

# MS1408

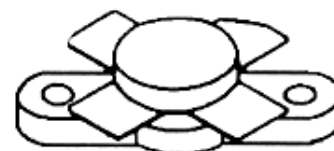
## RF AND MICROWAVE TRANSISTORS 108-152MHz APPLICATIONS

### Features

- FM CLASS C TRANSISTOR
- FREQUENCY 136MHz
- VOLTAGE 28V
- POWER OUT 20W
- POWER GAIN 8.2dB
- EFFICIENCY 55%
- COMMON EMITTER

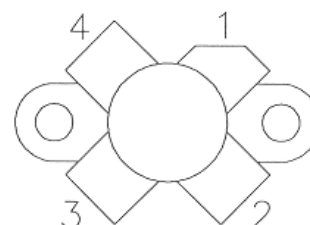
### DESCRIPTION:

The MS1408 is a 28 volt epitaxial silicon NPN planar transistor designed for 108-152MHz AM class C and FM communications. This device utilizes diffused emitter resistors to achieve VSWR at rated operating conditions.



**.380 4LFL (M113)**  
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	65	V
V <sub>CEO</sub>	Collector-Emitter Voltage	35	V
V <sub>CES</sub>	Collector-Emitter Voltage	65	V
V <sub>EBO</sub>	Emitter-Base Voltage	4	V
I <sub>C</sub>	Collector Current	3	A
P <sub>DISS</sub>	Power Dissipation	30	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	5.83	°C/W
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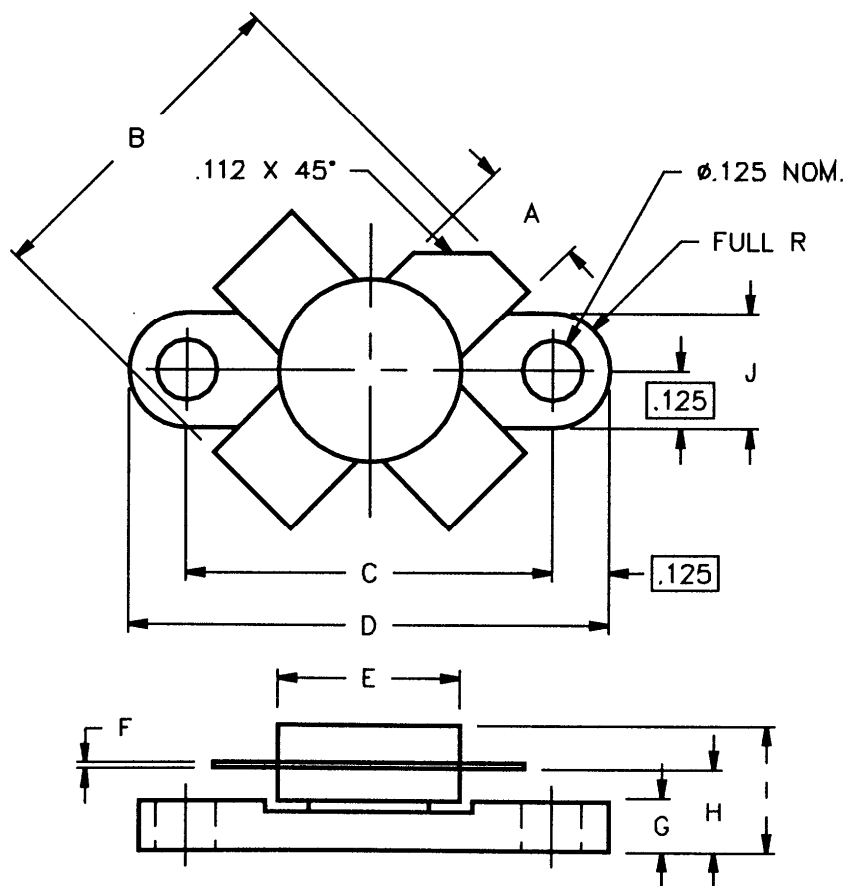
**ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = 25°C)**
**STATIC**

Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
<b>BV<sub>CBO</sub></b>	<b>I<sub>C</sub> = 200 mA I<sub>E</sub> = 0 V</b>	<b>65</b>			<b>V</b>
<b>BV<sub>CES</sub></b>	<b>I<sub>C</sub> = 200 mA V<sub>BE</sub> = 0 V</b>	<b>65</b>			<b>V</b>
<b>BV<sub>CEO</sub></b>	<b>I<sub>C</sub> = 200 mA I<sub>B</sub> = 0 mA</b>	<b>35</b>			<b>V</b>
<b>BV<sub>EBO</sub></b>	<b>I<sub>E</sub> = 10 mA I<sub>C</sub> = 0 mA</b>	<b>4</b>			<b>V</b>
<b>I<sub>CBO</sub></b>	<b>V<sub>CB</sub> = 30 V I<sub>E</sub> = 0 V</b>			<b>1</b>	<b>mA</b>
<b>h<sub>FE</sub></b>	<b>V<sub>CE</sub> = 5 V I<sub>C</sub> = 200 mA</b>	<b>5</b>			<b>—</b>

**DYNAMIC**

Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
<b>P<sub>OUT</sub></b>	<b>f = 136 MHz V<sub>CE</sub> = 28 V</b>	<b>20</b>			<b>W</b>
<b>G<sub>p</sub></b>	<b>f = 136 MHz V<sub>CE</sub> = 28 V</b>	<b>8.2</b>			<b>dB</b>
<b>C<sub>OB</sub></b>	<b>f = 1 MHz V<sub>CB</sub> = 30 V I<sub>E</sub> = 0 V</b>			<b>35</b>	<b>PF</b>

Rev. B – June 2008

**PACKAGE MECHANICAL DATA**


	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.220/5,59	.230/5,84	I		.260/7,11
B	.785/19,94		J	.240/6,10	.255/6,48
C	.720/18,29	.730/18,54			
D	.970/24,64	.980/24,89			
E		.385/9,78			
F	.004/0,10	.006/0,15			
G	.085/2,16	.105/2,67			
H	.160/4,06	.180/4,57			