ADVANCED POWER TECHNOLOGY RF®

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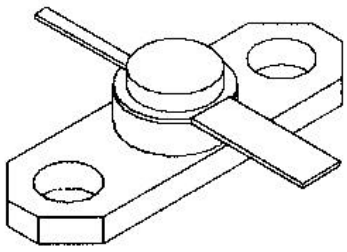
MSC80064

RF & MICROWAVE TRANSISTORS
GENERAL PURPOSE LINEAR APPLICATIONS



.250 2LFL (M210)

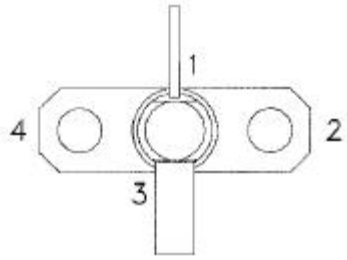
Features

- 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.

PIN CONNECTION



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

ABSOLUTE MAXIMUM RATINGS (Tcase = 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

*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 mA	I_E = 0 mA	50	---	---	V
BV_{EBO}	I_E = 1 mA	I_C =0 mA	3.5	---	---	V
BV_{CEO}	I_C = 5 mA	I_B = 0 mA	20	---	---	V
I_{CEO}	V_{CE} = 18 V		---	---	0.5	mA
H_{FE}	V_{CE} = 5 V	I_C = 50 mA	15	---	120	---

DYNAMIC

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

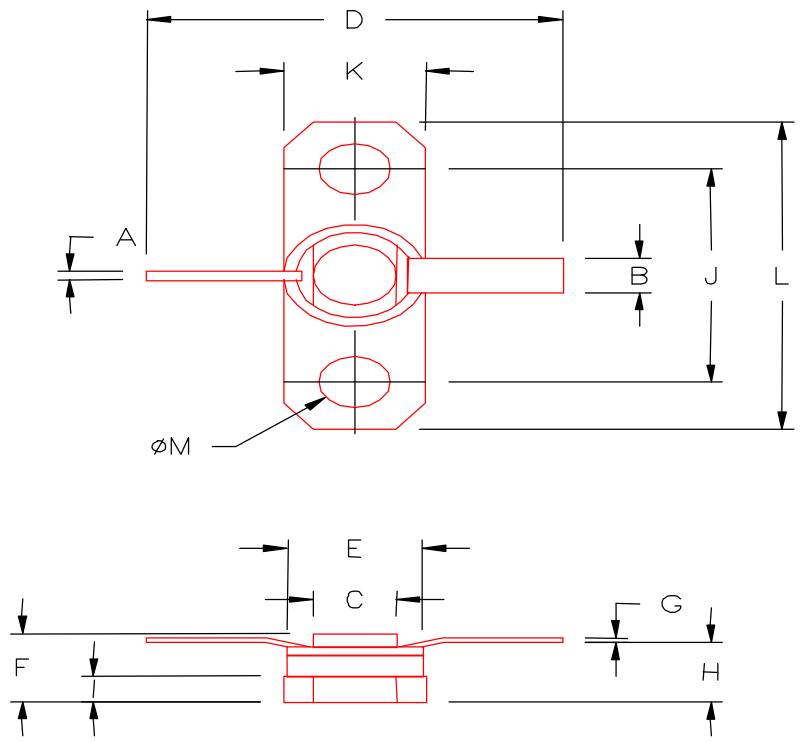
Conditions: V_{CE} = 18V I_E = 50 mA

Table 1. Common Emitter S-Parameters, @ VCE = 18 V, IC = 50 mA

f	S11		S21		S12		S22	
(MHz)	|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

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			