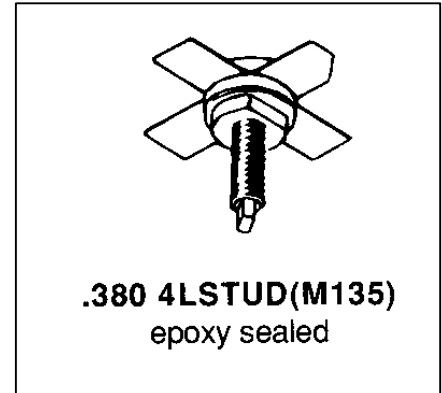


**SD1015**

**RF AND MICROWAVE TRANSISTORS  
108–152MHz APPLICATIONS**

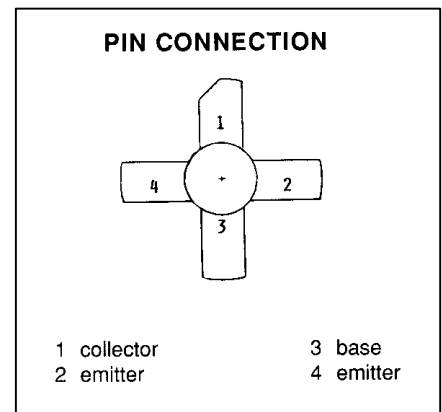
**Features**

- FM CLASS C TRANSISTOR
- FREQUENCY 150 MHz
- POWER OUT 30W
- POWER GAIN 10dB
- GOLD METALLIZATION
- COMMON EMITTER



**DESCRIPTION:**

The SD1015 is a 28V gold metallized epitaxial silicon NPN planar transistor designed for 108–152MHz FM applications. This device utilizes diffused emitter resistors to achieve infinite VSWR at rated operating conditions.



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

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	36.0	V
V <sub>CEO</sub>	Collector-Emitter Voltage	18.0	V
V <sub>CES</sub>	Collector-Emitter Voltage	36.0	V
V <sub>EBO</sub>	Emitter-Base Voltage	4.0	V
I <sub>C</sub>	Collector Current	1.0	A
P <sub>TOT</sub>	Total Power Dissipation	10.0	W
T <sub>STG</sub>	Storage Temperature	- 65 to + 150	°C
T <sub>J</sub>	Junction Temperature	+200	°C

**Thermal Data**

R <sub>TH(j-c)</sub>	Junction-Case Thermal Resistance	4.4	°C/W
----------------------	----------------------------------	-----	------

ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = 25°C)

STATIC

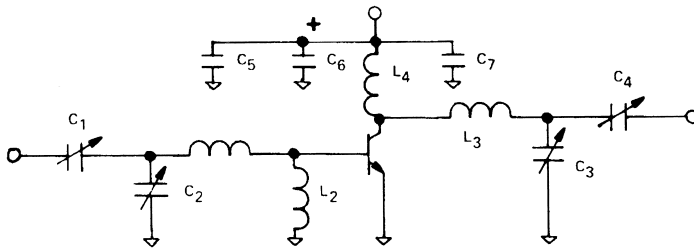
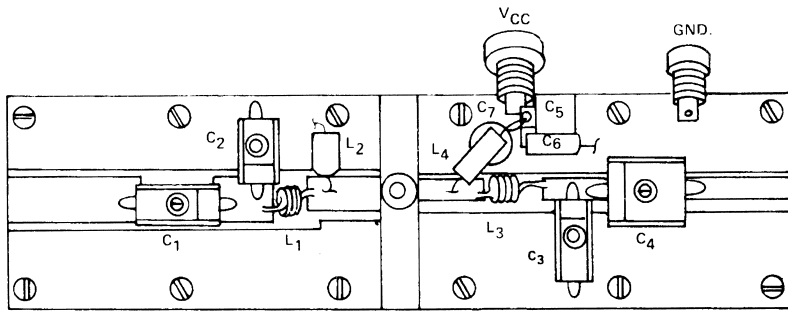
Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
<b>BV<sub>CES</sub></b>	<b>I<sub>C</sub> = 200 mA    V<sub>BE</sub> = 0 V</b>	<b>65.0</b>			<b>V</b>
<b>BV<sub>CEO</sub></b>	<b>I<sub>C</sub> = 200 mA    I<sub>B</sub> = 0 mA</b>	<b>35.0</b>			<b>V</b>
<b>BV<sub>EBO</sub></b>	<b>I<sub>E</sub> = 10.0 mA    I<sub>C</sub> = 0 mA</b>	<b>4</b>			<b>V</b>
<b>I<sub>CBO</sub></b>	<b>V<sub>CB</sub> = 30.0 V    I<sub>E</sub> = 0</b>			<b>2.0</b>	<b>mA</b>
<b>h<sub>FE</sub></b>	<b>V<sub>CE</sub> = 5 V    I<sub>C</sub> = 200 mA</b>	<b>35.0</b>			<b>—</b>

