

MS1079

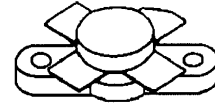
RF & MICROWAVE TRANSISTORS HF SSB APPLICATIONS

Features

- 30 MHz
- 50 VOLTS
- $P_{OUT} = 220\text{ W}$
- $G_P = 13\text{ dB MINIMUM}$
- COMMON EMITTER CONFIGURATION

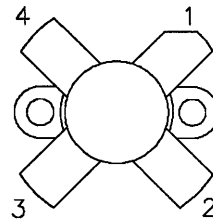
DESCRIPTION:

The MS1079 is a 50 V epitaxial silicon NPN planar transistor designed primarily for SSB communications. This device utilizes emitter ballasting for improved ruggedness and reliability.



.500 4LFL (M174)
epoxy sealed

PIN CONNECTION



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

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	110	V
V_{CEO}	Collector-Emitter Voltage	55	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Device Current	12	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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ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)
STATIC

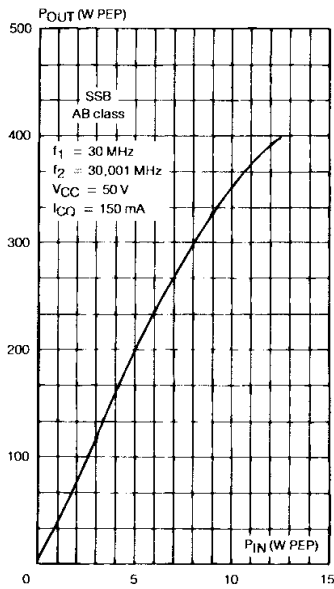
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 200mA	I_E = 0mA	110	---	---	V
BV_{CEO}	I_C = 200mA	I_B = 0mA	55	---	---	V
BV_{EBO}	I_E = 20mA	I_C = 0mA	4.0	---	---	V
I_{CEO}	V_{CE} = 30V	I_E = 0mA	---	---	5	mA
I_{CES}	V_{CE} = 55V	I_E = 0mA	---	---	10	mA
h_{FE}	V_{CE} = 6V	I_C = 10A	15	---	80	---

DYNAMIC

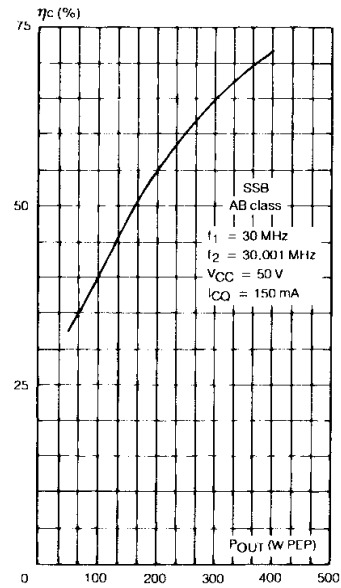
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 30 MHz	V_{CE} = 50 V	I_{CQ} = 150mA	220	---	---	WPEP
G_p	f = 30 MHz	V_{CE} = 50 V	I_{CQ} = 150mA	13	---	---	dB
IMD	f = 30 MHz	V_{CE} = 50 V	I_{CQ} = 150mA	---	---	-30	dBc
η_C	f = 30 MHz	V_{CE} = 50 V	I_{CQ} = 150mA	40	---	---	%
C_{OB}	f = 1 MHz	V_{CB} = 50 V		---	---	390	pF
Conditions	f₁ = 30.000 MHz	f₂ = 30.001 MHz					

TYPICAL PERFORMANCE

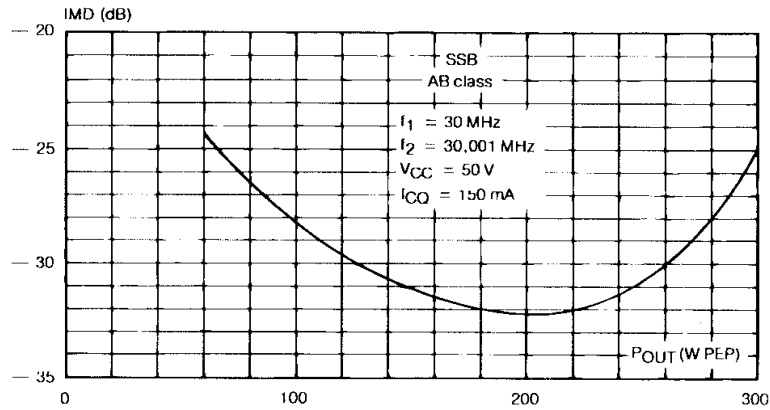
POWER OUTPUT PEP vs POWER INPUT



COLLECTOR EFFICIENCY vs POWER OUTPUT PEP

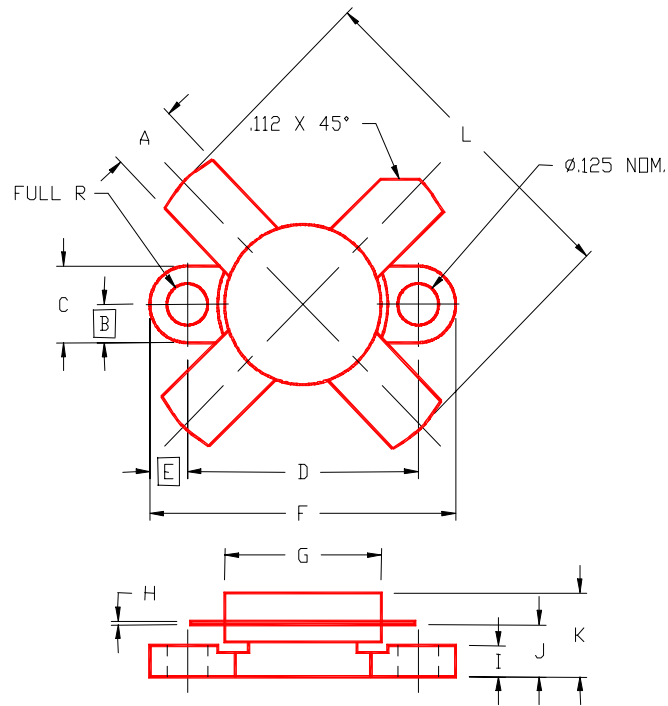


INTERMODULATION DISTORTION vs POWER OUTPUT PEP



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			