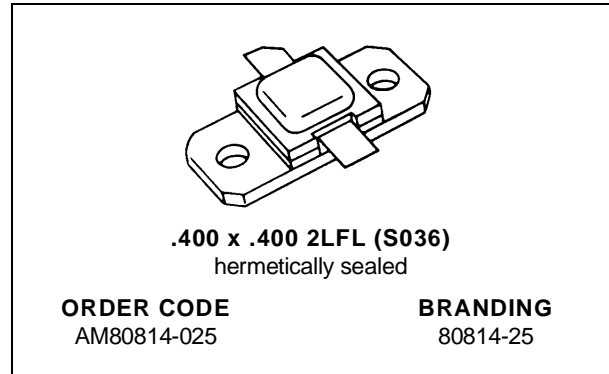


## RF & MICROWAVE TRANSISTORS L-BAND RADAR APPLICATIONS

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

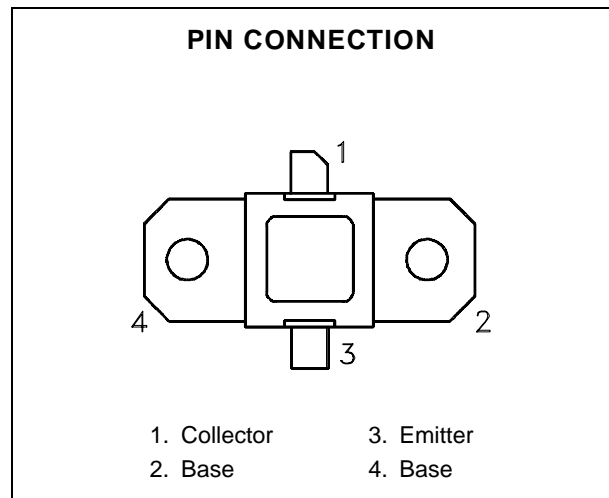


### DESCRIPTION

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

Symbol	Parameter	Value	Unit
$P_{DISS}$	Power Dissipation* ( $T_C \leq 75^{\circ}C$ )	75	W
$I_C$	Device Current*	3.5	A
$V_{CC}$	Collector-Supply Voltage*	38	V
$T_J$	Junction Temperature (Pulsed RF Operation)	250	$^{\circ}C$
$T_{STG}$	Storage Temperature	- 65 to +200	$^{\circ}C$

### THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance*	2.3	$^{\circ}C/W$
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\*Applies only to rated RF amplifier operation

# AM80814-025

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

### STATIC

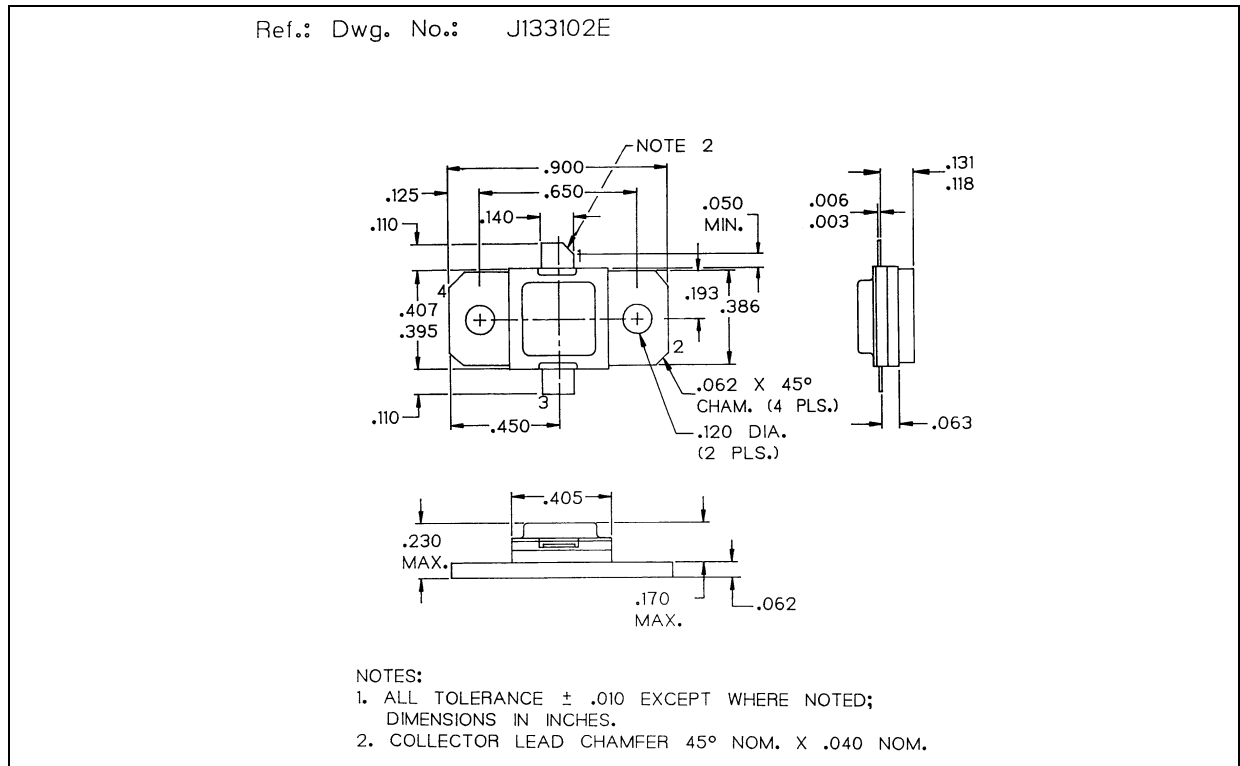
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV <sub>CBO</sub>	I <sub>C</sub> = 10mA	I <sub>E</sub> = 0mA	55	—	—	V
BV <sub>EBO</sub>	I <sub>E</sub> = 1mA	I <sub>C</sub> = 0mA	3.5	—	—	V
BV <sub>CER</sub>	I <sub>C</sub> = 20mA	R <sub>BE</sub> = 10Ω	55	—	—	V
I <sub>CES</sub>	V <sub>BE</sub> = 0V	V <sub>CE</sub> = 28V	—	—	5	mA
h <sub>FE</sub>	V <sub>CE</sub> = 5V	I <sub>C</sub> = 1A	15	—	150	—

### DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P <sub>OUT</sub>	f = 850 — 1400MHz	P <sub>IN</sub> = 5.0W	V <sub>CC</sub> = 35V	25	—	—	W
η <sub>c</sub>	f = 850 — 1400MHz	P <sub>IN</sub> = 5.0W	V <sub>CC</sub> = 35V	38	—	—	%
G <sub>P</sub>	f = 850 — 1400MHz	P <sub>IN</sub> = 5.0W	V <sub>CC</sub> = 35V	7.0	—	—	dB

Note: Pulse Width = 120μS  
Duty Cycle = 4%

## PACKAGE MECHANICAL DATA



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