ADVANCED POWER TECHNOLOGY RF®

140 COMMERCE DRIVE
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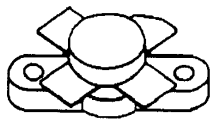
MS1076

RF & MICROWAVE TRANSISTORS
HF SSB APPLICATIONS

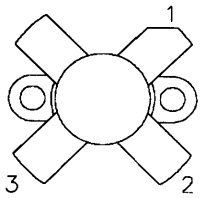


.500 4LFL (M174)
epoxy sealed

Features

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

PIN CONNECTION



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

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

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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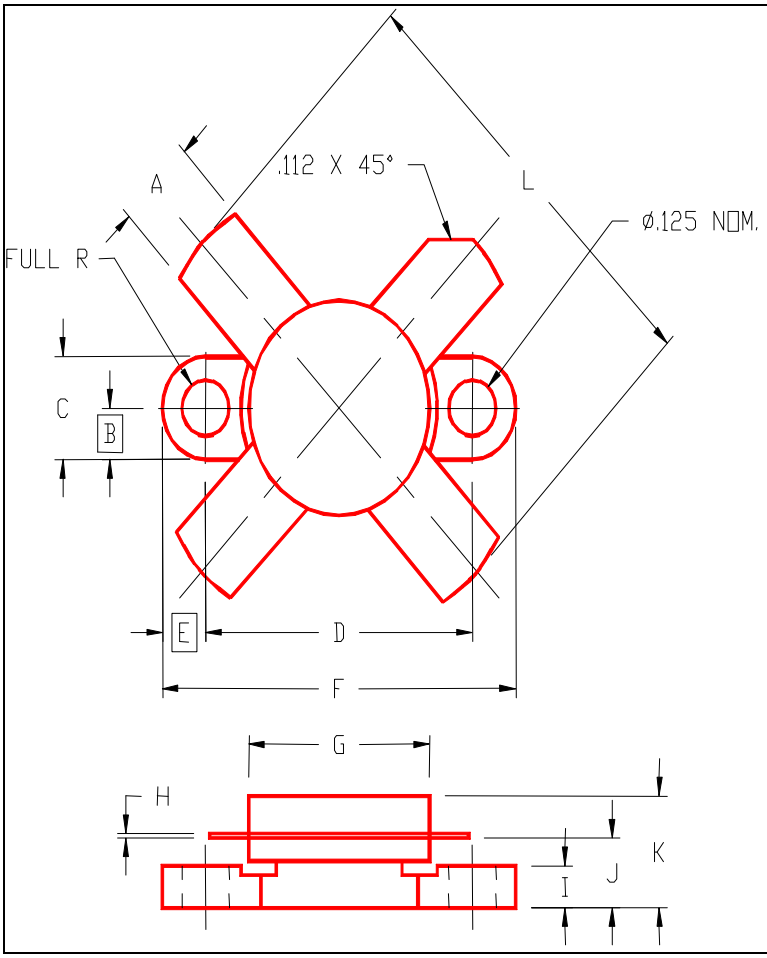
PACKAGE MECHANICAL DATA



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			