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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!



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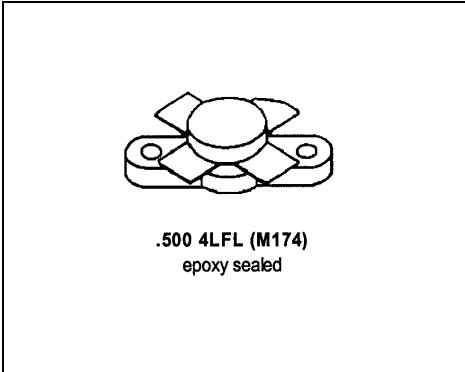


**MS1007**

**RF & MICROWAVE TRANSISTORS  
HF SSB APPLICATIONS**

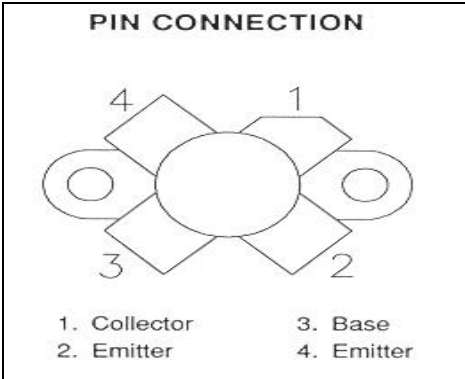
**Features**

- 30 MHz
- 50 VOLTS
- P<sub>OUT</sub> = 150 WATTS
- G<sub>p</sub> = 14 dB MINIMUM
- COMMON EMITTER CONFIGURATION



**DESCRIPTION:**

The MS1007 is a 50V 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	110	V
V <sub>CEO</sub>	Collector-Emitter Voltage	55	V
V <sub>EBO</sub>	Emitter-Base Voltage	4.0	V
I <sub>C</sub>	Device Current	10	A
P <sub>DISS</sub>	Power Dissipation	233	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	0.75	°C/W
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**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> = 100mA</b>	<b>I<sub>E</sub> = 0mA</b>	<b>110</b>	---	---	<b>V</b>
<b>BV<sub>CES</sub></b>	<b>I<sub>C</sub> = 100mA</b>	<b>V<sub>BE</sub> = 0V</b>	<b>110</b>	---	---	<b>V</b>
<b>BV<sub>CEO</sub></b>	<b>I<sub>C</sub> = 100mA</b>	<b>I<sub>B</sub> = 0mA</b>	<b>55</b>	---	---	<b>V</b>
<b>BV<sub>EBO</sub></b>	<b>I<sub>E</sub> = 10mA</b>	<b>I<sub>C</sub> = 0mA</b>	<b>4.0</b>	---	---	<b>V</b>
<b>I<sub>CEO</sub></b>	<b>V<sub>CE</sub> = 30V</b>	<b>I<sub>E</sub> = 0 mA</b>	---	---	<b>5</b>	<b>mA</b>
<b>I<sub>CES</sub></b>	<b>V<sub>CE</sub> = 60V</b>	<b>I<sub>E</sub> = 0mA</b>	---	---	<b>5</b>	<b>mA</b>
<b>h<sub>FE</sub></b>	<b>V<sub>CE</sub> = 6V</b>	<b>I<sub>C</sub> = 1.4A</b>	<b>18</b>	---	<b>43.5</b>	---

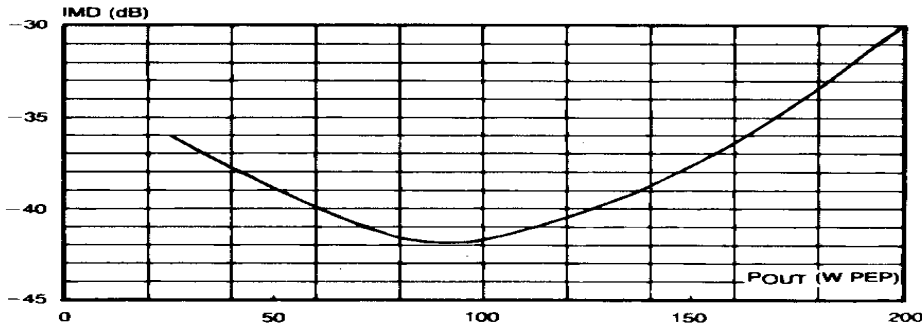
**DYNAMIC**

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
<b>P<sub>OUT</sub></b>	<b>f = 30 MHz</b>	<b>V<sub>CE</sub> = 50V</b>	<b>I<sub>CQ</sub> = 100mA</b>	<b>150</b>	---	---	<b>WPEP</b>
<b>G<sub>p</sub></b>	<b>P<sub>OUT</sub> = 150WPEP</b>	<b>V<sub>CE</sub> = 50V</b>	<b>I<sub>CQ</sub> = 100mA</b>	<b>14</b>	---	---	<b>dB</b>
<b>IMD</b>	<b>P<sub>OUT</sub> = 150WPEP</b>	<b>V<sub>CE</sub> = 50V</b>	<b>I<sub>CQ</sub> = 100mA</b>	---		<b>-30</b>	<b>dBc</b>
<b>η<sub>C</sub></b>	<b>P<sub>OUT</sub> = 150WPEP</b>	<b>V<sub>CE</sub> = 50V</b>	<b>I<sub>CQ</sub> = 100mA</b>	<b>37</b>	---	---	<b>%</b>
<b>C<sub>OB</sub></b>	<b>f = 1 MHz</b>	<b>V<sub>CB</sub> = 50 V</b>		---	---	<b>220</b>	<b>pf</b>
<b>Conditions</b>	<b>f1 = 30.000MHz</b>	<b>f2 = 30.001MHz</b>					

