

MSC80064

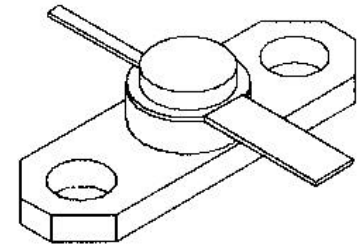
RF & MICROWAVE TRANSISTORS GENERAL PURPOSE LINEAR APPLICATIONS

Features

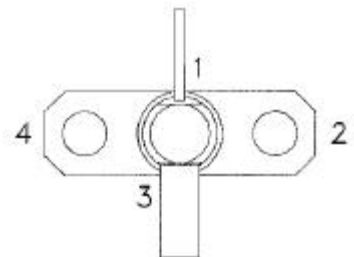
- 2.0 GHz
- CLASS A LINEAR OPERATION
- 20:1 VSWR CAPABILITY @ RATED CONDITIONS
- $P_{OUT} = 20.5$ dBm MINIMUM
- COMMON EMITTER CONFIGURATION

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.


.250 2LFL (M210)

PIN CONNECTION



1. Collector 3. Base
2. Emitter 4. Emitter

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

Symbol	Parameter	Value	Unit
P_{DISS}	Power Dissipation (see Safe Area)	---	W
I_C	Device Bias Current	100	mA
V_{CE}	Collector-Supply Bias Voltage*	20	V
T_J	Junction Temperature	200	°C
T_{STG}	Storage Temperature	- 65 to +200	°C

Thermal Data

$R_{TH(J-C)}$	Junction-case Thermal Resistance*	45	°C/W
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*Applies only to RF amplifier operation.

ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
BV_{CBO}	$I_C = 1 \text{ mA}$ $I_E = 0 \text{ mA}$	50	---	---	V
BV_{EBO}	$I_E = 1 \text{ mA}$ $I_C = 0 \text{ mA}$	3.5	---	---	V
BV_{CEO}	$I_C = 5 \text{ mA}$ $I_B = 0 \text{ mA}$	20	---	---	V
I_{CEO}	$V_{CE} = 18 \text{ V}$	---	---	0.5	mA
H_{FE}	$V_{CE} = 5 \text{ V}$ $I_C = 50 \text{ mA}$	15	---	120	---

DYNAMIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
G_P	$f = 2.0 \text{ GHz}$ $P_{OUT} = 20.5 \text{ dBm}$	9.0	10.0	---	dB
ΔG_P	$f = 2.0 \text{ GHz}$ $P_{OUT} = 20.5 \text{ dBm}$ $\Delta P_{OUT} = 10 \text{ dB}$	---	---	1	dB
C_{OB}	$f = 1 \text{ MHz}$ $V_{CB} = 28 \text{ V}$	---	---	2.5	pf

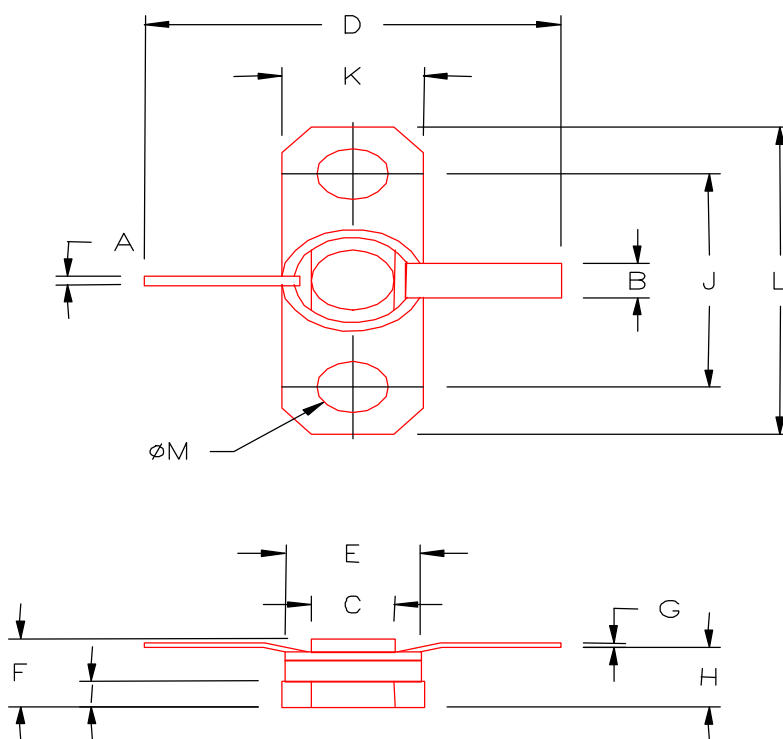
Conditions: $V_{CE} = 18 \text{ V}$ $I_E = 50 \text{ mA}$

Table 1. Common Emitter S-Parameters, @ $V_{CE} = 18 \text{ V}$, $I_C = 50 \text{ mA}$

f	S11		S21		S12		S22	
(MHz)	S11	$\angle \phi$	S21	$\angle \phi$	S12	$\angle \phi$	S22	$\angle \phi$
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

PACKAGE STYLE M210



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.028/0,71	.032/0,81	J	.115/2,92	.145/3,68
B	.110/2,80	.117/2,97	K	.245/6,22	.255/6,48
C	.165/4,19	.185/4,70	L	.790/20,07	.810/20,57
D	.740/18,80		M	.128/3,25	.132/3,35
E	.225/5,72	.235/5,97			
F	.149/2,30	.187/4,75			
G	.003/0,08	.007/0,18			
H	.117/2,97	.133/3,38			
I	.416/10,57	.465/11,81			