

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: [info@chipsmall.com](mailto:info@chipsmall.com) Web: [www.chipsmall.com](http://www.chipsmall.com)

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

# 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

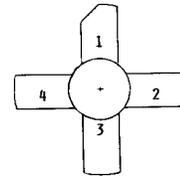
### DESCRIPTION:

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.



.380 4LSTUD(M135)  
epoxy sealed

### PIN CONNECTION



1 collector                      3 base  
2 emitter                        4 emitter

### ABSOLUTE MAXIMUM RATINGS ( $T_{case} = 25^{\circ}C$ )

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	36	V
$V_{CEO}$	Collector-Emitter Voltage	18	V
$V_{CES}$	Collector-Emitter Voltage	36	V
$V_{EBO}$	Emitter-Base Voltage	4.0	V
$I_C$	Device Current	8.0	A
$P_{DISS}$	Power Dissipation	70	W
$T_J$	Junction Temperature	+200	$^{\circ}C$
$T_{STG}$	Storage Temperature	-65 to +150	$^{\circ}C$

### Thermal Data

$R_{TH(J-C)}$	Junction-case Thermal Resistance	1.2	$^{\circ}C/W$
---------------	----------------------------------	-----	---------------

**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)
<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**



140 COMMERCE DRIVE  
MONTGOMERYVILLE, PA  
18936-1013  
PHONE: (215) 631-9840  
FAX: (215) 631-9855

**MS1336**

## PACKAGE MECHANICAL DATA

**MS1336**

