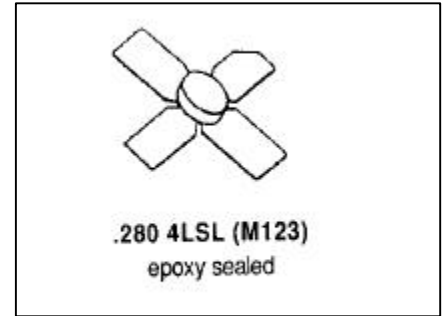


**MS1403**

**RF AND MICROWAVE TRANSISTORS  
VHF PORTABLE/MOBILE APPLICATIONS**

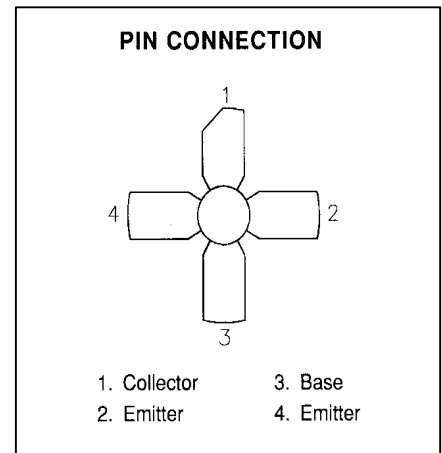
**Features**

- **175 MHz**
- **7.5 Volts**
- **Common Emitter**
- **P<sub>OUT</sub> = 1.4 W Min.**
- **G<sub>P</sub> = 7.0 dB Gain**



**DESCRIPTION:**

The MS1403 is a 7.5 V epitaxial silicon NPN planar transistor designed primarily for VHF communications. It withstands very high VSWR under rated operating 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>CER</sub>	Collector-Emitter Voltage	16	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	0.75	A
P <sub>DISS</sub>	Power Dissipation	5.0	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	35	°C/W
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**ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = 25°C)**
**STATIC**

Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
<b>BV<sub>CES</sub></b>	<b>I<sub>C</sub> = 5 mA    V<sub>BE</sub> = 0 V</b>	<b>36</b>	—	—	<b>V</b>
<b>BV<sub>CEO</sub></b>	<b>I<sub>C</sub> = 25 mA    I<sub>B</sub> = 0 mA</b>	<b>16</b>	—	—	<b>V</b>
<b>BV<sub>EBO</sub></b>	<b>I<sub>E</sub> = 1 mA    I<sub>C</sub> = 0 mA</b>	<b>4.0</b>	—	—	<b>V</b>
<b>I<sub>CER</sub></b>	<b>V<sub>CE</sub> = 10 V    R<sub>BE</sub> = 80Ω</b>	—	—	<b>0.5</b>	<b>mA</b>
<b>I<sub>CB0</sub></b>	<b>V<sub>CB</sub> = 15 V    I<sub>E</sub> = 0 mA</b>	—	—	<b>1.0</b>	<b>mA</b>
<b>h<sub>FE</sub></b>	<b>V<sub>CE</sub> = 5 V    I<sub>C</sub> = 100 mA</b>	<b>40</b>	—	<b>200</b>	—

**DYNAMIC**

Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
<b>P<sub>OUT</sub></b>	<b>f = 150 MHz    V<sub>CC</sub> = 7.5 V</b>	<b>1.4</b>	—	—	<b>W</b>
<b>G<sub>P</sub></b>	<b>f = 150 MHz    V<sub>CC</sub> = 7.5 V</b>	<b>11.5</b>	—	—	<b>dB</b>
<b>C<sub>OB</sub></b>	<b>f = 1 MHz    V<sub>CB</sub> = 7.5 V</b>	—	—	<b>6.5</b>	<b>pF</b>

**PACKAGE MECHANICAL DATA**

