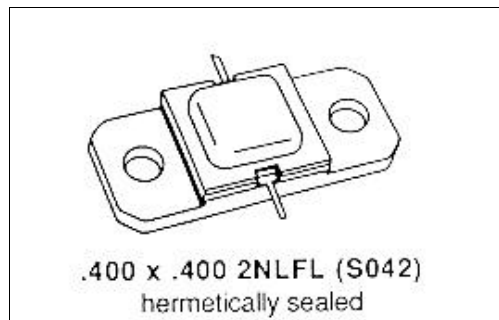


MS2209

**RF & MICROWAVE TRANSISTORS
 AVIONICS APPLICATION**

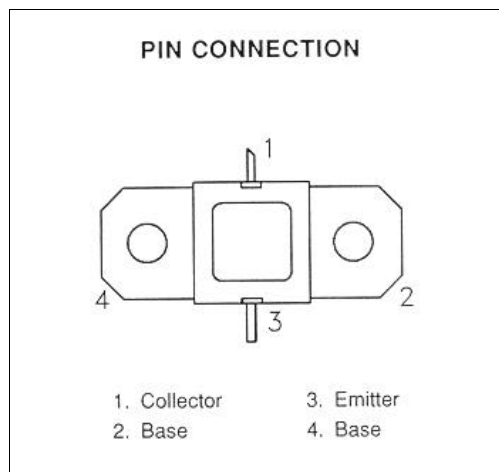
Features

- REFRACTORY/GOLD METALIZATION
- LOW THERMAL RESISTANCE
- INPUT/OUTPUT MATCHING
- OVERLAY GEOMETRY
- EMITTER SITE BALLASTED



DESCRIPTION:

THE MS2209 AVIONICS POWER TRANSISTOR IS A BROADBAND, HIGH PEAK PULSE POWER DEVICE SPECIFICALLY DESIGNED FOR AVIONICS APPLICATIONS REQUIRING BROAD BANDWIDTH WITH MODERATED DUTY CYCLE AND PULSE WIDTH CONSTRAINTS SUCH AS GROUND/SHIP BASED DME/TACAN. THIS DEVICE IS ALSO CAPABLE OF SPECIALIZED APPLICATIONS INCLUDING JTIDS WITH REDUCED POWER UNDER PULSE FORMATS UTILIZING SHORT PULSE WIDTHS AND HIGH BURST OR OVERALL DUTY CYCLES.



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

Symbol	Parameter	Value	Unit
P _{DISS}	Power Dissipation* (T _c ≤ 100°C)	220	W
I _c	Device Current *	7.0	A
V _{CC}	Collector Supply Voltage*	50	V
T _J	Junction Temperature	250	°C
T _{STG}	Storage Temperature	-65 to +200	°C

Thermal Data

R _{TH(J-C)}	Junction - Case Thermal Resistance	0.80	°C/W
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*Applies only to rated RF amplifier operation

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

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
Bvebo	I _E = 10 mA	I _C = 0 mA	3.0	---	---	V
Bvcbo	I _C = 40 mA	I _E = 0 mA	65	---	---	V
Bvcer	I _C = 40 mA	R _{BE} = 10Ω	65	---	---	V
Icbo	V _{CB} = 50V		---	---	12	mA
HFE	V _{CE} = 5.0 V	I _C = 2 A	20	---	120	B

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P _{out}	f = 960-1215 MHz	P _{in} = 13W	V _{CC} = 50V	90	100	---	W
η _c	f = 960-1215 MHz	P _{in} = 13W	V _{CC} = 50V	38	44	---	%
G _p	f = 960-1215 MHz	P _{in} = 13W	V _{CC} = 50V	8.4	---	---	dB
Conditions	Pulse width = 10μsec, Duty Cycle = 10%						

PACKAGE MECHANICAL DATA

MS2209

