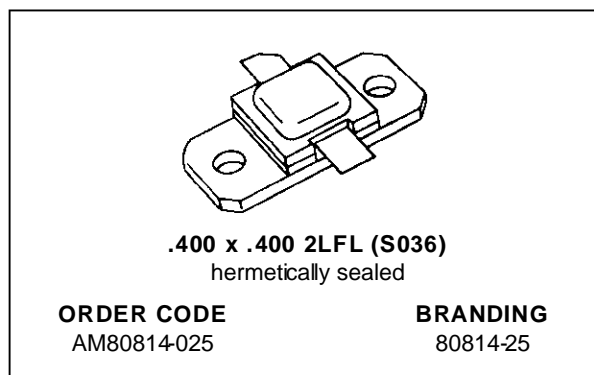


RF & MICROWAVE TRANSISTORS L-BAND RADAR APPLICATIONS

PRELIMINARY DATA

- REFRACTORY/GOLD METALLIZATION
- EMITTER SITE BALLASTED
- LOW THERMAL RESISTANCE
- INPUT/OUTPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- P_{OUT} = 25 W MIN. WITH 7.0 dB GAIN

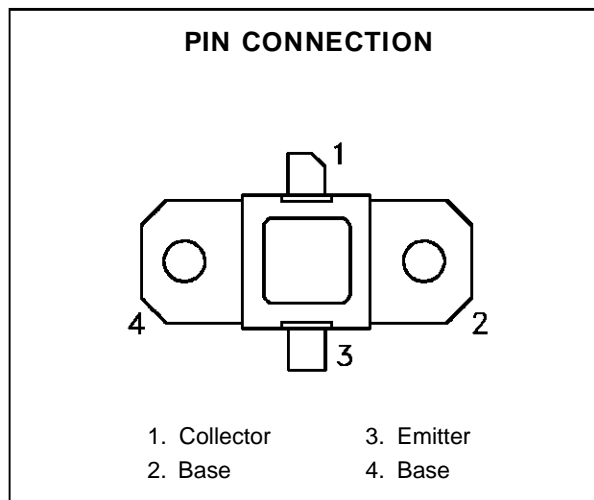


DESCRIPTION

AM80814-025 is a high power silicon Class C transistor designed for ultra-broadband L-Band radar applications.

This device is capable of operation over a broad range of pulse widths and duty cycles. Low RF thermal resistance and computerized automatic wire bonding techniques ensure high reliability and product consistency.

AM80814-025 is supplied in the industry-standard AMPAC™ hermetic Metal/Ceramic package incorporating Input/Output impedance matching.



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

Symbol	Parameter	Value	Unit
P _{DISS}	Power Dissipation*(T _C ≤ 75°C)	75	W
I _C	Device Current*	3.5	A
V _{CC}	Collector-Supply Voltage*	38	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*	2.3	°C/W
----------------------	-----------------------------------	-----	------

*Applies only to rated RF amplifier operation

AM80814-025

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

STATIC

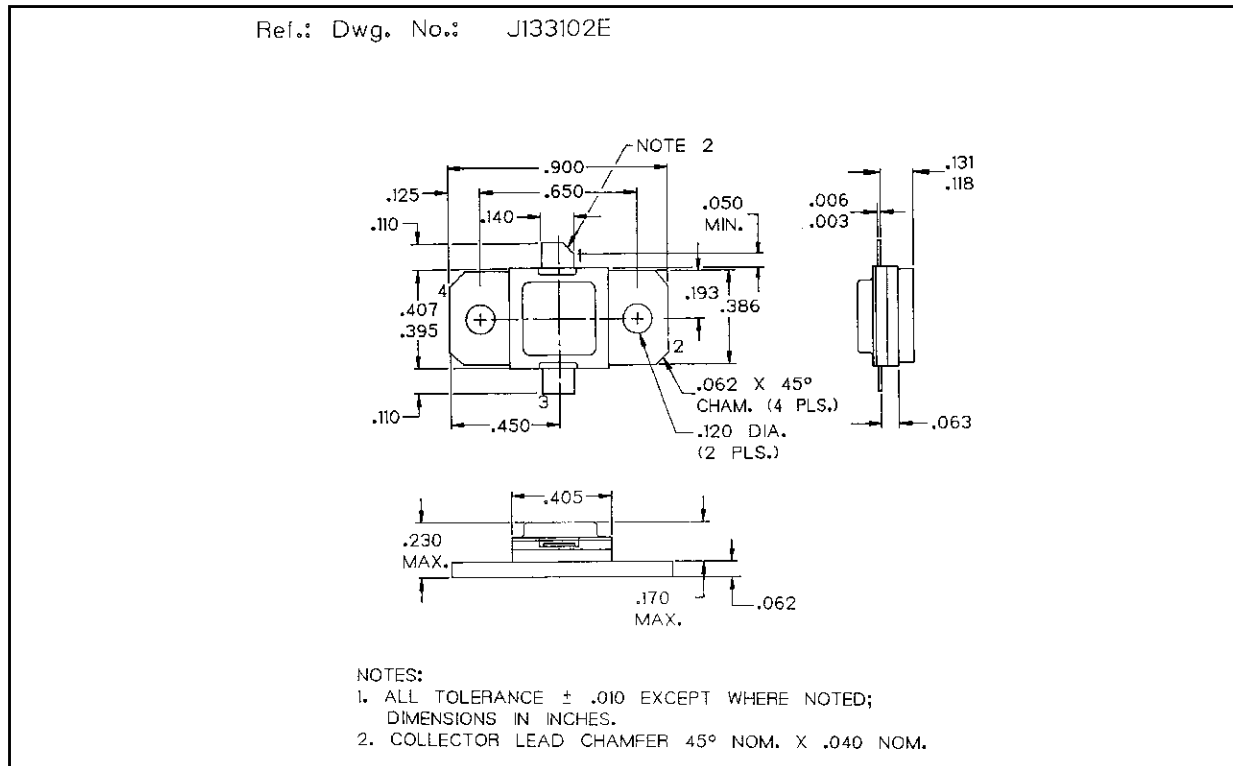
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	$I_C = 10mA$	$I_E = 0mA$	55	—	—	V
BV_{EBO}	$I_E = 1mA$	$I_C = 0mA$	3.5	—	—	V
BV_{CER}	$I_C = 20mA$	$R_{BE} = 10\Omega$	55	—	—	V
I_{CES}	$V_{BE} = 0V$	$V_{CE} = 28V$	—	—	5	mA
h_{FE}	$V_{CE} = 5V$	$I_C = 1A$	15	—	150	—

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	$f = 850 - 1400MHz$	$P_{IN} = 5.0W$	$V_{CC} = 35V$	25	—	—	W
η_c	$f = 850 - 1400MHz$	$P_{IN} = 5.0W$	$V_{CC} = 35V$	38	—	—	%
G_P	$f = 850 - 1400MHz$	$P_{IN} = 5.0W$	$V_{CC} = 35V$	7.0	—	—	dB

Note: Pulse Width = 120 μ S
Duty Cycle = 4%

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 result 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