

# MS1261

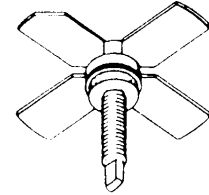
## RF & MICROWAVE TRANSISTORS VHF MOBILE APPLICATIONS

### Features

- 175 MHz
- 12.5 VOLTS
- $P_{OUT} = 15$  WATTS
- $G_p = 12$  dB MINIMUM
- INPUT IMPEDANCE MATCHING
- COMMON EMITTER CONFIGURATION

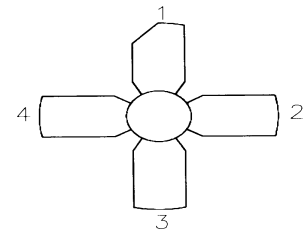
### DESCRIPTION:

The MS1261 is a Class C 12.5V epitaxial silicon NPN planar transistor designed primarily for UHF communications. This device utilizes a gold metallized, emitter ballasted die geometry for superior reliability and infinite VSWR capability.



**.280 4L STUD (M122)**  
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	2.5	A
$P_{DISS}$	Power Dissipation	34	W
$T_J$	Junction Temperature	+200	$^{\circ}C$
$T_{STG}$	Storage Temperature	-65 to +150	$^{\circ}C$

### Thermal Data

$R_{TH(J-C)}$	Thermal Resistance Junction-case	8.75	$^{\circ}C/W$
---------------	----------------------------------	------	---------------

## 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> = 50 mA</b> <b>V<sub>BE</sub> = 0V</b>	<b>36</b>	---	---	<b>V</b>
<b>BV<sub>CEO</sub></b>	<b>I<sub>C</sub> = 15 mA</b>	<b>18</b>	---	---	<b>V</b>
<b>BV<sub>EBO</sub></b>	<b>I<sub>E</sub> = 2.5 mA</b> <b>I<sub>C</sub> = 0mA</b>	<b>4.0</b>	---	---	<b>V</b>
<b>I<sub>CBO</sub></b>	<b>V<sub>CE</sub> = 15 V</b> <b>I<sub>E</sub> = 0mA</b>	---	---	<b>1</b>	<b>mA</b>
<b>H<sub>FE</sub></b>	<b>V<sub>CE</sub> = 5 V</b> <b>I<sub>C</sub> = 250mA</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> = 1W</b> <b>V<sub>CE</sub> = 12.5V</b>	<b>15</b>	---	---	<b>W</b>
<b>η<sub>c</sub></b>	<b>f = 175 MHz</b> <b>P<sub>IN</sub> = 1W</b> <b>V<sub>CE</sub> = 12.5V</b>	<b>60</b>	---	---	<b>%</b>
<b>G<sub>P</sub></b>	<b>f = 175 MHz</b> <b>P<sub>IN</sub> = 1W</b> <b>V<sub>CE</sub> = 12.5V</b>	<b>12</b>	---	---	<b>dB</b>
<b>C<sub>OB</sub></b>	<b>f = 1 MHz</b> <b>V<sub>CB</sub> = 12.5V</b>	---	---	<b>45</b>	<b>pf</b>

### IMPEDANCE DATA

FREQ	Z <sub>IN</sub> (Ω)	Z <sub>CL</sub> (Ω)
175 MHz	1.2 – j0.4	5.2 + j1.1

**P<sub>OUT</sub> = 15W**

**V<sub>CC</sub> = 12.5V**

**PACKAGE MECHANICAL DATA**

