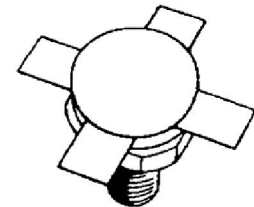


**MS1008**
**RF & MICROWAVE TRANSISTORS  
HF SSB APPLICATIONS**
**Features**

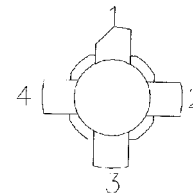
- 30 MHz
- 50 VOLTS
- IMD = -30 dB
- P<sub>OUT</sub> = 150 WATTS
- G<sub>P</sub> = 14 dB MINIMUM
- COMMON EMITTER CONFIGURATION

**DESCRIPTION:**

The MS1008 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.



**.550 4L STUD (M164)**  
epoxy sealed

**PIN CONNECTION**


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

**ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C)**

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	110	V
V <sub>CEO</sub>	Collector-Emitter Voltage	55	V
V <sub>EBO</sub>	Emitter-Base Voltage	4.0	V
I <sub>C</sub>	Device Current	10	A
P <sub>DISS</sub>	Power Dissipation	233	W
T <sub>J</sub>	Junction Temperature	+200	°C
T <sub>STG</sub>	Storage Temperature	-65 to +150	°C

**Thermal Data**

R <sub>TH(J-C)</sub>	Junction-Case Thermal Resistance	0.75	°C/W
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Rev A 11/2005

ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = 25°C)

## STATIC

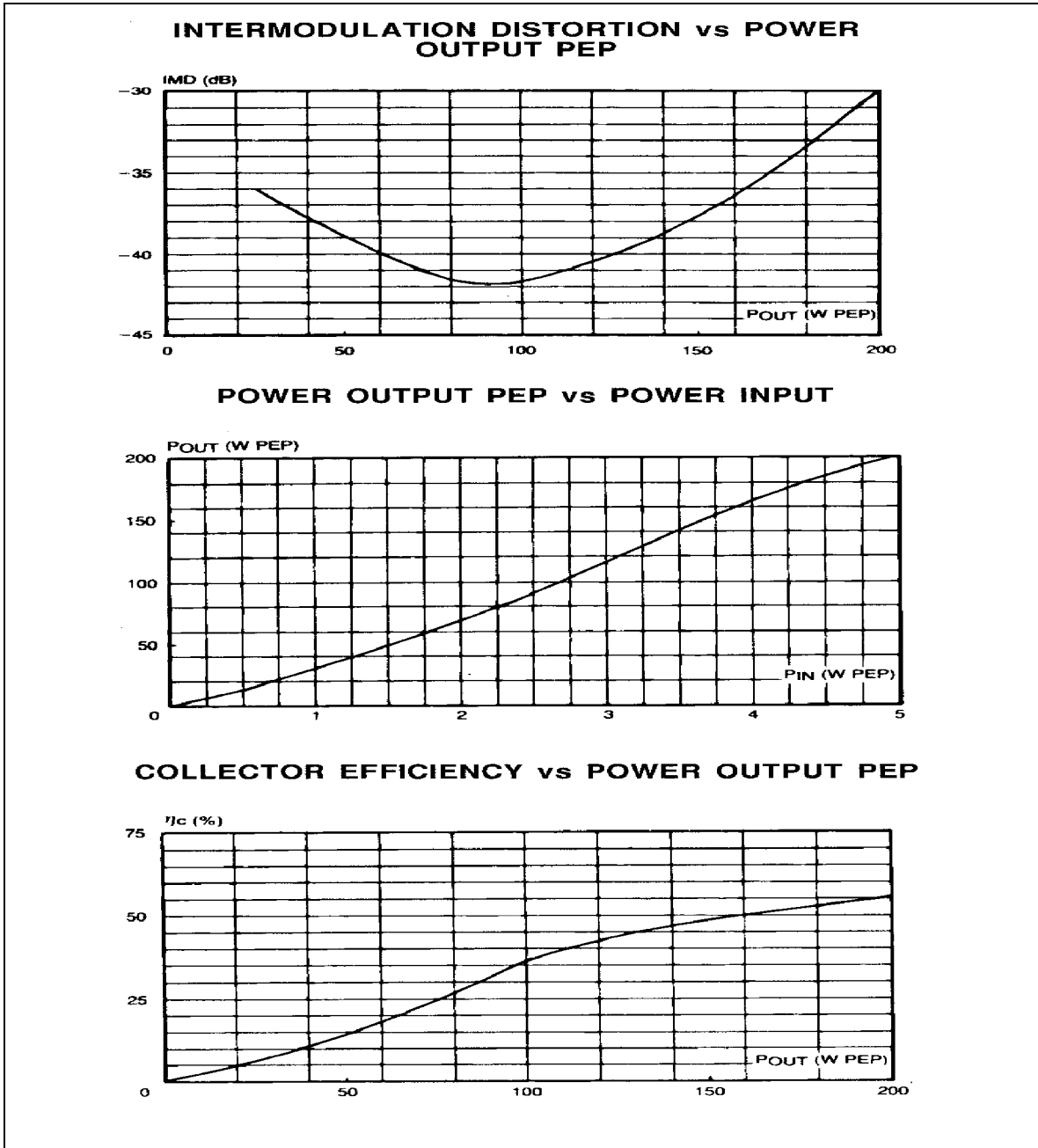
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV <sub>CBO</sub>	I <sub>C</sub> = 100mA	I <sub>E</sub> = 0mA	110	---	---	V
BV <sub>CES</sub>	I <sub>C</sub> = 100mA	V <sub>BE</sub> = 0V	110	---	---	V
BV <sub>CEO</sub>	I <sub>C</sub> = 100mA	I <sub>B</sub> = 0mA	55	---	---	V
BV <sub>EBO</sub>	I <sub>E</sub> = 10mA	I <sub>C</sub> = 0mA	4.0	---	---	V
I <sub>CEO</sub>	V <sub>CE</sub> = 30V	I <sub>E</sub> = 0 mA	---	---	5	mA
I <sub>CES</sub>	V <sub>CE</sub> = 60V	I <sub>E</sub> = 0mA	---	---	5	mA
h <sub>FE</sub>	V <sub>CE</sub> = 6V	I <sub>C</sub> = 1.4A	15	---	50	---
h <sub>FE, MS1008A</sub>	V <sub>CE</sub> = 6V	I <sub>C</sub> = 1.4A	20	---	30	---

