

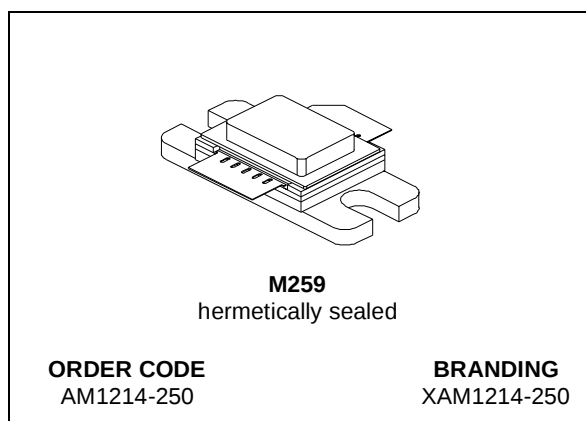


AM1214-250

RF POWER TRANSISTORS L-BAND RADAR APPLICATIONS

TARGET DATA

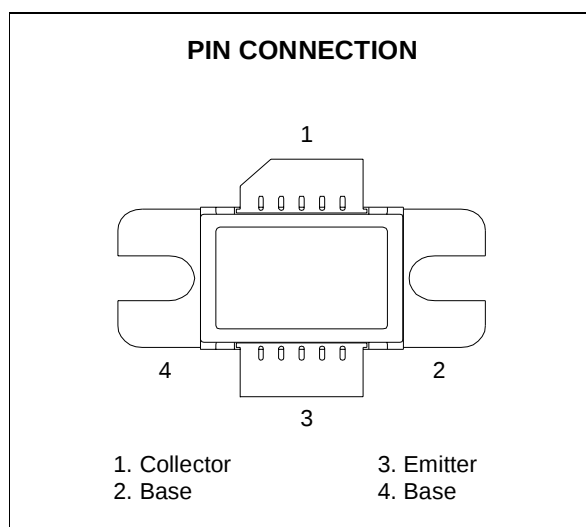
- REFRACTORY /GOLD METALLIZATION
- EMITTER SITE BALLASTING
- LOW RF THERMAL RESISTANCE
- INPUT/OUTPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- $P_{OUT} = 300 \text{ W MIN. WITH } 8.0 \text{ dB GAIN}$
- 1215-1400 MHz OPERATION



DESCRIPTION

The AM1214-250 is a rugged, Class C common base device designed for new L - Band medium & long pulse radar applications.

Minimal amplitude droop over a long pulse of 500 microsec. is guaranteed by a thermal design incorporating an overlay site-ballasted die geometry.



ABSOLUTE MAXIMUM RATINGS ($T_{CASE} = 25^{\circ}\text{C}$)

Symbol	Parameter	Value	Unit
P_{DISS}	Power Dissipation ($T_C \leq 85^{\circ}\text{C}$)*	786	W
I_C	Device Current*	21	A
V_{CBO}	Collector-Base Voltage	70	V
T_j	Operating Junction Temperature	+250	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	-65 to +200	$^{\circ}\text{C}$

THERMAL DATA

$R_{th(j-c)}$	Junction -Case Thermal Resistance*	0.21	$^{\circ}\text{C/W}$
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* Applies only to rated RF amplifier operation: 150 microsec / 10%

ELECTRICAL SPECIFICATION (T_{CASE} = 25°C)**STATIC**

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
BV _{CBO}	I _C = 50 mA	I _E = 0 mA	70			V
BV _{CES}	I _C = 50 mA	V _{BE} = 0 V	70			V
BV _{EBO}	I _E = 20 mA	I _C = 0 mA	3.5			V
I _{CES}	V _{CE} = 40 V	V _{BE} = 0 V			10	mA
h _{FE}	V _{CE} = 5 V	I _C = 0.5 A	10			

DYNAMIC @ 150 MICROSEC / 10 %

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
P _{OUT}	f = 1215 - 1400 MHz	P _{IN} = 40 W	V _{CC} = 50 V	300	350		W
η _C	f = 1215 - 1400 MHz	P _{IN} = 40 W	V _{CC} = 50 V	40	45		%
G _P	f = 1215 - 1400 MHz	P _{IN} = 40 W	V _{CC} = 50 V	8.75	9.4		dB

DYNAMIC @ 500 MICROSEC / 10 %

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
P _{OUT}	f = 1215 - 1400 MHz	P _{IN} = 40 W	V _{CC} = 42 V	225	250		W
η _C	f = 1215 - 1400 MHz	P _{IN} = 40 W	V _{CC} = 42 V	40	45		%
G _P	f = 1215 - 1400 MHz	P _{IN} = 40 W	V _{CC} = 42 V	7.5	8.0		dB

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