ADVANCED POWER TECHNOLOGY RF®

140 COMMERCE DRIVE
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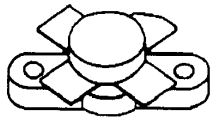
MS1076

RF & MICROWAVE TRANSISTORS
HF SSB APPLICATIONS



.500 4LFL (M174)
epoxy sealed

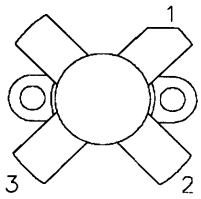
Features

- 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.

PIN CONNECTION



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

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

ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

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

DYNAMIC

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

Conditions: f1 = 30.000 MHz f2 = 30.001 MHz

IMPEDANCE DATA

FREQ	Z_{IN}	Z_{CL}
30 MHz	1.2 + j0.41	1.25 + j1.92

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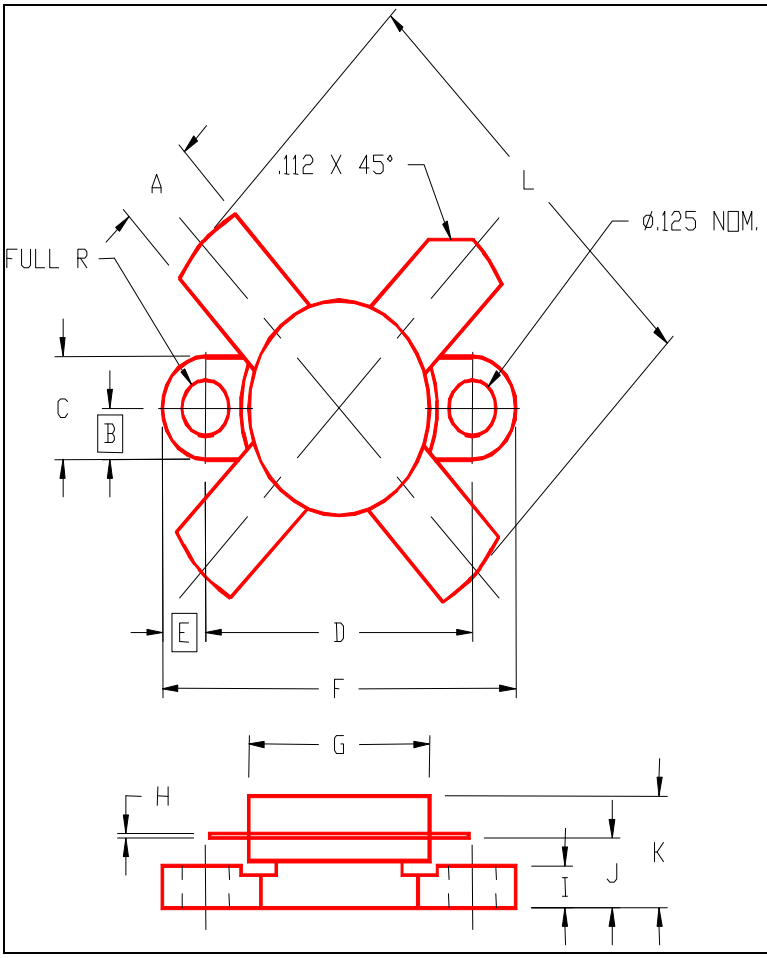
PACKAGE MECHANICAL DATA



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			