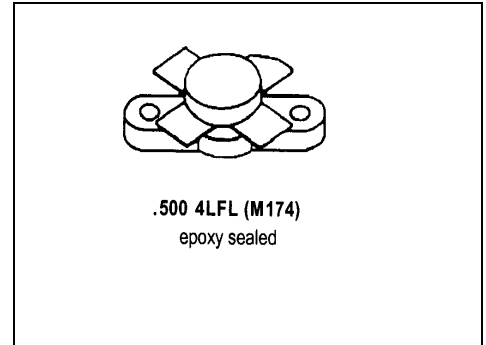


**MS1076**

**RF & MICROWAVE TRANSISTORS  
HF SSB APPLICATIONS**

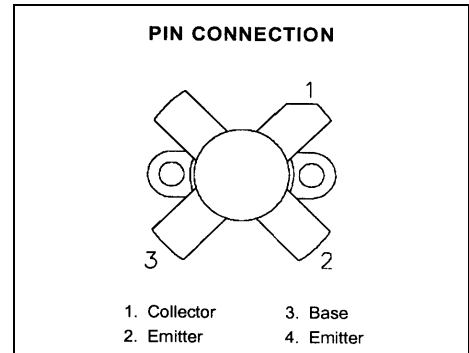
**Features**

- 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 (Tcase = 25°C)**

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector - Base Voltage	70	V
$V_{CEO}$	Collector - Emitter Voltage	35	V
$V_{EBO}$	Emitter - Base Voltage	4.0	V
$I_C$	Device Current	16	A
$P_{DISS}$	Power Dissipation	320	W
$T_J$	Junction Temperature	+200	°C
$T_{STG}$	Storage Temperature	- 65 to +150	°C

**Thermal Data**

$R_{TH(J-C)}$	Junction - Case Thermal Resistance	0.7	°C/W
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MS1076

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

### STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$BV_{CES}$	$I_C = 100 \text{ mA}$	$V_{BE} = 0 \text{ V}$	70	---	---	V
$BV_{CEO}$	$I_C = 200 \text{ mA}$	$I_B = 0 \text{ mA}$	35	---	---	V
$BV_{EBO}$	$I_E = 20 \text{ mA}$	$I_C = 0 \text{ mA}$	4.0	---	---	V
$I_{CEO}$	$V_{CE} = 30 \text{ V}$	$I_E = 0 \text{ mA}$	---	---	5	mA
$I_{CES}$	$V_{CE} = 35 \text{ V}$	$I_E = 0 \text{ mA}$	---	---	5	mA
$H_{FE}$	$V_{CE} = 5 \text{ V}$	$I_C = 7 \text{ A}$	15	---	50	---

### DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
$P_{OUT}$	$f = 30 \text{ MHz}$	$V_{CE} = 28 \text{ V}$	$I_{CQ} = 750 \text{ mA}$	220	---	---	WPEP
$G_P$	$f = 30 \text{ MHz}$	$V_{CE} = 28 \text{ V}$	$I_{CQ} = 750 \text{ mA}$	12	---	---	dB
$\eta_C$	$f = 30 \text{ MHz}$	$V_{CE} = 28 \text{ V}$	$I_{CQ} = 750 \text{ mA}$	40	---	---	%
IMD	$f = 30 \text{ MHz}$	$V_{CE} = 28 \text{ V}$	$I_{CQ} = 750 \text{ mA}$	---	---	-30	dBc
$C_{OB}$	$f = 1 \text{ MHz}$	$V_{CB} = 28 \text{ V}$		---	450	---	pf

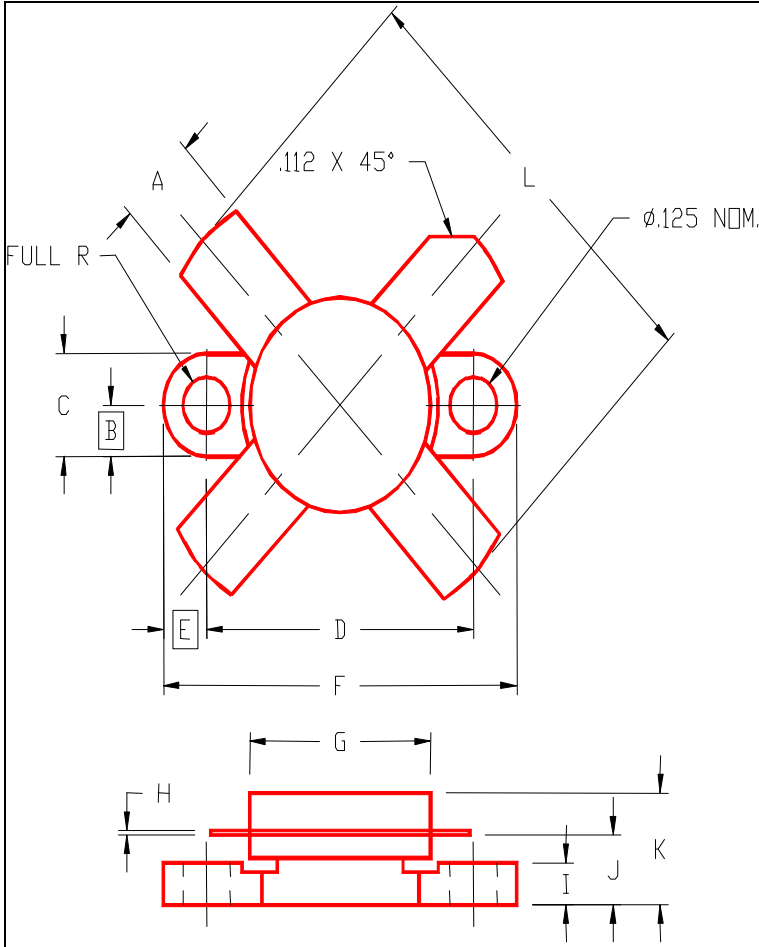
Conditions:  $f_1 = 30.000 \text{ MHz}$   $f_2 = 30.001 \text{ MHz}$

### IMPEDANCE DATA

FREQ	$Z_{IN}$	$Z_{CL}$
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			