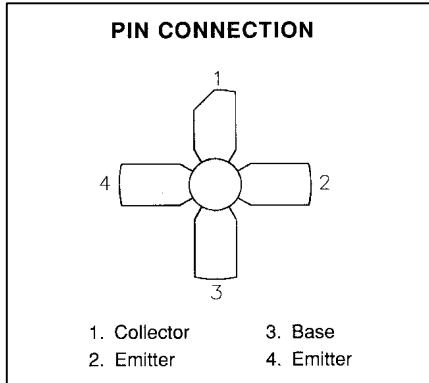
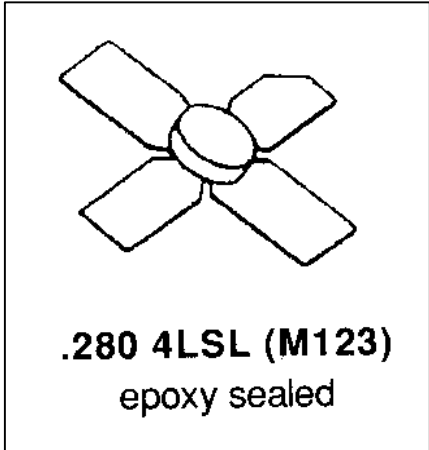


**SD1420-01**

**RF AND MICROWAVE TRANSISTORS  
800-900 MHz BASE STATION APPLICATIONS**

**Features**

- 860 – 960 MHz
- 24 VOLTS
- COMMON EMITTER
- GOLD METALLIZATION
- CLASS A LINEAR OPERATION
- $P_{OUT} = 0.9 \text{ W MIN.}$
- 9.5 dB GAIN



**DESCRIPTION:**

The SD1420-01 is a gold metallized epitaxial silicon NPN planar transistor designed for high-linearity Class A operation Cellular Base Station applications. The SD1420-01 is also available in a stud package as the SD1420.

**ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C)**

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	40	V
V <sub>CEO</sub>	Collector-Emitter Voltage	28	V
V <sub>EBO</sub>	Emitter-Base Voltage	3.5	V
I <sub>C</sub>	Device Current	.250	A
P <sub>DISS</sub>	Power Dissipation	7	W
T <sub>J</sub>	Junction Temperature	+ 200	°C
T <sub>STG</sub>	Storage Temperature	-55 to +150	°C

**THERMAL DATA**

R <sub>TH(j-c)</sub>	Junction-Case Thermal Resistance	20	°C/W
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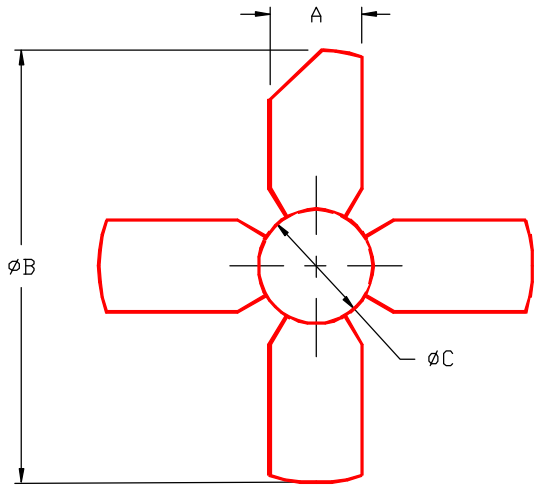
**ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = 25° C)**
**STATIC**

Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
<b>BV<sub>CBO</sub></b>	<b>I<sub>C</sub> = 1 mA</b>	<b>40</b>			<b>V</b>
<b>BV<sub>CEO</sub></b>	<b>I<sub>C</sub> = 1 mA</b>	<b>28</b>			<b>V</b>
<b>BV<sub>EBO</sub></b>	<b>I<sub>E</sub> = 1 mA</b>	<b>3.5</b>			<b>V</b>
<b>I<sub>CES</sub></b>	<b>V<sub>CB</sub> = 24 V</b>			<b>.5</b>	<b>mA</b>
<b>h<sub>FE</sub></b>	<b>V<sub>CE</sub> = 5 V      I<sub>C</sub> = .1 A</b>	<b>20</b>		<b>120</b>	

**DYNAMIC**

Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
<b>P<sub>OUT</sub></b>	<b>f = 960 MHz    V<sub>CE</sub> = 24 V    I<sub>CQ</sub> = 200 mA</b>	<b>2.1</b>			<b>W</b>
<b>G<sub>P</sub></b>	<b>f = 960 MHz    V<sub>CE</sub> = 24 V    I<sub>CQ</sub> = 125 mA</b>	<b>8.9</b>	<b>9.0</b>		<b>dB</b>
<b>C<sub>OB</sub></b>	<b>f = 1 MHz      V<sub>CB</sub> = 28 V</b>			<b>5.0</b>	<b>pF</b>

**PACKAGE MECHANICAL DATA**  
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			

