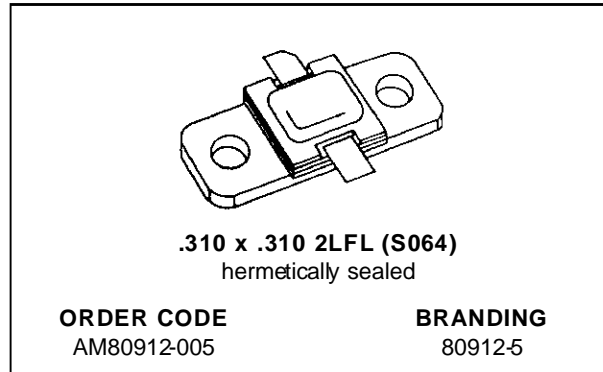


## RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

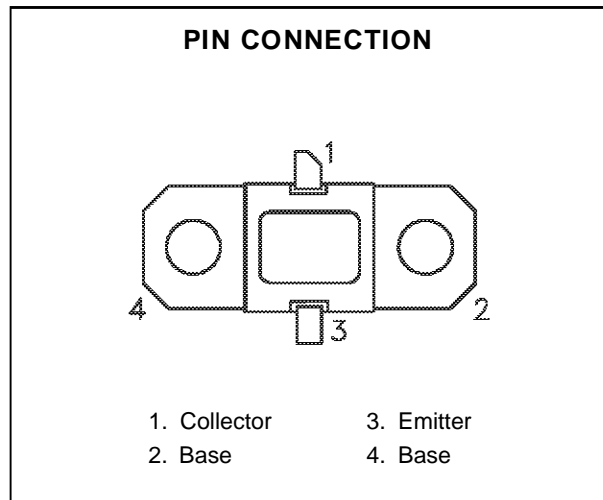
- REFRACTORY/GOLD METALLIZATION
- EMITTER SITE BALLASTED
- 5:1 VSWR CAPABILITY
- LOW THERMAL RESISTANCE
- INPUT/OUTPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- P<sub>OUT</sub> = 6.0 W MIN. WITH 9.3 dB GAIN



### DESCRIPTION

The AM80912-005 is designed for specialized avionics applications, including JTIDS, where power is provided under pulse formats utilizing short pulse widths and high burst or overall duty cycles.

The AM80912-005 is housed in the unique IMPAC™ Hermetic Metal/Ceramic package with



### ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C)

Symbol	Parameter	Value	Unit
P <sub>DISS</sub>	Power Dissipation* (T <sub>c</sub> ≤ 75°C)	25	W
I <sub>c</sub>	Device Current*	0.9	A
V <sub>CC</sub>	Collector-Supply Voltage*	32	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*	7.0	°C/W
----------------------	-----------------------------------	-----	------

\*Applies only to rated RF amplifier operation

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

## STATIC

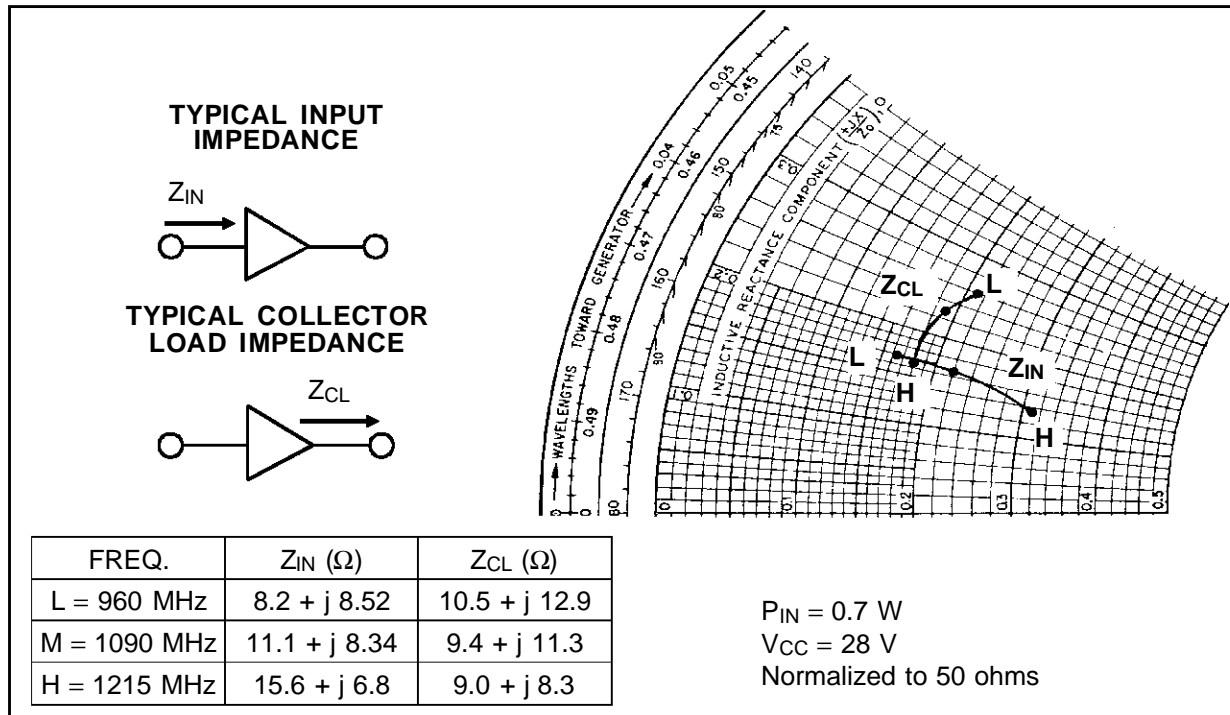
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV <sub>CBO</sub>	I <sub>C</sub> = 1mA	I <sub>E</sub> = 0mA	48	—	—	V
BV <sub>EBO</sub>	I <sub>E</sub> = 1mA	I <sub>C</sub> = 0mA	3.5	—	—	V
BV <sub>CER</sub>	I <sub>C</sub> = 5mA	R <sub>BE</sub> = 10Ω	48	—	—	V
I <sub>CES</sub>	V <sub>BE</sub> = 0V	V <sub>CE</sub> = 28V	—	—	0.5	mA
h <sub>FE</sub>	V <sub>CE</sub> = 5V	I <sub>C</sub> = 250mA	30	—	300	—

