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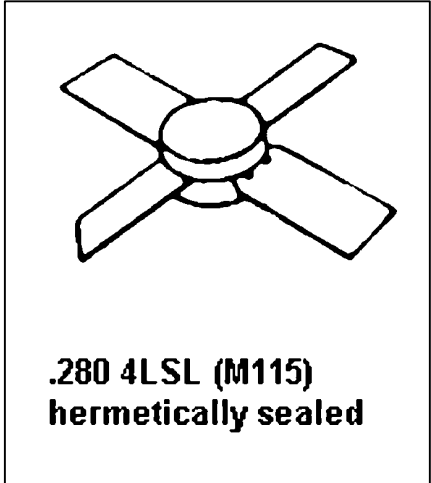
# SD1526-01

## RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

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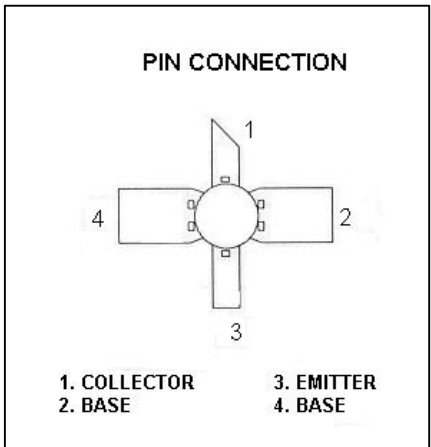
### Features

- GOLD METALLIZATION
  - 960 - 1215 MHz
  - P<sub>OUT</sub> = 5.0 WATTS
  - G<sub>P</sub> = 9.5 dB MINIMUM
  - EMITTER BALLASTED
  - INFINITE VSWR CAPABILITY @ RATED CONDITIONS
  - INPUT MATCHED, COMMON BASE CONFIGURATION
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### DESCRIPTION:

The SD1526-01 is a gold metallized, silicon NPN power transistor designed for pulsed applications with low duty cycles such as IFF, DME, and TACAN. Internal impedance matching is utilized for broadband performance and simplified external matching.



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

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	45	V
V <sub>CES</sub>	Collector-Emitter Voltage	45	V
V <sub>EBO</sub>	Emitter-Base Voltage	3.5	V
I <sub>C</sub>	Device Current	1	A
P <sub>DISS</sub>	Power Dissipation	21.9	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>	Thermal Resistance Junction-case	8.0	°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>CBO</sub></b>	<b>I<sub>C</sub> = 10 mA</b>	<b>I<sub>B</sub> = 0</b>	45	---	---	V
<b>BV<sub>CES</sub></b>	<b>I<sub>C</sub> = 25 mA</b>	<b>V<sub>BE</sub> = 0</b>	45	---	---	V
<b>BV<sub>EBO</sub></b>	<b>I<sub>E</sub> = 10 mA</b>	<b>I<sub>C</sub> = 0</b>	3.5	---	---	V
<b>I<sub>CES</sub></b>	<b>V<sub>CE</sub> = 28 V</b>	<b>V<sub>BE</sub> = 0</b>	---	---	1.0	mA

**DYNAMIC**

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
<b>P<sub>OUT</sub> **</b>	<b>f = 1090 MHz</b>	<b>V<sub>CC</sub> = 28 V</b>	---	6.0	---	W
<b>G<sub>P</sub></b>	<b>f = 1090 MHz</b>	<b>V<sub>CC</sub> = 28 V</b>	---	9.5	---	dB
<b>P<sub>OUT</sub> **</b>	<b>f = 1025–1150 MHz</b>	<b>V<sub>CC</sub> = 28 V</b>	5.0	---	---	W
<b>G<sub>P</sub></b>	<b>f = 1025–1150 MHz</b>	<b>V<sub>CC</sub> = 28 V</b>	9.5	---	---	dB
<b>P<sub>OUT</sub> ***</b>	<b>f = 960–1215 MHz</b>	<b>V<sub>CC</sub> = 28 V</b>	---	4.0	---	W
<b>G<sub>P</sub></b>	<b>f = 960–1215 MHz</b>	<b>V<sub>CC</sub> = 28 V</b>	---	9.0	---	dB

\*\* Pulse width 10 μSec, duty cycle 1%.

