

# MS1337

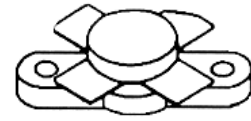
## RF & MICROWAVE TRANSISTORS VHF MOBILE APPLICATIONS

### Features

- 175 MHz
- 12.5 VOLTS
- P<sub>OUT</sub> = 30W MINIMUM
- G<sub>P</sub> = 10 dB GAIN
- COMMON EMITTER CONFIGURATION

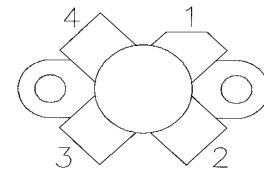
### DESCRIPTION:

The MS1337 is a 12.5 volt epitaxial silicon NPN planar transistor designed primarily for Class C, VHF communication applications. The MS1337 utilizes an emitter ballasted die geometry to withstand severe load mismatch 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	36	V
V <sub>CEO</sub>	Collector-Emitter Voltage	18	V
V <sub>CES</sub>	Collector-Emitter Voltage	36	V
V <sub>EBO</sub>	Emitter-Base Voltage	4.0	V
I <sub>C</sub>	Device Current	8.0	A
P <sub>DISS</sub>	Power Dissipation	70	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	1.2	°C/W
----------------------	----------------------------------	-----	------

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

### STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
<b>BV<sub>CES</sub></b>	<b>I<sub>C</sub> = 15 mA</b>	<b>V<sub>BE</sub> = 0 mA</b>	<b>36</b>	---	---	<b>V</b>
<b>BV<sub>CEO</sub></b>	<b>I<sub>E</sub> = 50 mA</b>	<b>I<sub>B</sub> = 0 mA</b>	<b>18</b>	---	---	<b>V</b>
<b>BV<sub>EBO</sub></b>	<b>I<sub>E</sub> = 5 mA</b>	<b>I<sub>C</sub> = 0 mA</b>	<b>4.0</b>	---	---	<b>V</b>
<b>I<sub>CBO</sub></b>	<b>V<sub>CB</sub> = 15 V</b>	<b>I<sub>E</sub> = 0 mA</b>	---	---	<b>5</b>	<b>mA</b>
<b>H<sub>FE</sub></b>	<b>V<sub>CE</sub> = 5 V</b>	<b>I<sub>C</sub> = 250 mA</b>	<b>20</b>	---	<b>200</b>	---

### DYNAMIC

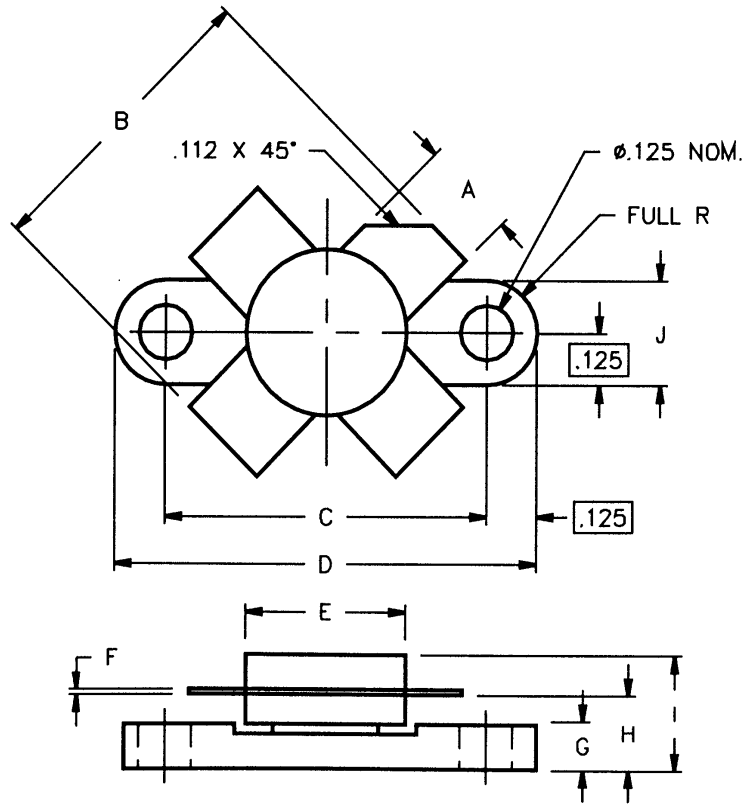
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
<b>P<sub>OUT</sub></b>	<b>f = 175 MHz</b>	<b>P<sub>IN</sub> = 3.0 W</b>	<b>V<sub>CE</sub> = 12.5 V</b>	<b>30</b>	---	---	<b>W</b>
<b>G<sub>p</sub></b>	<b>f = 175 MHz</b>	<b>P<sub>IN</sub> = 3.0 W</b>	<b>V<sub>CE</sub> = 12.5 V</b>	<b>10</b>	---	---	<b>dB</b>
<b>Cob</b>	<b>f = 1 MHz</b>	<b>V<sub>CB</sub> = 15 V</b>		---	---	<b>120</b>	<b>pf</b>

### IMPEDANCE DATA

FREQ	Z <sub>IN</sub> (Ω)	Z <sub>CL</sub> (Ω)
175 MHz	1.0 +j0.4	2.3 + j0.1

P<sub>IN</sub> = 3.0W  
V<sub>CE</sub> = 12.5V

**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			