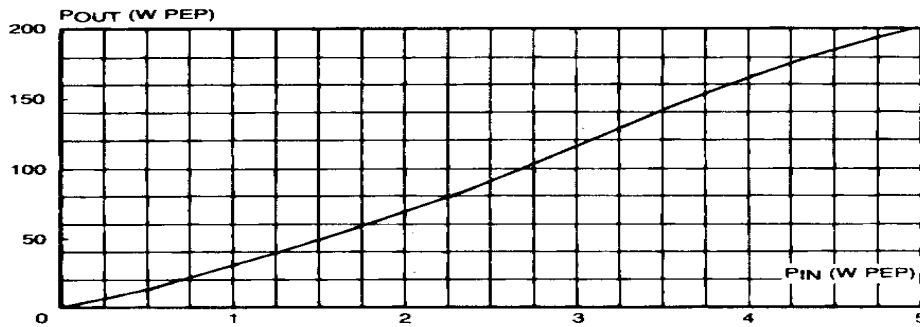


**TYPICAL PERFORMANCE**

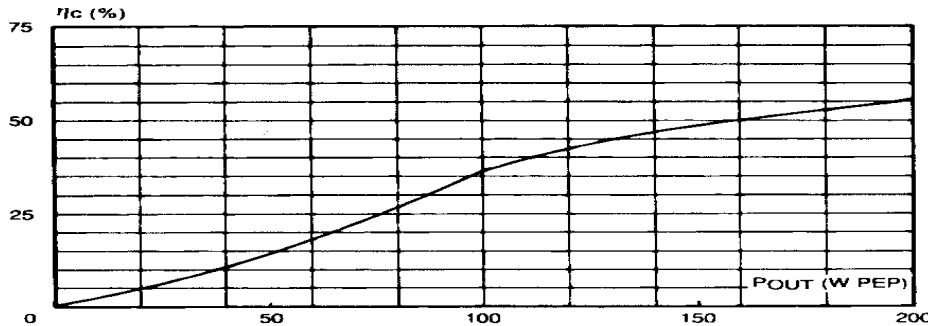
**INTERMODULATION DISTORTION vs POWER OUTPUT PEP**



**POWER OUTPUT PEP vs POWER INPUT**



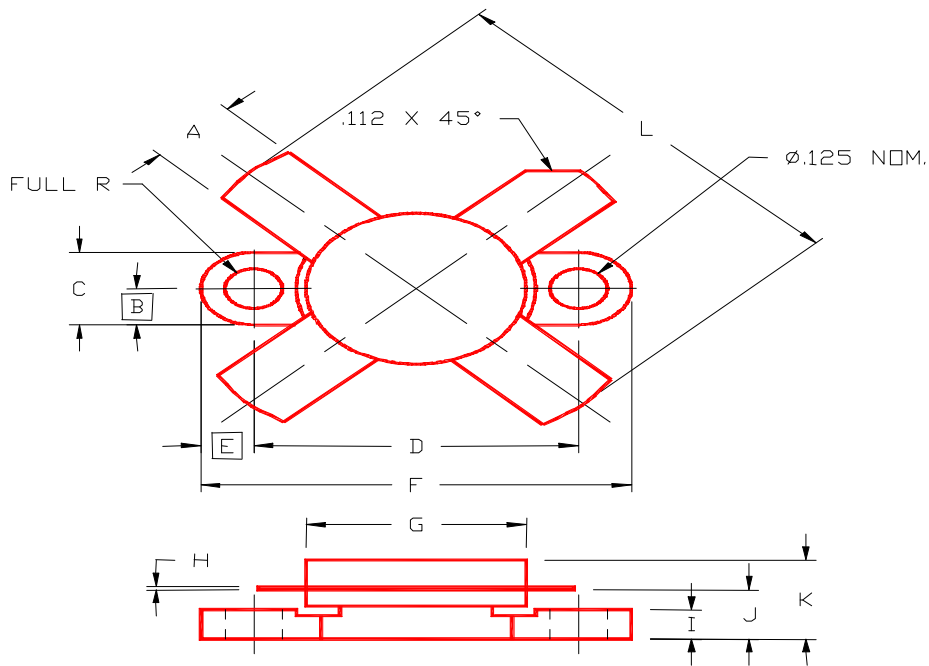
**COLLECTOR EFFICIENCY vs POWER OUTPUT PEP**



MS1007

**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			