

**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.

**IMPORTANT:** For the most current data, consult MICROSEMI's website: <http://www.microsemi.com>

**KEY FEATURES**

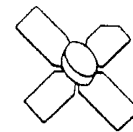
- 175 MHz
- 7.5 Volts
- Common Emitter
- $P_{OUT} = 1.4$  W Min.
- $G_p = 7.0$  dB Gain

**APPLICATIONS/BENEFITS**

- VHF Portable/Mobile Applications

**ABSOLUTE MAXIMUM RATINGS ( $T_{CASE} = 25^{\circ}C$ )**

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	36	V
$V_{CER}$	Collector-Emitter Voltage	16	V
$V_{CES}$	Collector-Emitter Voltage	36	V
$V_{EBO}$	Emitter-Base Voltage	4.0	V
$I_C$	Device Current	0.75	A
$P_{DISS}$	Power Dissipation	5.0	W
$T_J$	Junction Temperature	+200	$^{\circ}C$
$T_{STG}$	Storage Temperature	-65 to +150	$^{\circ}C$

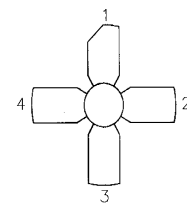


**.280 4LSL (M123)**  
epoxy sealed

**THERMAL DATA**

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	35	$^{\circ}C/W$
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**PIN CONNECTION**



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

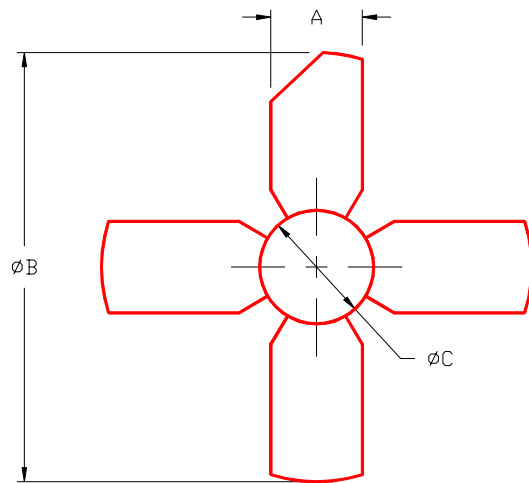
**STATIC ELECTRICAL SPECIFICATIONS (T<sub>CASE</sub> = 25°C)**

Symbol	Test Conditions	MS1403			Units
		Min.	Typ.	Max.	
<b>BV<sub>CES</sub></b>	<b>I<sub>C</sub> = 5 mA</b> <b>V<sub>BE</sub> = 0 V</b>	36	—	—	V
<b>BV<sub>CEO</sub></b>	<b>I<sub>C</sub> = 25 mA</b> <b>I<sub>B</sub> = 0 mA</b>	16	—	—	V
<b>BV<sub>EBO</sub></b>	<b>I<sub>E</sub> = 1 mA</b> <b>I<sub>C</sub> = 0 mA</b>	4.0	—	—	V
<b>I<sub>CER</sub></b>	<b>V<sub>CE</sub> = 10 V</b> <b>R<sub>BE</sub> = 80Ω</b>	—	—	0.5	mA
<b>I<sub>CBO</sub></b>	<b>V<sub>CB</sub> = 15 V</b> <b>I<sub>E</sub> = 0 mA</b>	—	—	1.0	mA
<b>h<sub>FE</sub></b>	<b>V<sub>CE</sub> = 5 V</b> <b>I<sub>C</sub> = 100 mA</b>	40	—	200	—

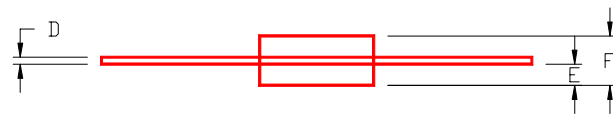
**DYNAMIC ELECTRICAL SPECIFICATIONS (T<sub>CASE</sub> = 25°C)**

Symbol	Test Conditions	MS1403			Units
		Min.	Typ.	Max.	
<b>P<sub>OUT</sub></b>	<b>f = 150 MHz</b> <b>V<sub>CC</sub> = 7.5 V</b>	1.4	—	—	W
<b>G<sub>P</sub></b>	<b>f = 150 MHz</b> <b>V<sub>CC</sub> = 7.5 V</b>	11.5	—	—	dB
<b>C<sub>OB</sub></b>	<b>f = 1 MHz</b> <b>V<sub>CB</sub> = 7.5 V</b>	—	—	6.5	pF

PACKAGE STYLE M123



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM	MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.220/5,59	.230/5,84		
B	-----	1.055/26,8		
C	.275/6,99	.285/7,24		
D	.004/0,10	.006/0,15		
E	.050/1,27	.060/1,52		
F	.118/3,00	.130/3,30		





MS1403

RF & MICROWAVE TRANSISTORS

PRODUCT PREVIEW

www.Microsemi.com

NOTES