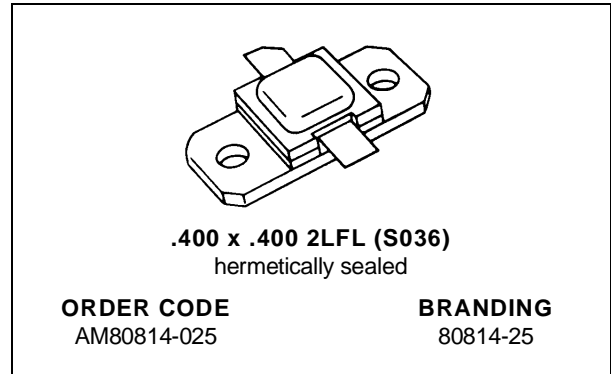


RF & MICROWAVE TRANSISTORS L-BAND RADAR APPLICATIONS

PRELIMINARY DATA

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

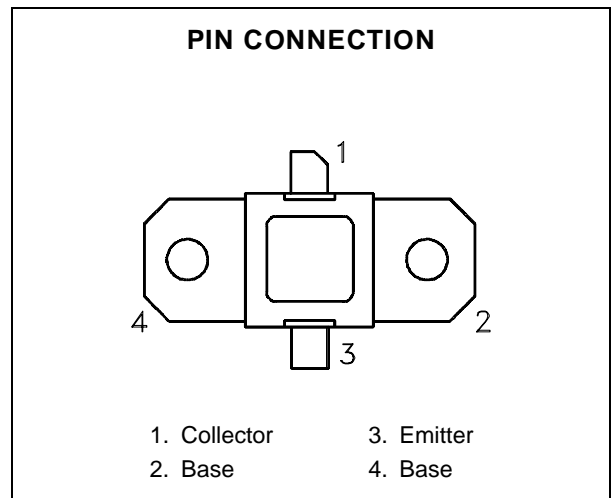


DESCRIPTION

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

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

THERMAL DATA

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

AM80814-025

ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)

STATIC

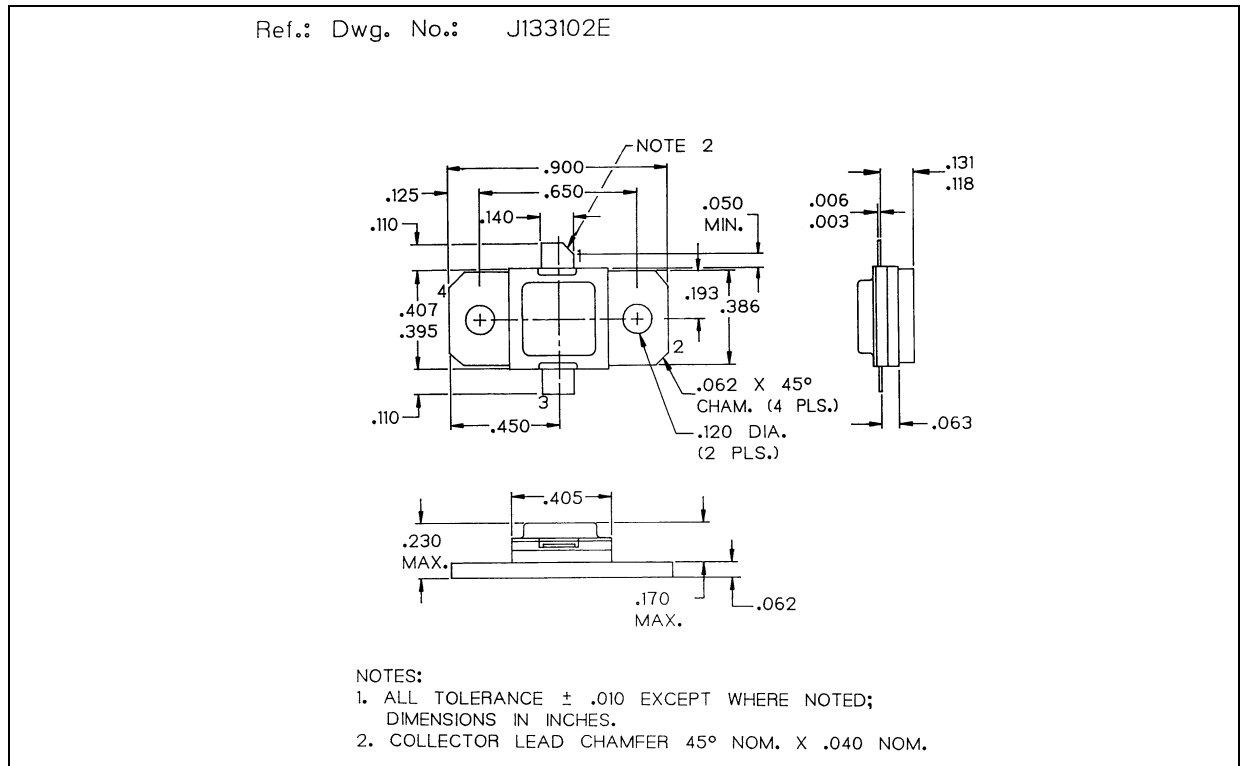
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV _{CBO}	I _C = 10mA	I _E = 0mA	55	—	—	V
BV _{EBO}	I _E = 1mA	I _C = 0mA	3.5	—	—	V
BV _{CER}	I _C = 20mA	R _{BE} = 10Ω	55	—	—	V
I _{CES}	V _{BE} = 0V	V _{CE} = 28V	—	—	5	mA
h _{FE}	V _{CE} = 5V	I _C = 1A	15	—	150	—

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 = 120μS
Duty Cycle = 4%

PACKAGE MECHANICAL DATA



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