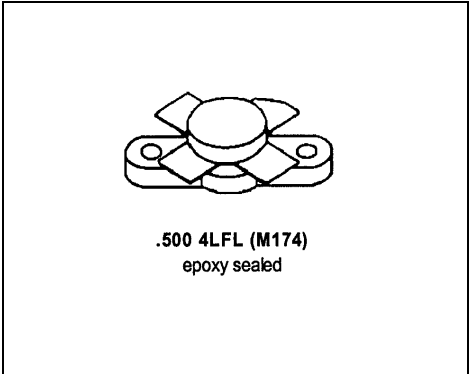


MS1007

**RF & MICROWAVE TRANSISTORS
HF SSB APPLICATIONS**

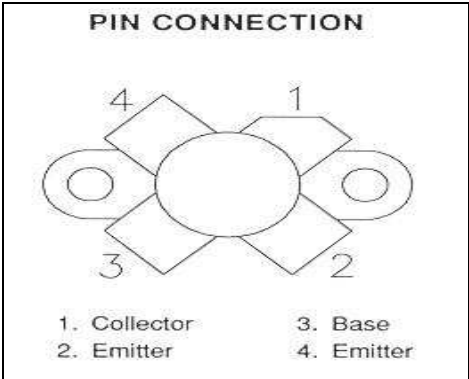
Features

- 30 MHz
- 50 VOLTS
- P_{OUT} = 150 WATTS
- G_p = 14 dB MINIMUM
- COMMON EMITTER CONFIGURATION



DESCRIPTION:

The MS1007 is a 50V epitaxial silicon NPN planar transistor designed primarily for SSB communications. This device utilizes emitter ballasting to achieve extreme ruggedness under severe operating conditions.



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	10	A
P _{DISS}	Power Dissipation	233	W
T _J	Junction Temperature	+200	°C
T _{STG}	Storage Temperature	-65 to +150	°C

Thermal Data

R _{TH(J-C)}	Thermal Resistance Junction-case	0.75	°C/W
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ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)

STATIC

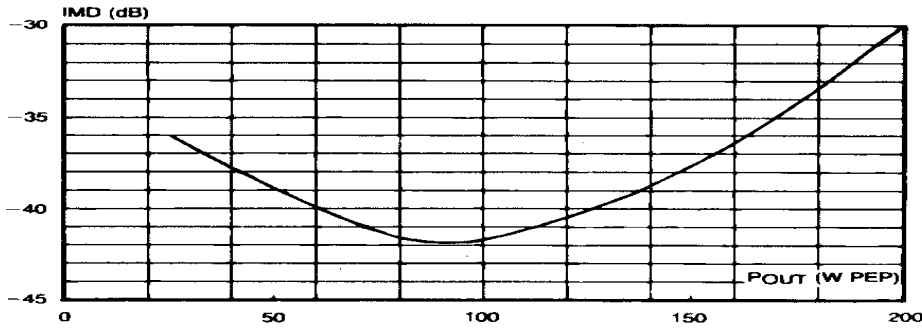
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 100mA	I_E = 0mA	110	---	---	V
BV_{CES}	I_C = 100mA	V_{BE} = 0V	110	---	---	V
BV_{CEO}	I_C = 100mA	I_B = 0mA	55	---	---	V
BV_{EBO}	I_E = 10mA	I_C = 0mA	4.0	---	---	V
I_{CEO}	V_{CE} = 30V	I_E = 0 mA	---	---	5	mA
I_{CES}	V_{CE} = 60V	I_E = 0mA	---	---	5	mA
h_{FE}	V_{CE} = 6V	I_C = 1.4A	18	---	43.5	---

