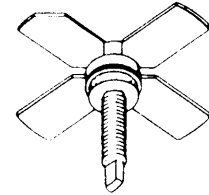


# MS1261

## 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

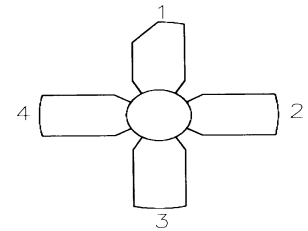


**.280 4L STUD (M122)**  
epoxy sealed

### DESCRIPTION:

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

#### PIN CONNECTION



1. Collector      3. Base  
2. Emitter        4. Emitter

### ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°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	°C
$T_{STG}$	Storage Temperature	-65 to +150	°C

### Thermal Data

$R_{TH(J-C)}$	Thermal Resistance Junction-case	8.75	°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> = 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>

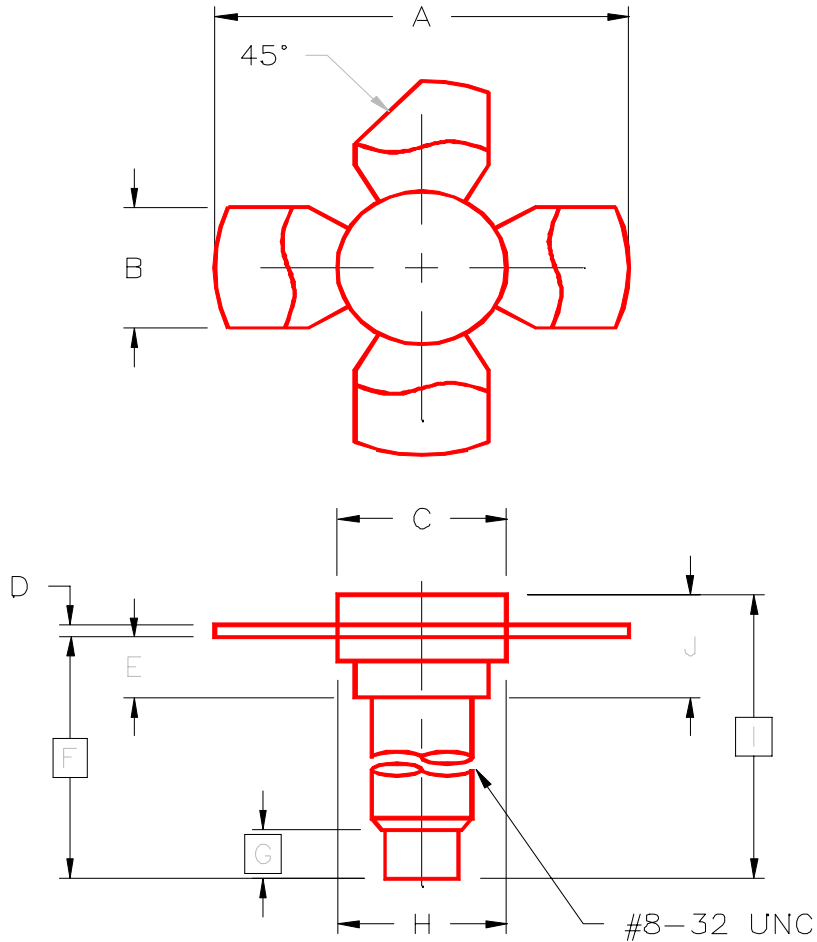
### IMPEDANCE DATA

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**

PACKAGE STYLE M122



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	1.010/25,65	1.055/26,80	I	.640/16,26	
B	.220/5,59	.230/5,84	J	.175/4,45	.217/5,51
C	.270/6,86	.285/7,24			
D	.003/0,08	.007/0,18			
E	.117/2,97	.137/3,48			
F	.572/14,53				
G	.130/3,30				
H	.275/6,99	.285/7,24			