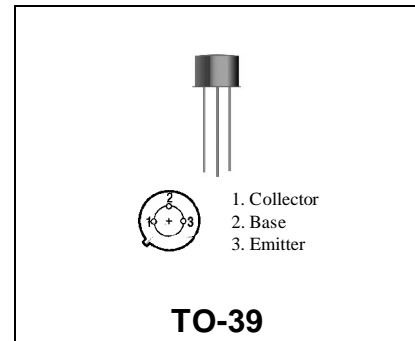


**SD1127**

**RF & MICROWAVE TRANSISTORS  
VHF FM MOBILE APPLICATIONS**

**Features**

- 175 MHz
- 12.5 VOLTS
- P<sub>OUT</sub> = 4.0 W MINIMUM
- G<sub>p</sub> = 12.0 dB
- GROUNDED EMITTER



**DESCRIPTION:**

The SD1127 is a epitaxial silicon NPN transistor designed primarily for VHF mobile communications. The chip of this transistor is mounted on a beryllia pill to isolate the collector lead and ground the emitter lead for high gain performance

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

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	36	V
V <sub>CEO</sub>	Collector-Emitter Voltage	18	V
V <sub>CES</sub>	Collector-Emitter Voltage	36	V
V <sub>EBO</sub>	Emitter – Base Voltage	4.0	V
I <sub>C</sub>	Collector Current	.64	A
P <sub>tot</sub>	Total Power Dissipation	8.0	W
T <sub>STG</sub>	Storage Temperature	-65 + 200	°C
T <sub>J</sub>	Junction Temperature	+200	°C

**Thermal Data**

R <sub>TH(J-C)</sub>	Junction-case Thermal Resistance	21.9	°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> = 5 mA</b>	<b>V<sub>BE</sub> = 0</b>	<b>36</b>	---	---	<b>V</b>
<b>BV<sub>CEO</sub></b>	<b>I<sub>C</sub> = 10 mA</b>	<b>I<sub>B</sub> = 0</b>	<b>18</b>	---	---	<b>V</b>
<b>BV<sub>EBO</sub></b>	<b>I<sub>E</sub> = 1 mA</b>	<b>I<sub>C</sub> = 0</b>	<b>4.0</b>	---	---	<b>V</b>
<b>I<sub>CBO</sub></b>	<b>V<sub>CB</sub> = 15.0 V</b>	<b>I<sub>E</sub> = 0</b>	---	---	<b>.25</b>	<b>mA</b>
<b>H<sub>FE</sub></b>	<b>V<sub>CE</sub> = 5.0 V</b>	<b>I<sub>C</sub> = 50 mA</b>	<b>10</b>	---	<b>100</b>	---

**DYNAMIC**

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
<b>P<sub>OUT</sub></b>	<b>f = 175 MHz</b>	<b>V<sub>CE</sub> = 12.5 V</b>	<b>4.0</b>	---	---	<b>W</b>
<b>G<sub>PE</sub></b>	<b>f = 175 MHz</b>	<b>V<sub>CE</sub> = 12.5 V</b>	<b>12.0</b>	---	---	<b>dB</b>
<b>C<sub>ob</sub></b>	<b>f = 1 MHz</b>	<b>V<sub>CE</sub> = 15.0 V</b>	---	---	<b>20.0</b>	<b>pf</b>

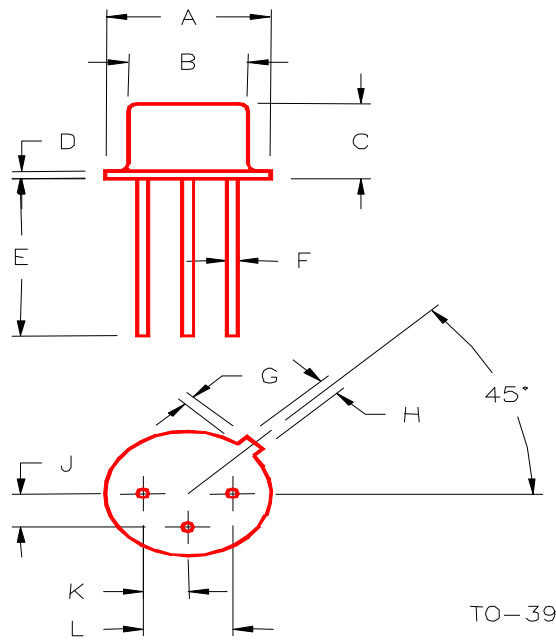
**IMPEDANCE DATA**

FREQ	Z <sub>IN</sub> (Ω)	Z <sub>CL</sub> (Ω)
<b>136 MHz</b>	<b>3.0 – j3.8</b>	<b>12.8 – j11</b>
<b>155 MHz</b>	<b>4.0 – j2.0</b>	<b>11 – j14.8</b>
<b>175 MHz</b>	<b>4.3 – j5.8</b>	<b>13 – j20</b>

**P<sub>IN</sub> = 0.2W**  
**V<sub>CC</sub> = 12.6V**

**PACKAGE MECHANICAL DATA**

**PACKAGE STYLE M246**



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.350/8,89	.370/9,40	J	.095/2,41	.105/2,67
B	.315/8,00	.335/8,51	K	.095/2,41	.105/2,67
C	.240/6,10	.260/6,60	L	.190/4,83	.210/5,33
D	.015/0,38	.045/1,14			
E	.500/12,70				
F	.016/0,41	.019/0,48			
G	.029/0,74	.040/1,02			
H	.028/0,71	.034/0,86			

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