## DYNAMIC

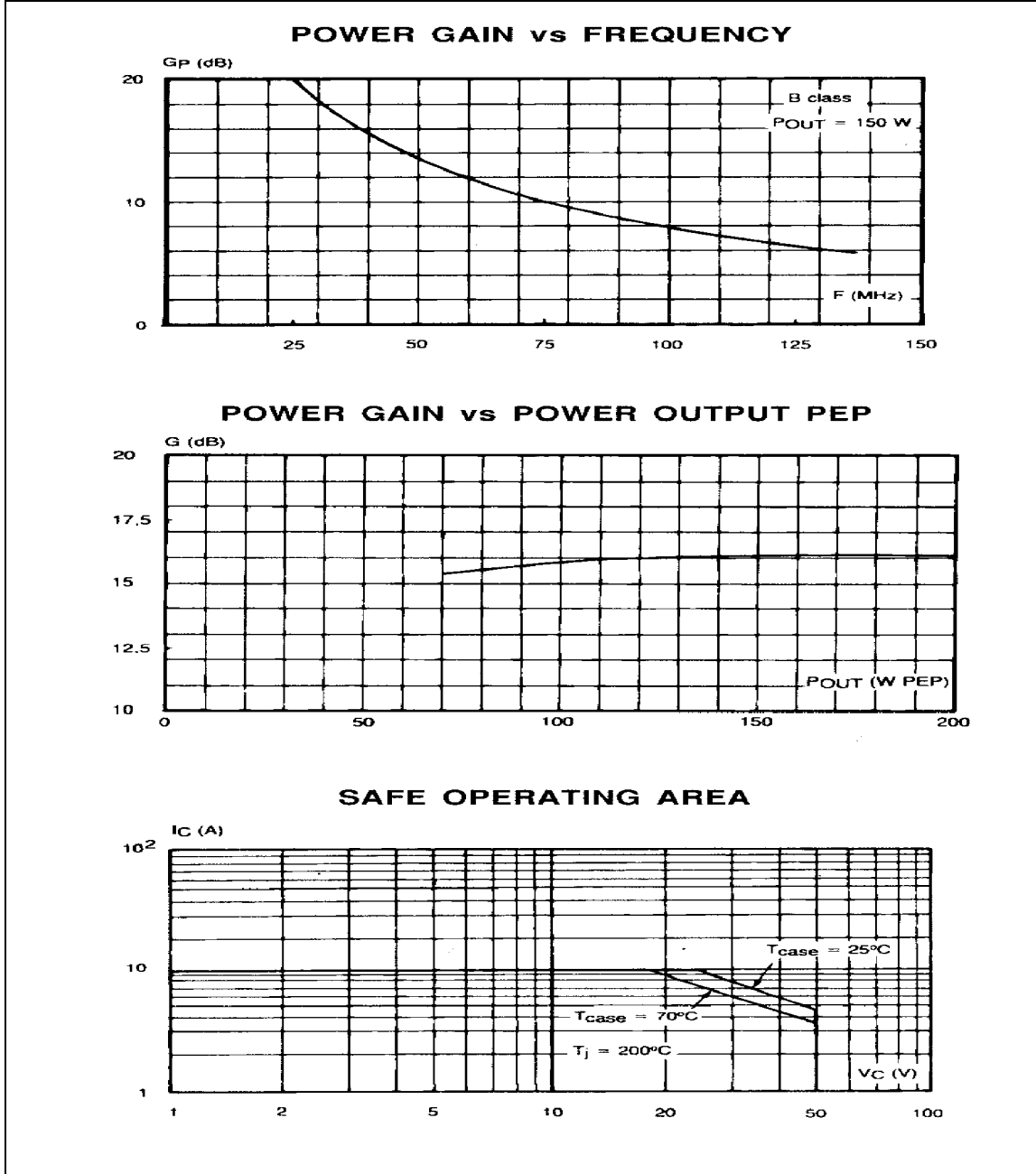
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P <sub>OUT</sub>	f = 30 MHz	V <sub>CE</sub> = 50V	I <sub>CQ</sub> = 150mA	150	---	---	WPEP
G <sub>P</sub>	P <sub>OUT</sub> = 150WPEP	V <sub>CE</sub> = 50V	I <sub>CQ</sub> = 150mA	14	---	---	dB
IMD	P <sub>OUT</sub> = 150WPEP	V <sub>CE</sub> = 50V	I <sub>CQ</sub> = 150mA	---	---	-30	dBc
η <sub>C</sub>	P <sub>OUT</sub> = 150WPEP	V <sub>CE</sub> = 50V	I <sub>CQ</sub> = 150mA	37	---	---	%
C <sub>OB</sub>	f = 1 MHz	V <sub>CB</sub> = 50 V		---	---	220	pF

