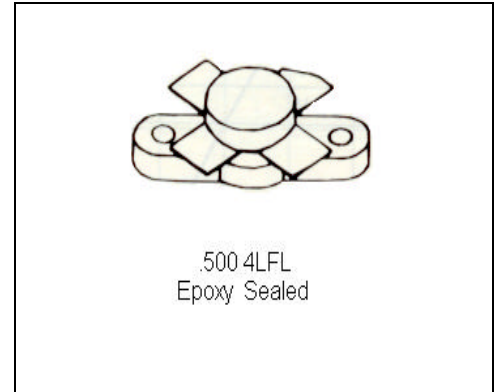


MS1001

RF & MICROWAVE TRANSISTORS HF SSB APPLICATIONS

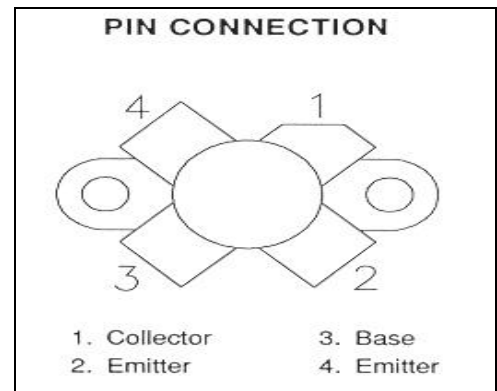
Features

- 30 MHz
- 12.5 VOLTS
- IMD = -32 dBc
- INFINITE VSWR CAPABILITY @ RATED CONDITIONS
- P_{OUT} = 75 WATTS
- G_P = 13dB MINIMUM
- COMMON EMITTER CONFIGURATION



DESCRIPTION:

The MS1001 is a 12.5V Class C silicon NPN transistor designed primarily for HF communications. Diffused emitter resistors provide infinite VSWR capability under rated operating conditions.



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

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	36	V
V _{CEO}	Collector-Emitter Voltage	18	V
V _{EBO}	Emitter-Base Voltage	4.0	V
I _C	Device Current	20	A
P _D	Total Dissipation	270	W
T _j	Junction Temperature	200	°C
T _{STG}	Storage Temperature	-65 to +150	°C

Thermal Data

R _{TH(J-C)}	Thermal Resistance Junction-case	0.65	°C/W
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ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)
STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 50 mA	I_E = 0 mA	36	---	---	V
BV_{CES}	I_C = 100 mA	V_{BE} = 0 V	36	---	---	V
BV_{CEO}	I_C = 100 mA	I_B = 0 mA	18	---	---	V
BV_{EBO}	I_E = 10 mA	I_C = 0 mA	4.0	---	---	V
I_{CES}	V_{CE} = 15 V	I_E = 0 mA	---	---	15	mA
h_{FE}	V_{CE} = 5 V	I_C = 5 A	20	---	200	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 30MHz	P_{IN} = 3.8 W	V_{CE} = 12.5V	75	---	---	WPEP
G_p	f = 30MHz	P_{IN} = 3.8 W	V_{CE} = 12.5V	13	---	---	dB
IMD*	f = 30MHz	V_{CC} = 12.5V	I_{CQ} = 100mA	-32	---	---	dB_c
C_{OB}	f = 1 MHz	V_{CB} = 12V		---	350	---	pf
Condition	f1 = 30.000 MHz	f2 = 30.001 MHz					

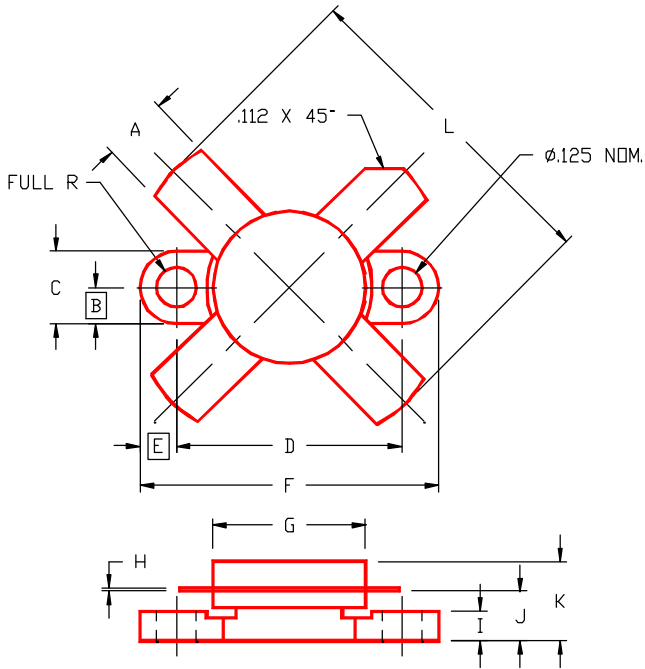
IMPEDANCE DATA

FREQ	Z _{IN} (Ω)	Z _{CL} (Ω)
30 MHz	0.7 + j0.75	1.2 + j1.0

P_{IN} = 3.8W
V_{CC} = 12.5V

MS1001

PACKAGE MECHANICAL DATA



PACKAGE STYLE M174

	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.220/5,59	.230/5,84	I	.090/2,29	.110/2,79
B	.125/3,18		J	.160/4,06	.175/4,45
C	.245/6,22	.255/6,48	K		.280/7,11
D	.720/18,28	.730/18,54	L		1.050/26,67
E	.125/3,18				
F	.970/24,64	.980/24,89			
G	.495/12,57	.505/12,83			
H	.003/0,08	.007/0,18			

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