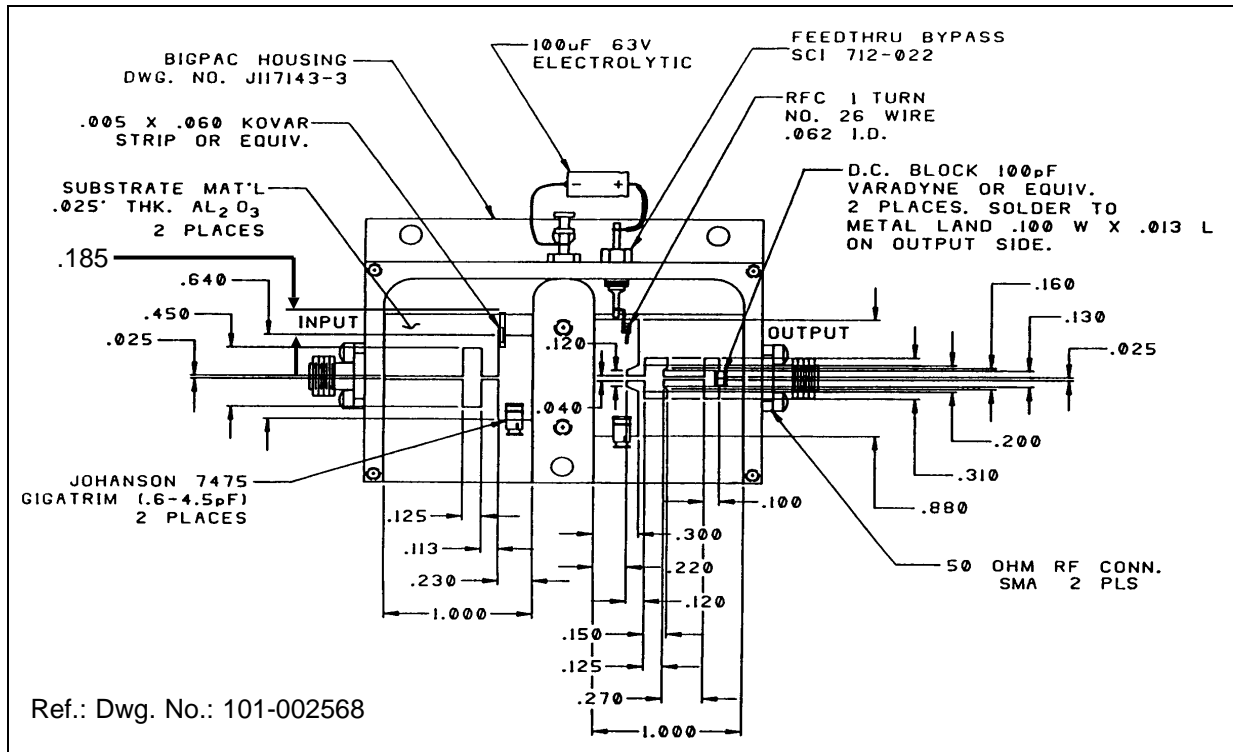


$P_{IN} = 63 \text{ W}$
 $V_{CC} = +50 \text{ V}$
 $Z_{O^*} = 50 \Omega$

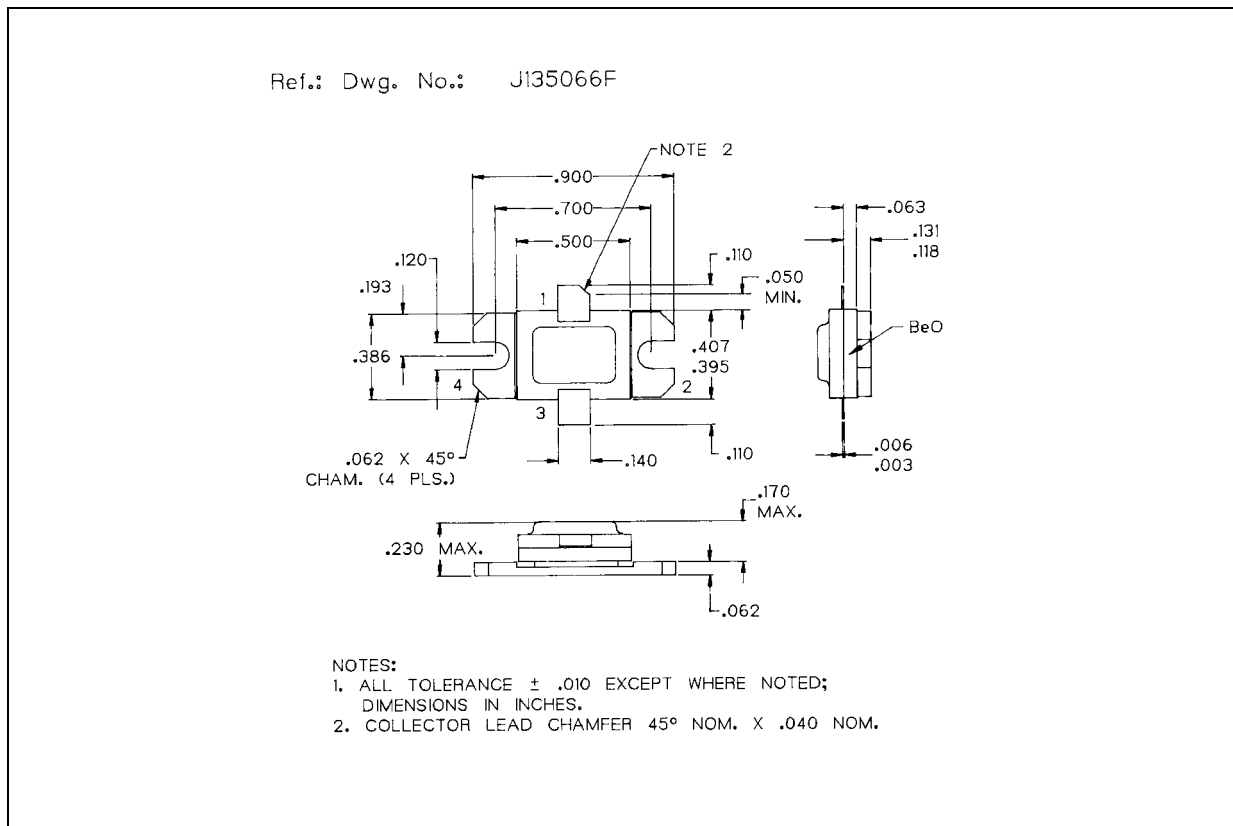


*Normalized Impedance

TEST CIRCUIT



PACKAGE MECHANICAL DATA



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