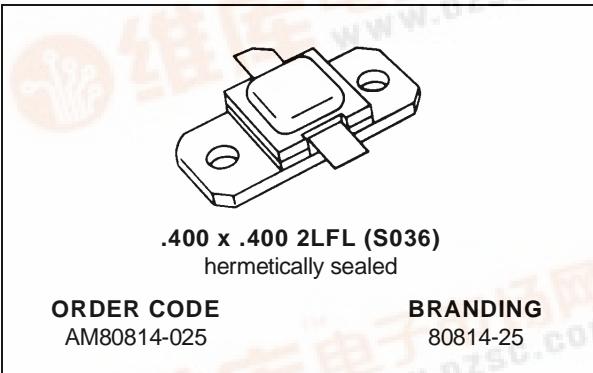



**AM80814-025**
**RF & MICROWAVE TRANSISTORS  
L-BAND RADAR APPLICATIONS**

PRELIMINARY DATA

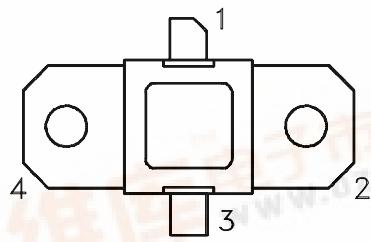
- REFRACTORY/GOLD METALLIZATION
- Emitter SITE BALLASTED
- LOW THERMAL RESISTANCE
- INPUT/OUTPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- P<sub>OUT</sub> = 25 W MIN. WITH 7.0 dB GAIN


**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.

**PIN CONNECTION**


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

**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)	75	W
I <sub>C</sub>	Device Current*	3.5	A
V <sub>CC</sub>	Collector-Supply Voltage*	38	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*	2.3	°C/W
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\*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.	
$BV_{CBO}$	$I_C = 10\text{mA}$ $I_E = 0\text{mA}$	55	—	—	V
$BV_{EBO}$	$I_E = 1\text{mA}$ $I_C = 0\text{mA}$	3.5	—	—	V
$BV_{CER}$	$I_C = 20\text{mA}$ $R_{BE} = 10\Omega$	55	—	—	V
$I_{CES}$	$V_{BE} = 0\text{V}$ $V_{CE} = 28\text{V}$	—	—	5	mA
$h_{FE}$	$V_{CE} = 5\text{V}$ $I_C = 1\text{A}$	15	—	150	—

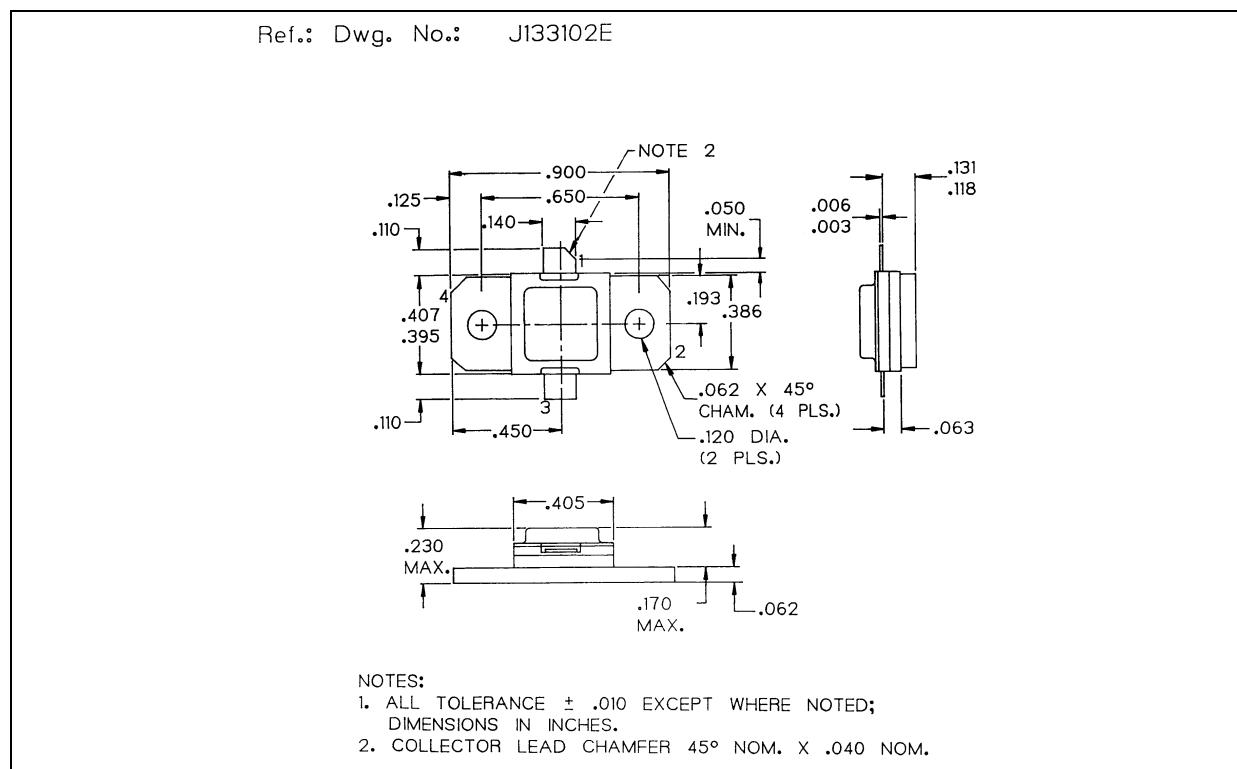
#### DYNAMIC

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

Note: Pulse Width =  $120\mu\text{s}$

Duty Cycle = 4%

#### PACKAGE MECHANICAL DATA



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