

**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.

**IMPORTANT:** For the most current data, visit: <http://www.advancedpower.com>

**KEY FEATURES**

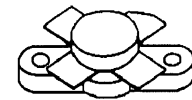
- Optimized for SSB
- 30 MHz
- 28 Volts
- IMD -30dB
- Common Emitter
- Gold Metallization
- $P_{OUT} = 130$  W PEP
- $G_P = 12$  dB Gain

**APPLICATIONS/BENEFITS**

- HF SSB Applications

**ABSOLUTE MAXIMUM RATINGS ( $T_{CASE} = 25^{\circ}C$ )**

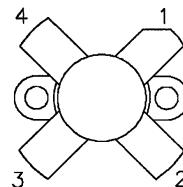
Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	70	V
$V_{CEO}$	Collector-Emitter Voltage	35	V
$V_{EBO}$	Emitter-Base Voltage	4.0	V
$I_C$	Device Current	12	A
$P_{DISS}$	Power Dissipation	175	W
$T_J$	Junction Temperature	+200	$^{\circ}C$
$T_{STG}$	Storage Temperature	-65 to +150	$^{\circ}C$



.500 4LFL (M174)  
epoxy sealed

**THERMAL DATA**

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	1.0	$^{\circ}C/W$
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**PIN CONNECTION**


- |              |            |
|--------------|------------|
| 1. Collector | 3. Base    |
| 2. Emitter   | 4. Emitter |

**STATIC ELECTRICAL SPECIFICATIONS (TCASE = 25°C)**

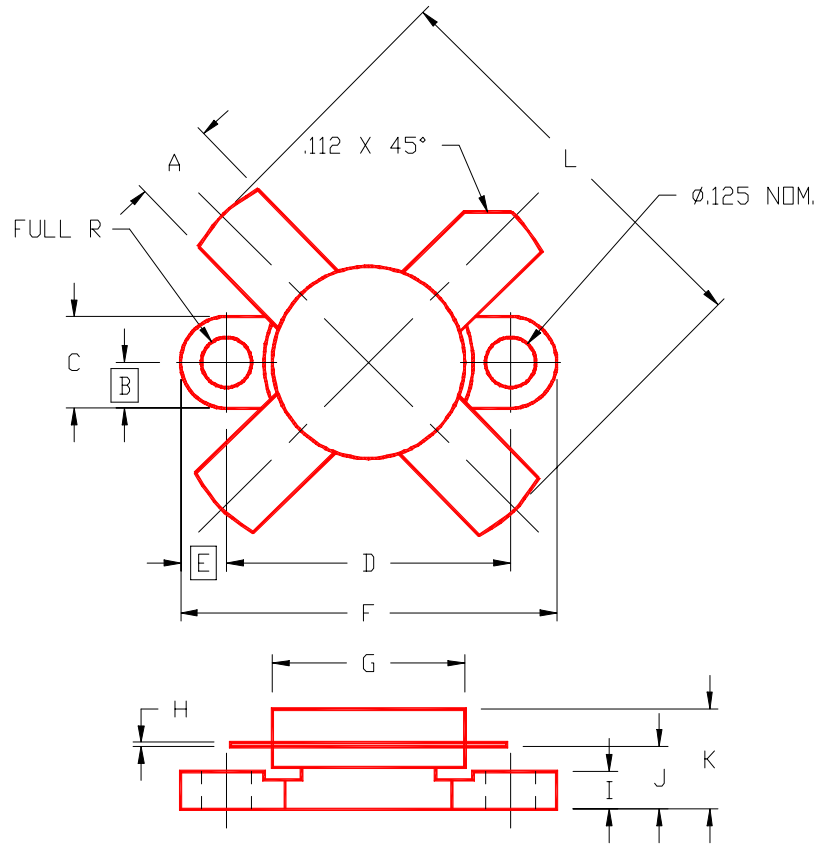
Symbol	Test Conditions	MS1077			Units
		Min.	Typ.	Max.	
<b>BV<sub>CES</sub></b>	<b>I<sub>C</sub> = 50 mA      V<sub>BE</sub> = 0 V</b>	70	—	—	V
<b>BV<sub>CEO</sub></b>	<b>I<sub>C</sub> = 100 mA      I<sub>B</sub> = 0 mA</b>	35	—	—	V
<b>BV<sub>EBO</sub></b>	<b>I<sub>E</sub> = 20 mA      I<sub>C</sub> = 0 mA</b>	4.0	—	—	V
<b>I<sub>CES</sub></b>	<b>V<sub>CE</sub> = 35 V      I<sub>E</sub> = 0 mA</b>	—	—	20	mA
<b>h<sub>FE</sub></b>	<b>V<sub>CE</sub> = 5 V      I<sub>C</sub> = 7 A</b>	18	—	50	—

**DYNAMIC ELECTRICAL SPECIFICATIONS (TCASE = 25°C)**

Symbol	Test Conditions	MS1077			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>	130	—	—	W
<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>	12	—	—	dB
<b>IMD *</b>	<b>P<sub>OUT</sub> = 130 W PEP      V<sub>CE</sub> = 28 V      I<sub>CQ</sub> = 150 mA</b>	—	—	-30	dBc
<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>	37	—	—	%
<b>C<sub>OB</sub></b>	<b>f = 1 MHz      V<sub>CB</sub> = 28 V</b>	—	220	260	pF

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

**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			