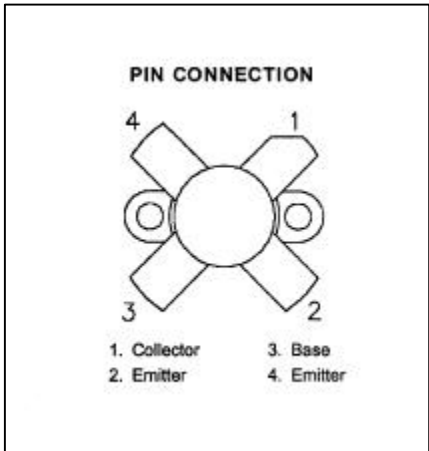
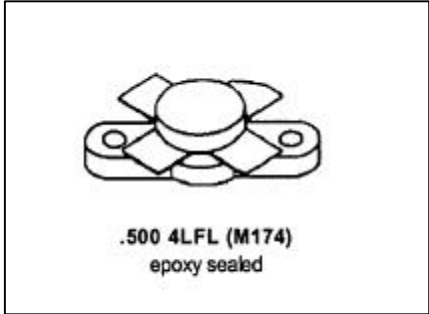


MS1077

**RF AND MICROWAVE TRANSISTORS  
HF SSB APPLICATIONS**

**Features**

- **Optimized for SSB**
- **30 MHz**
- **28 Volts**
- **IMD -30dB**
- **Common Emitter**
- **Gold Metallization**
- **P<sub>OUT</sub> = 130 W PEP**
- **G<sub>P</sub> = 12 dB Gain**



**DESCRIPTION:**

The MS1077 is a Class AB epitaxial silicon NPN planar transistor designed primarily for SSB communications. This device utilizes emitter ballasting to achieve extreme ruggedness under severe operating conditions.

**ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C)**

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	70	V
V <sub>CEO</sub>	Collector-Emitter Voltage	35	V
V <sub>EBO</sub>	Emitter-Base Voltage	4.0	V
I <sub>C</sub>	Device Current	12	A
P <sub>DISS</sub>	Power Dissipation	175	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>	Junction-Case Thermal Resistance	1.0	°C/W
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**ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = 25°C)**
**STATIC**

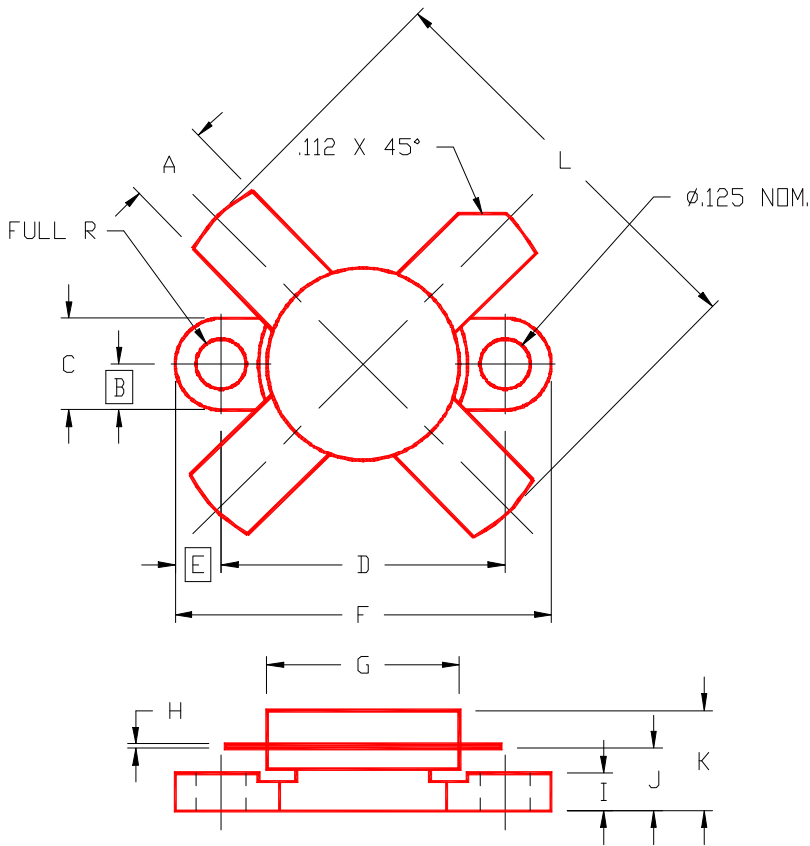
Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
<b>BV<sub>CES</sub></b>	<b>I<sub>C</sub> = 50 mA    V<sub>BE</sub> = 0 V</b>	<b>70</b>			<b>V</b>
<b>BV<sub>CEO</sub></b>	<b>I<sub>C</sub> = 100 mA    I<sub>B</sub> = 0 mA</b>	<b>35</b>			<b>V</b>
<b>BV<sub>EBO</sub></b>	<b>I<sub>E</sub> = 20 mA    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> = 35 V    I<sub>E</sub> = 0 mA</b>			<b>20</b>	<b>mA</b>
<b>h<sub>FE</sub></b>	<b>V<sub>CE</sub> = 5 V    I<sub>C</sub> = 7 A</b>	<b>18</b>		<b>50</b>	

**DYNAMIC**

Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
<b>P<sub>OUT</sub></b>	<b>f = 30 MHz    V<sub>CE</sub> = 28 V    I<sub>CQ</sub> = 150 mA</b>	<b>130</b>			<b>W</b>
<b>G<sub>P</sub></b>	<b>P<sub>OUT</sub> = 130 W PEP    V<sub>CE</sub> = 28 V    I<sub>CQ</sub> = 150 mA</b>	<b>12</b>			<b>dB</b>
<b>IMD *</b>	<b>P<sub>OUT</sub> = 130 W PEP    V<sub>CE</sub> = 28 V    I<sub>CQ</sub> = 150 mA</b>			<b>-30</b>	<b>dBc</b>
<b>η<sub>C</sub></b>	<b>P<sub>OUT</sub> = 130 W PEP    V<sub>CE</sub> = 28 V    I<sub>CQ</sub> = 150 mA</b>	<b>37</b>			<b>%</b>
<b>C<sub>OB</sub></b>	<b>f = 1 MHz    V<sub>CB</sub> = 28 V</b>		<b>220</b>	<b>260</b>	<b>pF</b>

Note: \* f<sub>1</sub> = 30.00 MHz, f<sub>2</sub> = 30.01 MHz

**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			