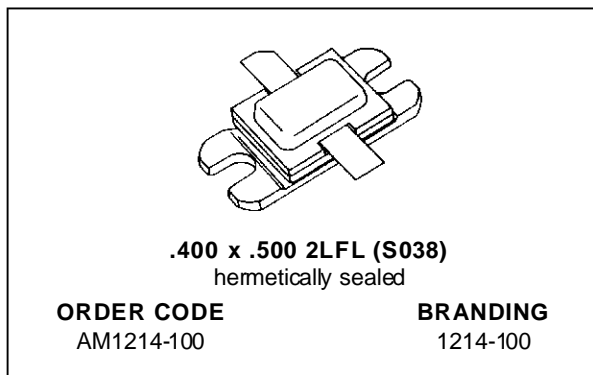


RF & MICROWAVE TRANSISTORS L-BAND RADAR APPLICATIONS

PRELIMINARY DATA

- REFRACTORY/GOLD METALLIZATION
- EMITTER SITE BALLASTED
- LOW THERMAL RESISTANCE
- INPUT/OUTPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- P_{OUT} = 100 W MIN. WITH 6.0 dB GAIN

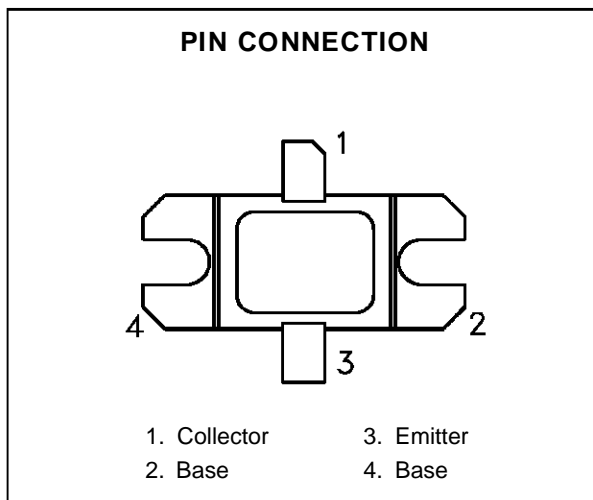


DESCRIPTION

The AM1214-100 device is a high power Class C transistor specifically designed for L-Band Radar pulsed driver applications.

This device is capable of operation over a wide range of pulse widths, duty cycles, and temperatures and is capable of withstanding 3:1 output VSWR at rated RF conditions. Low RF thermal resistance and computerized automatic wire bonding techniques ensure high reliability and product consistency.

AM1214-100 is supplied in the grounded IMPAC™ hermetic metal/ceramic package with internal input/output matching structures.



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

Symbol	Parameter	Value	Unit
P _{DISS}	Power Dissipation* (T _C ≤ 100°C)	270	W
I _C	Device Current*	13.5	A
V _{CC}	Collector-Supply Voltage*	32	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*	0.55	°C/W
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*Applies only to rated RF amplifier operation

AM1214-100

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

STATIC

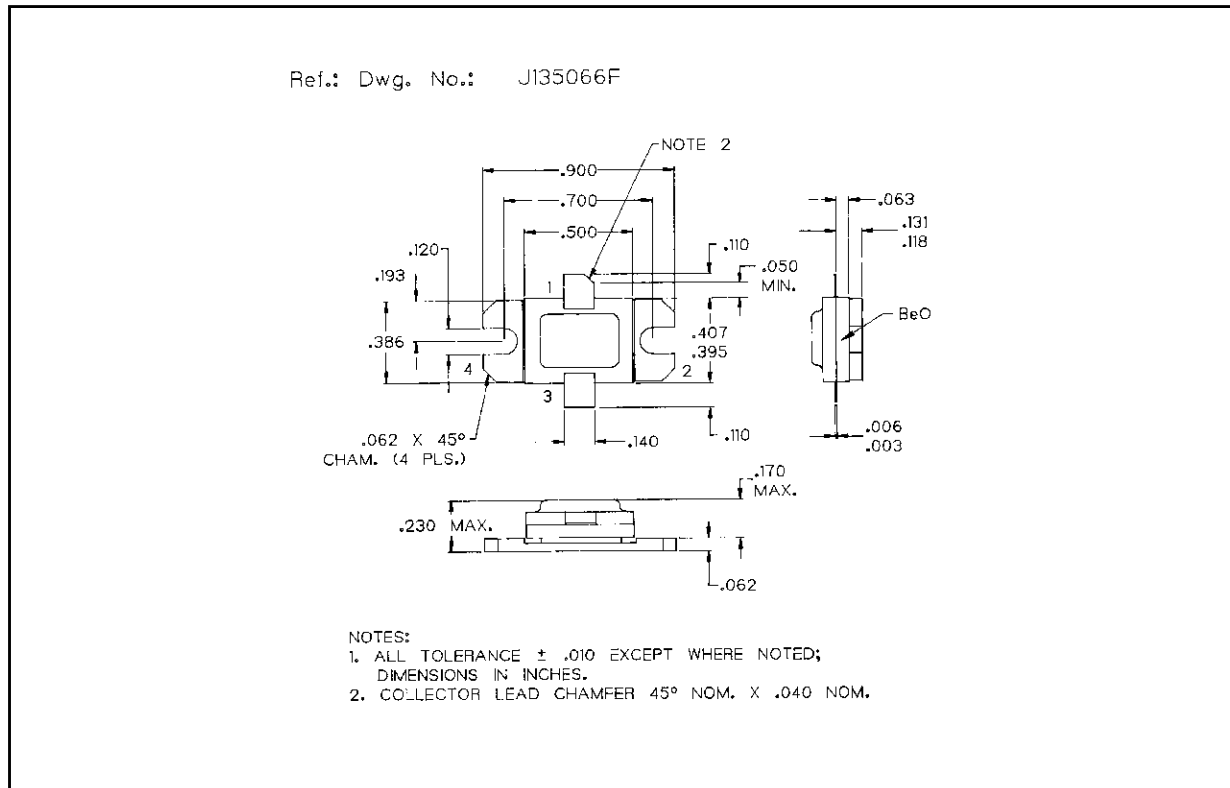
Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
BV_{CBO}	$I_C = 50mA$ $I_E = 0mA$	65	—	—	V
BV_{EBO}	$I_E = 10mA$ $I_C = 0mA$	3.5	—	—	V
BV_{CES}	$I_C = 100mA$	65	—	—	V
I_{CES}	$V_{BE} = 0V$ $V_{CE} = 32V$	—	—	20	mA
h_{FE}	$V_{CE} = 5V$ $I_C = 5A$	15	—	—	—

DYNAMIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
P_{OUT}	$f = 1215 - 1400MHz$ $P_{IN} = 25W$ $V_{CC} = 28V$	100	—	—	W
η_c	$f = 1215 - 1400MHz$ $P_{IN} = 25W$ $V_{CC} = 28V$	50	—	—	%
G_P	$f = 1215 - 1400MHz$ $P_{IN} = 25W$ $V_{CC} = 28V$	6.0	—	—	dB

Note: Pulse Width = 100 μ Sec
 Duty Cycle = 10%

PACKAGE MECHANICAL DATA



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