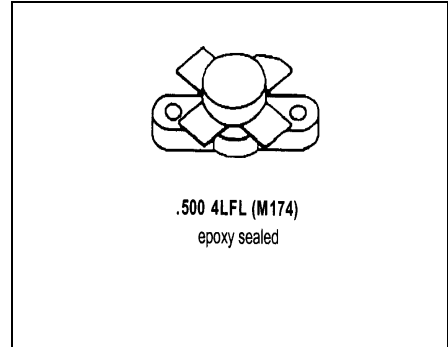


**MS1076**

**RF & MICROWAVE TRANSISTORS  
HF SSB APPLICATIONS**

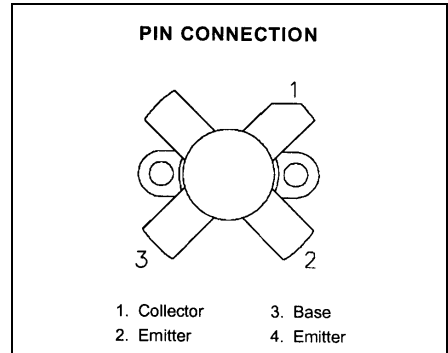
**Features**

30 MHz  
28 VOLTS  
GOLD METALLIZATION  
 $P_{OUT} = 220$  W PEP  
 $G_p = 12$  dB GAIN MINIMUM  
COMMON EMITTER CONFIGURATION



**DESCRIPTION:**

The MS1076 is a 28 volt epitaxial NPN silicon planar transistor designed primarily for SSB and VHF communications. This device utilizes an emitter ballasted die geometry for maximum ruggedness and reliability.



**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	16	A
P <sub>DISS</sub>	Power Dissipation	320	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	0.7	C/W
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## ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = 25°C)

### STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV <sub>CES</sub>	I <sub>C</sub> = 100 mA	V <sub>BE</sub> = 0 V	70	---	---	V
BV <sub>CEO</sub>	I <sub>C</sub> = 200 mA	I <sub>B</sub> = 0 mA	35	---	---	V
BV <sub>EBO</sub>	I <sub>E</sub> = 20 mA	I <sub>C</sub> = 0 mA	4.0	---	---	V
I <sub>CEO</sub>	V <sub>CE</sub> = 30 V	I <sub>E</sub> = 0 mA	---	---	5	mA
I <sub>CES</sub>	V <sub>CE</sub> = 35 V	I <sub>E</sub> = 0 mA	---	---	5	mA
H <sub>FE</sub>	V <sub>CE</sub> = 5 V	I <sub>C</sub> = 7 A	15	---	50	---

### DYNAMIC

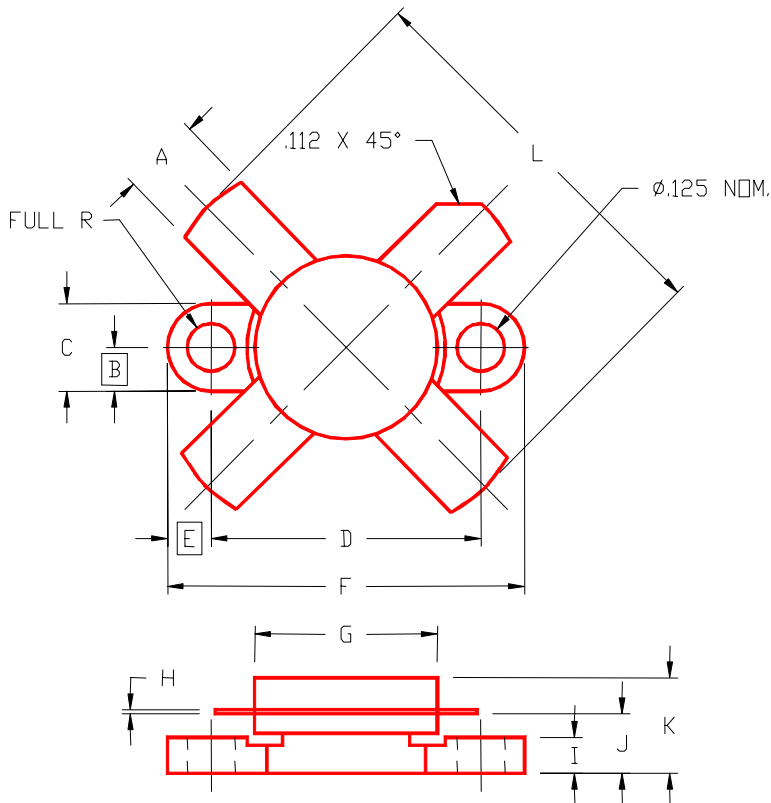
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P <sub>OUT</sub>	f = 30 MHz	V <sub>CE</sub> = 28 V	I <sub>CQ</sub> = 750 mA	220	---	---	WPEP
G <sub>P</sub>	f = 30 MHz	V <sub>CE</sub> = 28 V	I <sub>CQ</sub> = 750 mA	12	---	---	dB
η <sub>C</sub>	f = 30 MHz	V <sub>CE</sub> = 28 V	I <sub>CQ</sub> = 750 mA	40	---	---	%
IMD	f = 30 MHz	V <sub>CE</sub> = 28 V	I <sub>CQ</sub> = 750 mA	---	---	-30	dBc
C <sub>OB</sub>	f = 1 MHz	V <sub>CB</sub> = 28 V		---	450	---	pf
Conditions	f1 = 30.000 MHz	f2 = 30.001 MHz					

### IMPEDANCE DATA

FREQ	Z <sub>IN</sub>	Z <sub>CL</sub>
30 MHz	1.2 + j0.41	1.25 + j1.92

**MS1076**

**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			