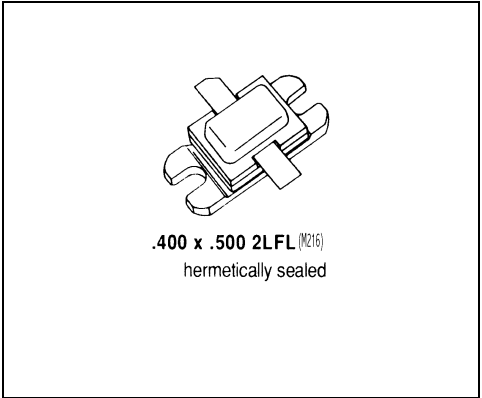


**MS2207**

**RF & MICROWAVE TRANSISTORS  
 L-BAND AVIONICS APPLICATIONS**

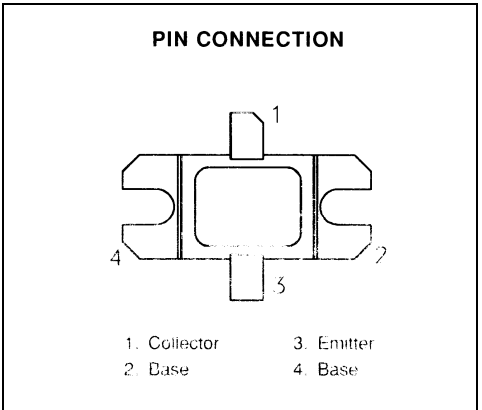
**Features**

- 1090 MHz
- 50 VOLTS
- 15:1 VSWR CAPABILITY
- INPUT / OUTPUT MATCHING
- P<sub>OUT</sub> = 400 WATTS
- G<sub>P</sub> = 8.0 dB MINIMUM
- COMMON BASE CONFIGURATION



**DESCRIPTION:**

The MS2207 is a high power NPN bipolar transistor specifically designed for TCAS and Mode-S driver applications. This device is designed for operation under moderate pulse width and duty cycle pulse conditions and is capable of withstanding 15:1 output VSWR at rated conditions.



**ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C)**

Symbol	Parameter	Value	Unit
P <sub>DISS</sub>	Power Dissipation	880	W
I <sub>C</sub>	Device Current	24	A
V <sub>CC</sub>	Collector Supply Voltage	55	V
T <sub>J</sub>	Junction Temperature	200	°C
T <sub>STG</sub>	Storage Temperature	-65 to +200	°C

**Thermal Data**

R <sub>TH(J-C)</sub>	Junction-case Thermal Resistance	0.17	°C/W
----------------------	----------------------------------	------	------

## ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = 25°C)

### STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV <sub>CBO</sub>	I <sub>C</sub> = 50 mA	I <sub>E</sub> = 0 mA	65	---	---	V
BV <sub>EBO</sub>	I <sub>E</sub> = 15 mA	I <sub>C</sub> = 0 mA	3.5	---	---	V
BV <sub>CER</sub>	I <sub>C</sub> = 50 mA	R <sub>BE</sub> = 10Ω	65	---	---	V
I <sub>ces</sub>	V <sub>BE</sub> = 50 V	V <sub>CE</sub> = 0 V	---	---	30	mA
HFE	V <sub>CE</sub> = 5 V	I <sub>C</sub> = 5 A	10	---	200	---

### DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P <sub>OUT</sub>	f = 1090 MHz	P <sub>IN</sub> = 63W	V <sub>CC</sub> = 50V	400	---	---	W
η <sub>C</sub>	f = 1090 MHz	P <sub>IN</sub> = 63W	V <sub>CC</sub> = 50V	45	---	---	%
G <sub>p</sub>	f = 1090 MHz	P <sub>IN</sub> = 63W	V <sub>CC</sub> = 50V	8.0	---	---	dB
Condition	Pulse Width = 32μS		Duty Cycle = 2%				

### IMPEDANCE DATA

FREQ	Z <sub>IN</sub> (Ω)	Z <sub>CL</sub> (Ω)
1025 MHz	2.4 + j 3.2	1.4 - j 2.2
1090 MHz	3.8 + j 2.5	1.6 - j 1.6
1150 MHz	2.3 + j 1.3	1.2 - j 1.1

P<sub>IN</sub> = 63 W

V<sub>CC</sub> = 50 V

**PACKAGE MECHANICAL DATA**

