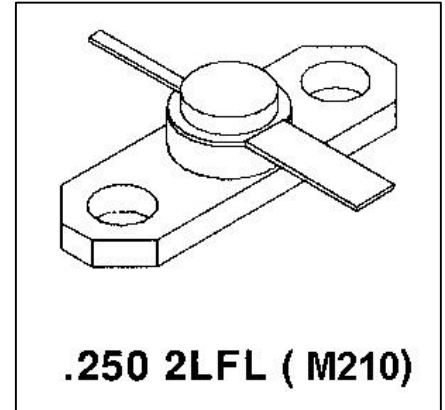
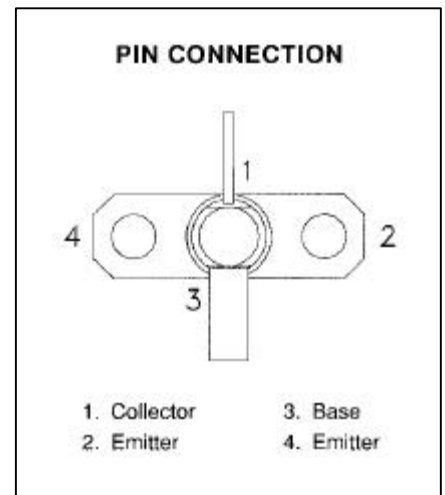


**MSC80064**
**RF & MICROWAVE TRANSISTORS  
 GENERAL PURPOSE LINEAR APPLICATIONS**
**Features**

- 2.0 GHz
- CLASS A LINEAR OPERATION
- 20:1 VSWR CAPABILITY @ RATED CONDITIONS
- P<sub>OUT</sub> = 20.5 dBm MINIMUM
- COMMON EMITTER CONFIGURATION


**DESCRIPTION:**

The MSC80064 is a hermetically sealed NPN power transistor specifically designed for Class A linear applications requiring high gain and high output power at the 1.0 dB compression point.


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

Symbol	Parameter	Value	Unit
P <sub>DISS</sub>	Power Dissipation (see Safe Area)	---	W
I <sub>C</sub>	Device Bias Current	100	mA
V <sub>CE</sub>	Collector-Supply Bias Voltage*	20	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*	45	°C/W
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\*Applies only to RF amplifier operation.

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

### STATIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
<b>BV<sub>CBO</sub></b>	<b>I<sub>C</sub> = 1 mA</b> <b>I<sub>E</sub> = 0 mA</b>	<b>50</b>	---	---	<b>V</b>
<b>BV<sub>EBO</sub></b>	<b>I<sub>E</sub> = 1 mA</b> <b>I<sub>C</sub> = 0 mA</b>	<b>3.5</b>	---	---	<b>V</b>
<b>BV<sub>CEO</sub></b>	<b>I<sub>C</sub> = 5 mA</b> <b>I<sub>B</sub> = 0 mA</b>	<b>20</b>	---	---	<b>V</b>
<b>I<sub>CEO</sub></b>	<b>V<sub>CE</sub> = 18 V</b>	---	---	<b>0.5</b>	<b>mA</b>
<b>H<sub>FE</sub></b>	<b>V<sub>CE</sub> = 5 V</b> <b>I<sub>C</sub> = 50 mA</b>	<b>15</b>	---	<b>120</b>	---

### DYNAMIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
<b>G<sub>P</sub></b>	<b>f = 2.0 GHz</b> <b>P<sub>OUT</sub> = 20.5 dBm</b>	<b>9.0</b>	<b>10.0</b>	---	<b>dB</b>
<b>ΔG<sub>P</sub></b>	<b>f = 2.0 GHz</b> <b>P<sub>OUT</sub> = 20.5 dBm</b> <b>Δ P<sub>OUT</sub> = 10 dB</b>	---	---	<b>1</b>	<b>dB</b>
<b>C<sub>OB</sub></b>	<b>f = 1 MHz</b> <b>V<sub>CB</sub> = 28 V</b>	---	---	<b>2.5</b>	<b>pf</b>

Conditions:    **V<sub>CE</sub> = 18V**    **I<sub>E</sub> = 50 mA**

**Table 1. Common Emitter S-Parameters, @ V<sub>CE</sub> = 18 V, I<sub>C</sub> = 50 mA**

f (MHz)	S11		S21		S12		S22	
	S11	∠ φ	S21	∠ φ	S12	∠ φ	S22	∠ φ
1.0	0.68	168	3.8	43	0.04	45	0.03	-70
2.0	0.60	139	2.0	18	0.065	42	0.04	-100
3.0	0.40	72	1.0	-47	0.1051	18	0.60	-133

**PACKAGE MECHANICAL DATA**

