

MS1001

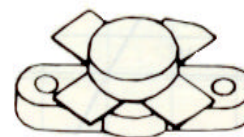
RF & MICROWAVE TRANSISTORS HF SSB APPLICATIONS

Features

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

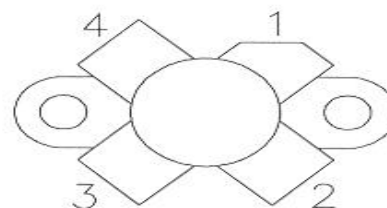
DESCRIPTION:

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.



.500 4LFL
Epoxy Sealed

PIN CONNECTION



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

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

Symbol	Parameter	Value	Unit
V_{CBO}	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

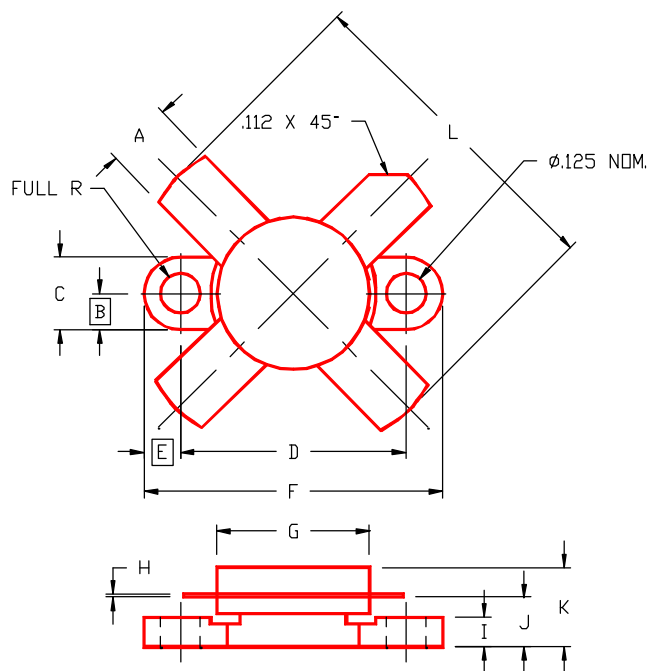
Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
P_{OUT}	f = 30MHz P_{IN} = 3.8 W V_{CE} = 12.5V	75	---	---	WPEP
G_p	f = 30MHz P_{IN} = 3.8 W V_{CE} = 12.5V	13	---	---	dB
IMD*	f = 30MHz V_{CC} = 12.5V I_{CQ} = 100mA	-32	---	---	dB_c
C_{OB}	f = 1 MHz V_{CB} = 12V	---	350	---	pf
Condition	f1 = 30.000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

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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