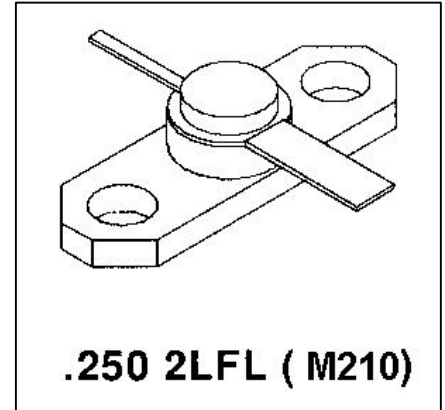


**MSC80064**

## RF & MICROWAVE TRANSISTORS GENERAL PURPOSE LINEAR APPLICATIONS

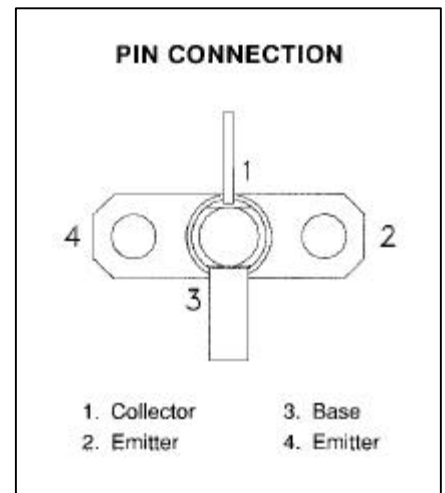
### Features

- 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.

# MSC80064

## 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> = 1 mA      I <sub>E</sub> = 0 mA	50	---	---	V
BV <sub>EBO</sub>	I <sub>E</sub> = 1 mA      I <sub>C</sub> = 0 mA	3.5	---	---	V
BV <sub>CEO</sub>	I <sub>C</sub> = 5 mA      I <sub>B</sub> = 0 mA	20	---	---	V
I <sub>CEO</sub>	V <sub>CE</sub> = 18 V	---	---	0.5	mA
H <sub>FE</sub>	V <sub>CE</sub> = 5 V      I <sub>C</sub> = 50 mA	15	---	120	---

### DYNAMIC

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

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

**Table 1. Common Emitter S-Parameters, @ VCE = 18 V, IC = 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

**MSC80064**

**PACKAGE MECHANICAL DATA**