## DYNAMIC

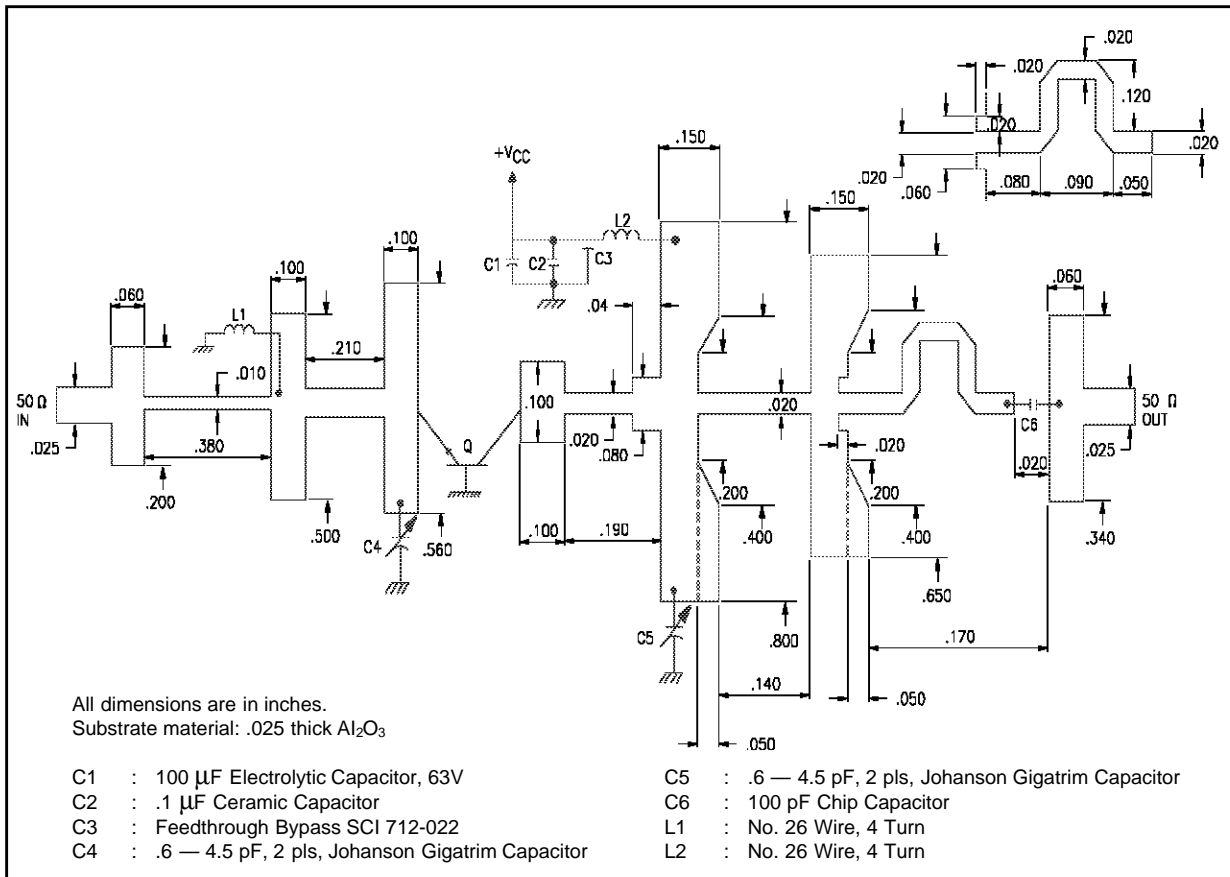
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P <sub>OUT</sub>	f = 960 — 1215MHz	P <sub>IN</sub> = 0.7W	V <sub>CC</sub> = 28V	6.0	—	—	W
η <sub>c</sub>	f = 960 — 1215MHz	P <sub>IN</sub> = 0.7W	V <sub>CC</sub> = 28V	45	—	—	%
G <sub>P</sub>	f = 960 — 1215MHz	P <sub>IN</sub> = 0.7W	V <sub>CC</sub> = 28V	9.3	—	—	dB