DYNAMIC

Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
<b>P<sub>OUT</sub></b>	<b>f = 150 MHz    V<sub>CC</sub> = 13.5 V</b>	<b>12.5</b>			<b>W</b>
<b>G<sub>P</sub></b>	<b>f = 150 MHz    V<sub>CC</sub> = 13.5 V</b>	<b>7</b>			<b>dB</b>
<b>P<sub>OUT</sub></b>	<b>f = 150 MHz    V<sub>CC</sub> = 28 V</b>	<b>30</b>			<b>W</b>
<b>G<sub>P</sub></b>	<b>f = 150 MHz    V<sub>CC</sub> = 28 V</b>	<b>10</b>			<b>dB</b>
<b>C<sub>OB</sub></b>	<b>f = 1 MHz    V<sub>CB</sub> = 30 V    I<sub>E</sub> = 0</b>			<b>250</b>	<b>pF</b>
<b>C<sub>ib</sub></b>	<b>f = 1 MHz    V<sub>EB</sub> = 0.5 V    I<sub>C</sub> = 0</b>		<b>300</b>		<b>pF</b>

**SD1015**

TEST CIRCUIT



S88SD1015-09

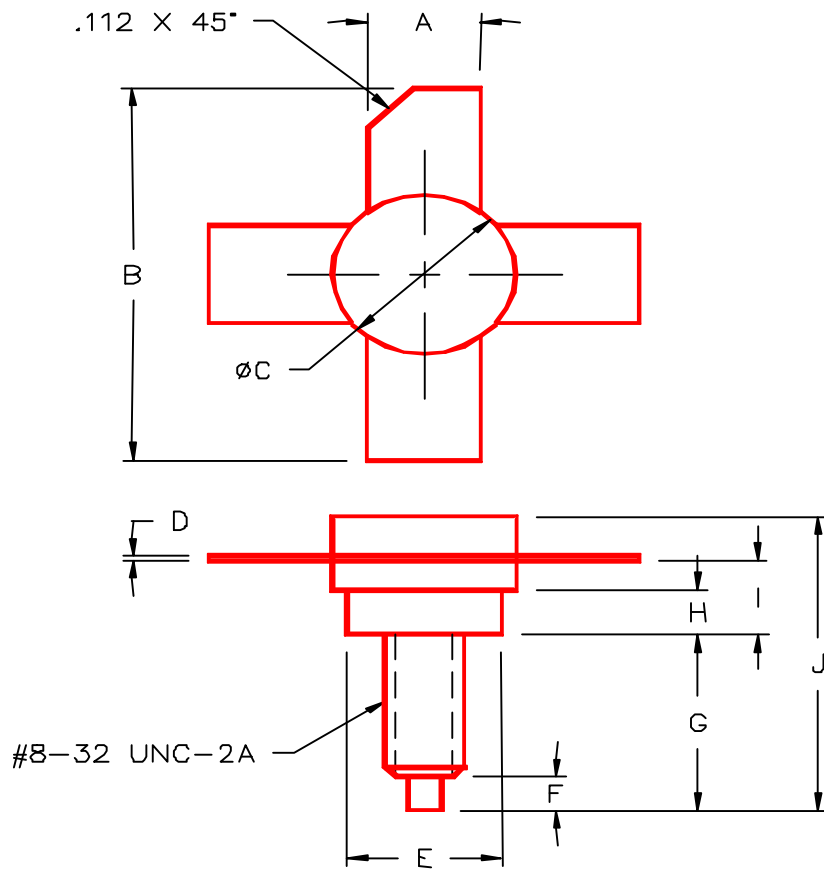
**COMPONENT LIST**

- C<sub>1</sub>, C<sub>2</sub> ARCO 422
- C<sub>3</sub> ARCO 422
- C<sub>4</sub> ARCO 463
- C<sub>5</sub> 1000pF UNELCO
- C<sub>6</sub> 10μF ELECTROLYTIC 35V

- C<sub>7</sub> .01pf CEREMIC DISC.
- L<sub>1</sub> 3T #22, 1/8 ID
- L<sub>2</sub> RFC FERROXCUBE
- L<sub>3</sub> 2T #18, 1/4 ID
- L<sub>4</sub> .47μH MOLDED CHOKE

PACKAGE MECHANICAL DATA

PACKAGE STYLE M135



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.220/5,59	.230/5,84	I	.155/3,94	.175/4,45
B	.980/24,89		J		.750/19,05
C	.370/9,40	.385/9,78			
D	.004/0,10	.007/0,18			
E	.320/8,13	.330/8,38			
F	.100/2,54	.130/3,30			
G	.450/11,43	.490/12,45			
H	.090/2,29	.100/2,54			