Conditions: f<sub>1</sub> = 30.000MHz f<sub>2</sub> = 30.001MHz

TYPICAL PERFORMANCE



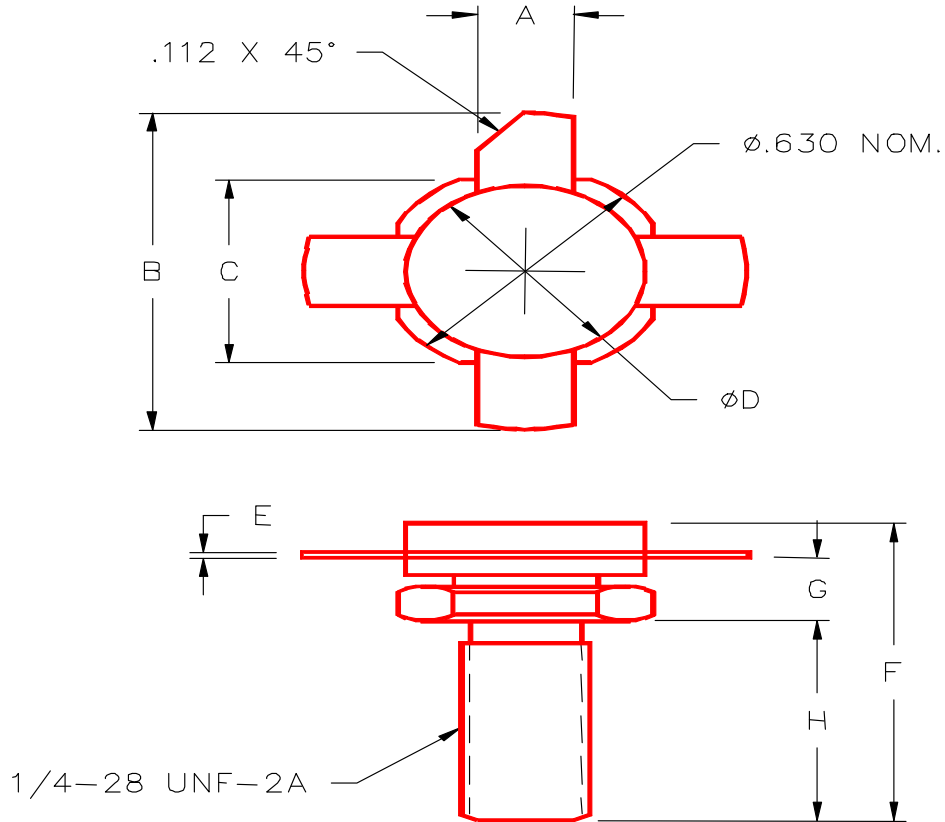
TYPICAL PERFORMANCE



MS1008

**PACKAGE MECHANICAL DATA**

**PACKAGE STYLE M164**



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.220/5,59	.230/5,84			
B		1.050/26,67			
C	.545/13,84	.555/14,10			
D	.495/12,57	.505/12,83			
E	.003/0,08	.007/0,18			
F		.810/20,57			
G	.185/4,70	.198/5,03			
H	.497/12,62	.530/13,46			