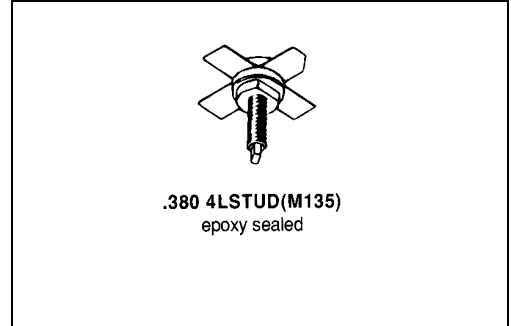


# MS1336

## RF & MICROWAVE TRANSISTORS VHF MOBILE APPLICATIONS

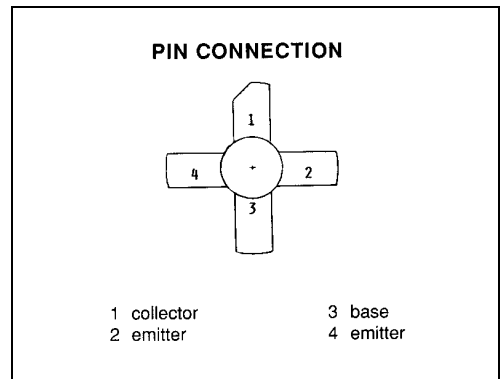
### Features

- 175 MHz
- 12.5 VOLTS
- $P_{OUT} = 30W$  MINIMUM
- $G_P = 10$  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.



### 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
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**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)
<b>175 MHz</b>	<b>1.0 +j0.4</b>	<b>2.3 + j0.1</b>

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



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**MS1336**

## PACKAGE MECHANICAL DATA

**MS1336**