DYNAMIC

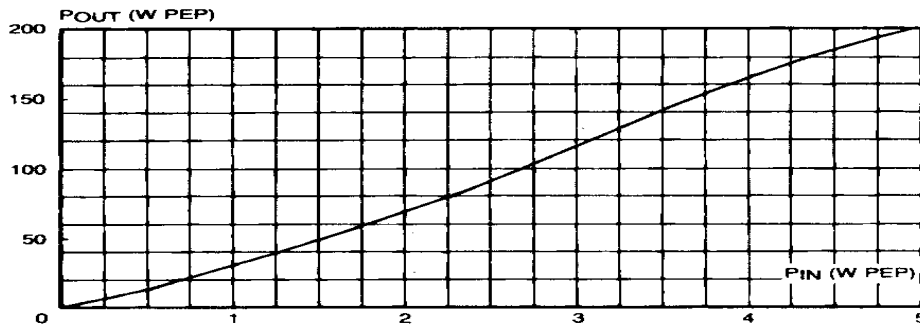
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 30 MHz	V_{CE} = 50V	I_{CQ} = 100mA	150	---	---	WPEP
G_p	P_{OUT} = 150WPEP	V_{CE} = 50V	I_{CQ} = 100mA	14	---	---	dB
IMD	P_{OUT} = 150WPEP	V_{CE} = 50V	I_{CQ} = 100mA	---		-30	dBc
η_c	P_{OUT} = 150WPEP	V_{CE} = 50V	I_{CQ} = 100mA	37	---	---	%
C_{OB}	f = 1 MHz	V_{CB} = 50 V		---	---	220	pf
Conditions	f1 = 30.000MHz	f2 = 30.001MHz					

TYPICAL PERFORMANCE

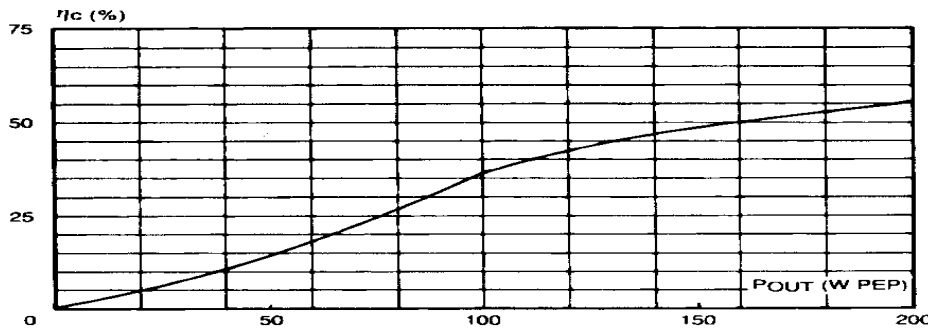
INTERMODULATION DISTORTION vs POWER OUTPUT PEP



POWER OUTPUT PEP vs POWER INPUT



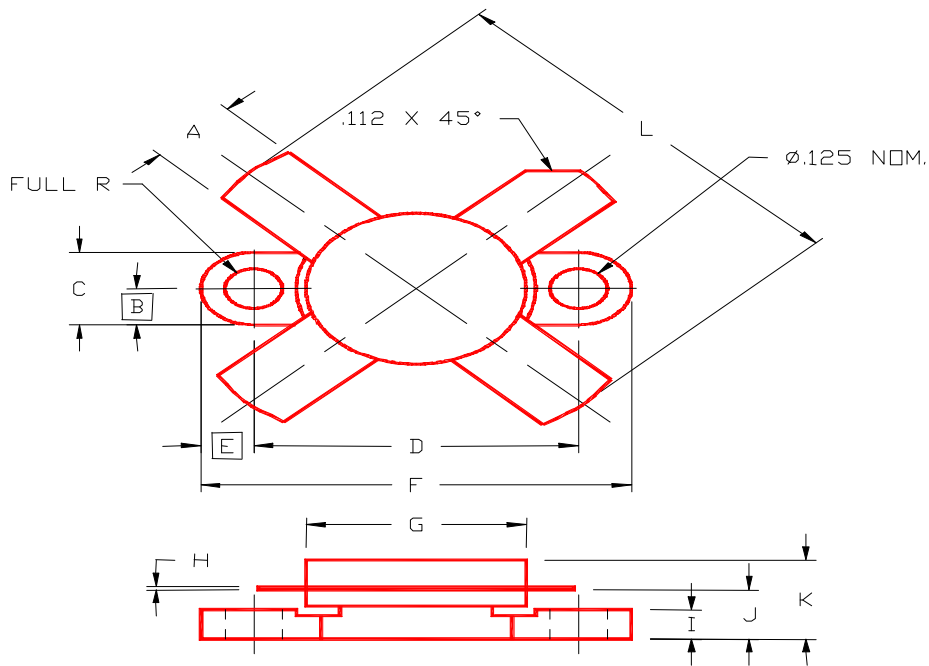
COLLECTOR EFFICIENCY vs POWER OUTPUT PEP



MS1007

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			