



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

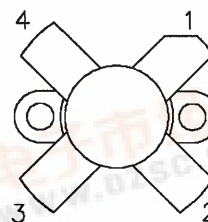
DESCRIPTION:

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
---------------	----------------------------------	-----	------



ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)

STATIC

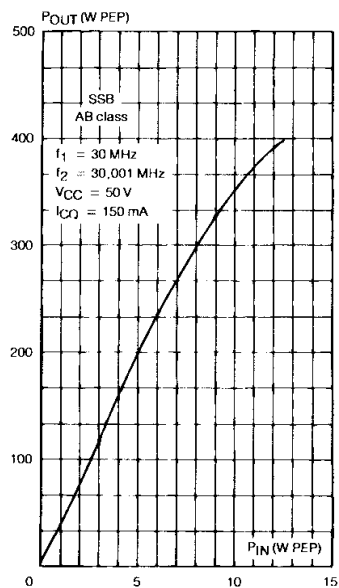
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 200mA	I_E = 0mA	110	---	---	V
BV_{CEO}	I_C = 200mA	I_B = 0mA	55	---	---	V
BV_{EBO}	I_E = 20mA	I_C = 0mA	4.0	---	---	V
I_{CEO}	V_{CE} = 30V	I_E = 0mA	---	---	5	mA
I_{CES}	V_{CE} = 55V	I_E = 0mA	---	---	10	mA
h_{FE}	V_{CE} = 6V	I_C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

DYNAMIC

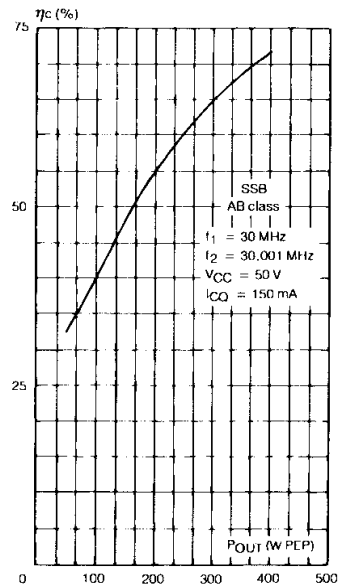
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 30 MHz	V_{CE} = 50 V	I_{CQ} = 150mA	220	---	---	WPEP
G_p	f = 30 MHz	V_{CE} = 50 V	I_{CQ} = 150mA	13	---	---	dB
IMD	f = 30 MHz	V_{CE} = 50 V	I_{CQ} = 150mA	---	---	-30	dBc
η_C	f = 30 MHz	V_{CE} = 50 V	I_{CQ} = 150mA	40	---	---	%
C_{OB}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

TYPICAL PERFORMANCE

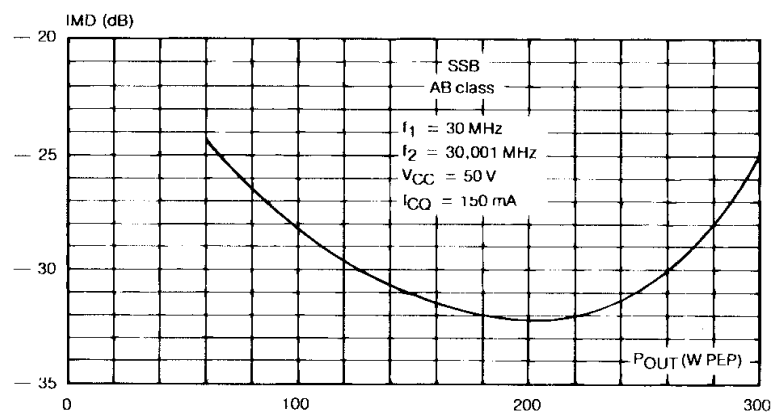
POWER OUTPUT PEP vs POWER INPUT



COLLECTOR EFFICIENCY vs POWER OUTPUT PEP

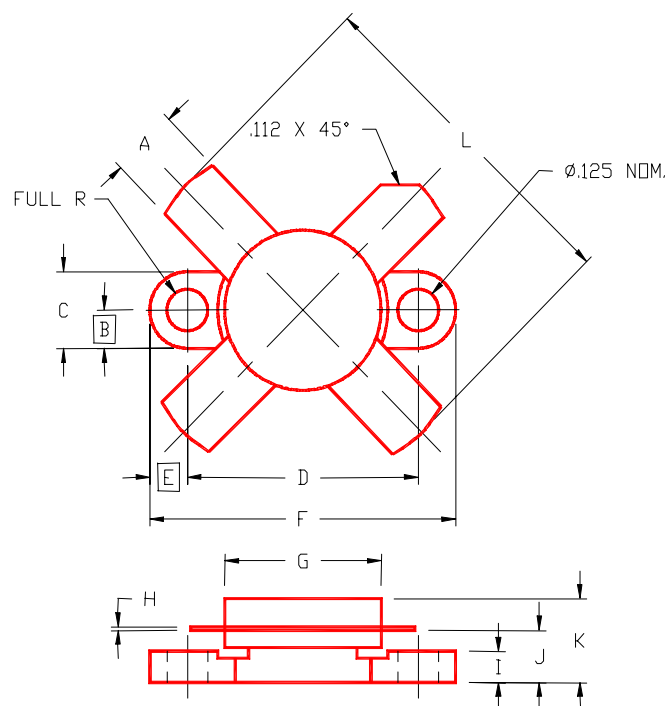


**INTERMODULATION DISTORTION
vs POWER OUTPUT PEP**



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			