



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

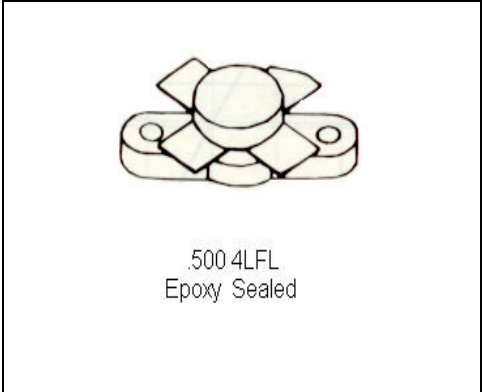


**MS1001**

**RF & MICROWAVE TRANSISTORS  
HF SSB APPLICATIONS**

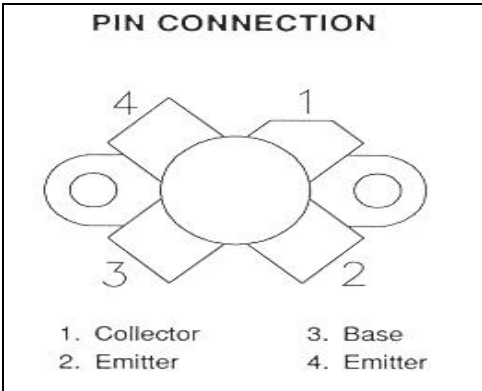
**Features**

- 30 MHz
- 12.5 VOLTS
- IMD = -32 dBc
- INFINITE VSWR CAPABILITY @ RATED CONDITIONS
- P<sub>OUT</sub> = 75 WATTS
- G<sub>P</sub> = 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<sub>case</sub> = 25°C)**

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	36	V
V <sub>CEO</sub>	Collector-Emitter Voltage	18	V
V <sub>EBO</sub>	Emitter-Base Voltage	4.0	V
I <sub>C</sub>	Device Current	20	A
P <sub>D</sub>	Total Dissipation	270	W
T <sub>j</sub>	Junction Temperature	200	°C
T <sub>STG</sub>	Storage Temperature	-65 to +150	°C

**Thermal Data**

R <sub>TH(J-C)</sub>	Thermal Resistance Junction-case	0.65	°C/W
----------------------	----------------------------------	------	------

**ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = 25°C)**
**STATIC**

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
<b>BV<sub>CBO</sub></b>	<b>I<sub>C</sub> = 50 mA</b>	<b>I<sub>E</sub> = 0 mA</b>	<b>36</b>	---	---	<b>V</b>
<b>BV<sub>CES</sub></b>	<b>I<sub>C</sub> = 100 mA</b>	<b>V<sub>BE</sub> = 0 V</b>	<b>36</b>	---	---	<b>V</b>
<b>BV<sub>CEO</sub></b>	<b>I<sub>C</sub> = 100 mA</b>	<b>I<sub>B</sub> = 0 mA</b>	<b>18</b>	---	---	<b>V</b>
<b>BV<sub>EBO</sub></b>	<b>I<sub>E</sub> = 10 mA</b>	<b>I<sub>C</sub> = 0 mA</b>	<b>4.0</b>	---	---	<b>V</b>
<b>I<sub>CES</sub></b>	<b>V<sub>CE</sub> = 15 V</b>	<b>I<sub>E</sub> = 0 mA</b>	---	---	<b>15</b>	<b>mA</b>
<b>h<sub>FE</sub></b>	<b>V<sub>CE</sub> = 5 V</b>	<b>I<sub>C</sub> = 5 A</b>	<b>20</b>	---	<b>200</b>	---

**DYNAMIC**

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
<b>P<sub>OUT</sub></b>	<b>f = 30MHz</b>	<b>P<sub>IN</sub> = 3.8 W</b>	<b>V<sub>CE</sub> = 12.5V</b>	<b>75</b>	---	---	<b>WPEP</b>
<b>G<sub>p</sub></b>	<b>f = 30MHz</b>	<b>P<sub>IN</sub> = 3.8 W</b>	<b>V<sub>CE</sub> = 12.5V</b>	<b>13</b>	---	---	<b>dB</b>
<b>IMD*</b>	<b>f = 30MHz</b>	<b>V<sub>CC</sub> = 12.5V</b>	<b>I<sub>CQ</sub> = 100mA</b>	<b>-32</b>	---	---	<b>dB<sub>c</sub></b>
<b>C<sub>OB</sub></b>	<b>f = 1 MHz</b>	<b>V<sub>CB</sub> = 12V</b>		---	<b>350</b>	---	<b>pf</b>
<b>Condition</b>	<b>f1 = 30.000 MHz</b>	<b>f2 = 30.001 MHz</b>					

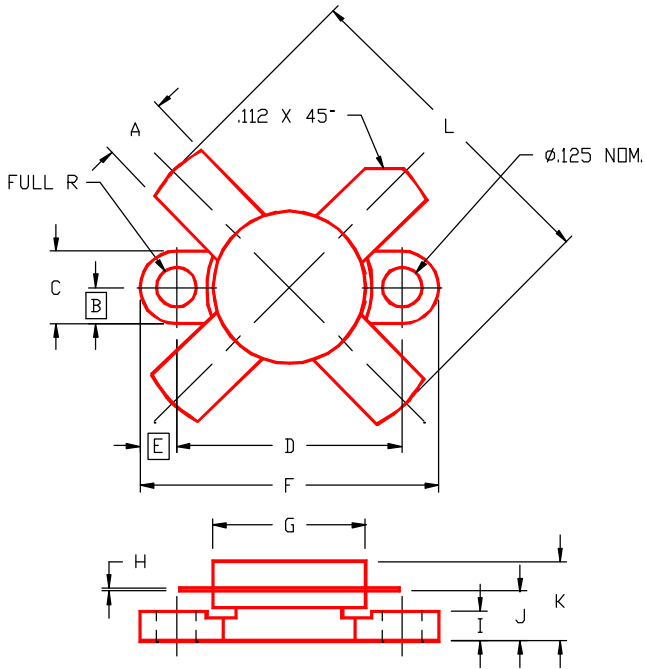
**IMPEDANCE DATA**

FREQ	Z <sub>IN</sub> (Ω)	Z <sub>CL</sub> (Ω)
<b>30 MHz</b>	<b>0.7 + j0.75</b>	<b>1.2 + j1.0</b>

**P<sub>IN</sub> = 3.8W**  
**V<sub>CC</sub> = 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			