Note: Pulse format: 6.4 μS on 6.6 μS off, repeat for 3.3 ms, then off for 4.5125 ms.  
Duty Cycle: Burst 49.2%, overall 20.8%

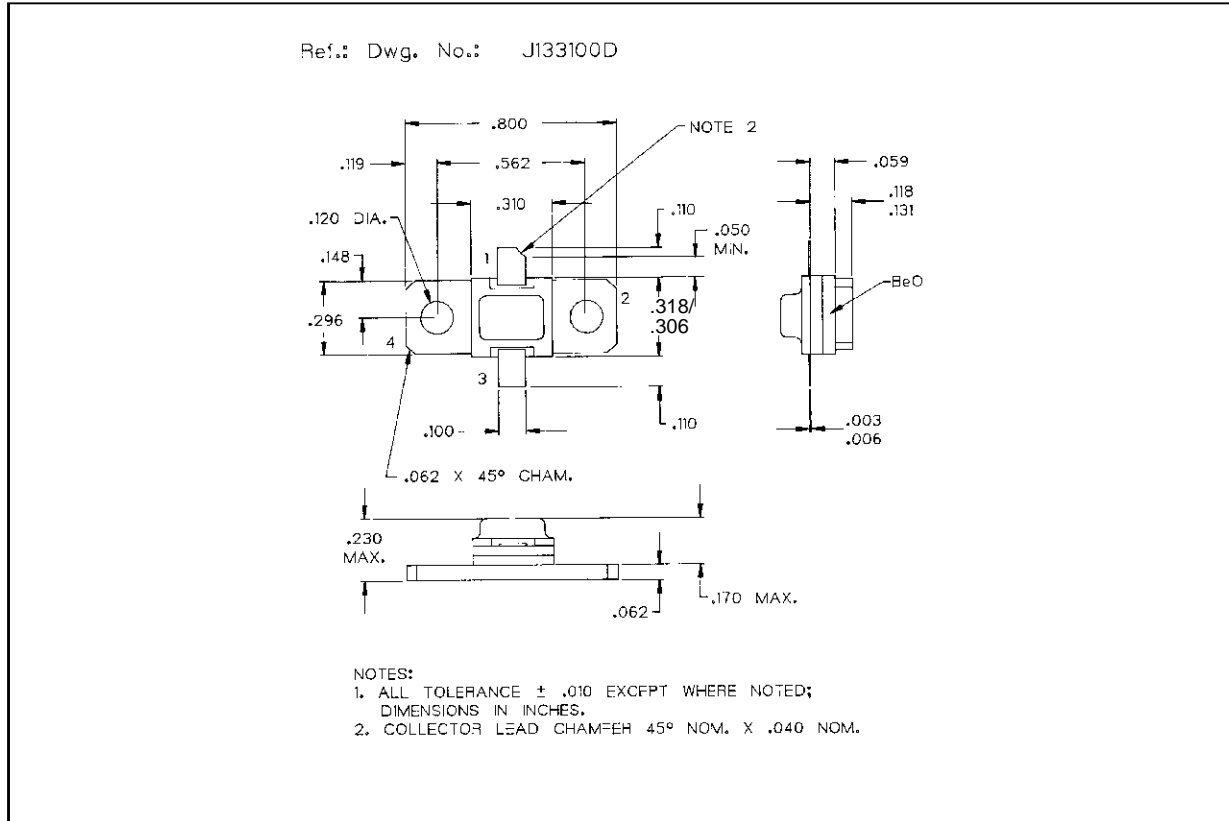
IMPEDANCE DATA



TEST CIRCUIT



PACKAGE MECHANICAL DATA



Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may results from its use. No license is granted by implication or otherwise under any patent or patent rights of SGS-THOMSON Microelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. SGS-THOMSON Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of SGS-THOMSON Microelectronics.

© 1994 SGS-THOMSON Microelectronics - All Rights Reserved

SGS-THOMSON Microelectronics GROUP OF COMPANIES  
 Australia - Brazil - France - Germany - Hong Kong - Italy - Japan - Korea - Malaysia - Malta - Morocco - The Netherlands -  
 Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A