\*\*\* Pulse width 10 μSec, duty cycle 10%.

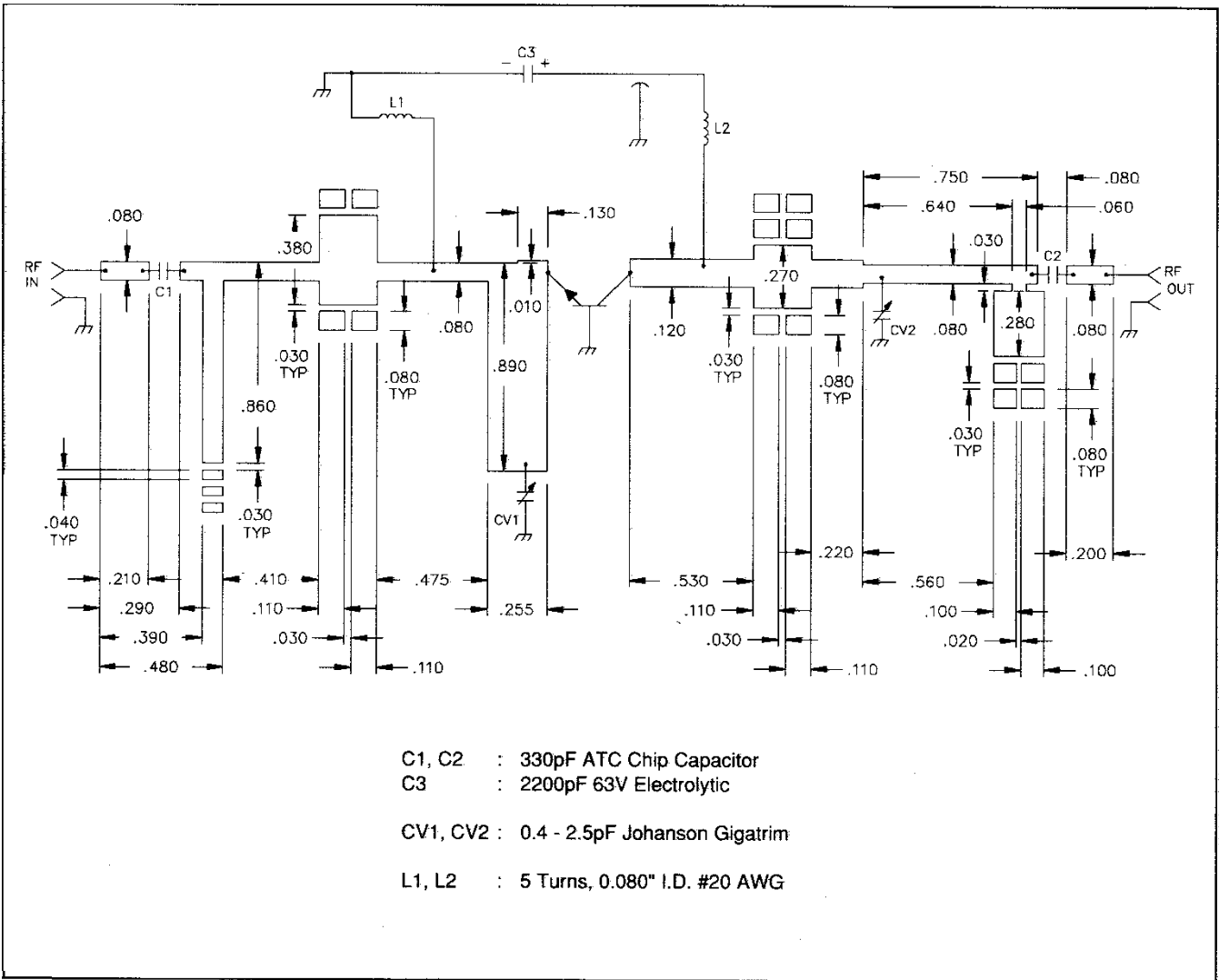
**IMPEDANCE DATA**

Frequency	Z <sub>IN</sub> (Ω)	Z <sub>CL</sub> (Ω)
1025 MHz	11.0+ j 11.6	15 + j 22.0
1090 MHz	12.5+ j 12.0	19 + j 19.5
1150 MHz	12.2+ j 8.2	16 + j 20.5



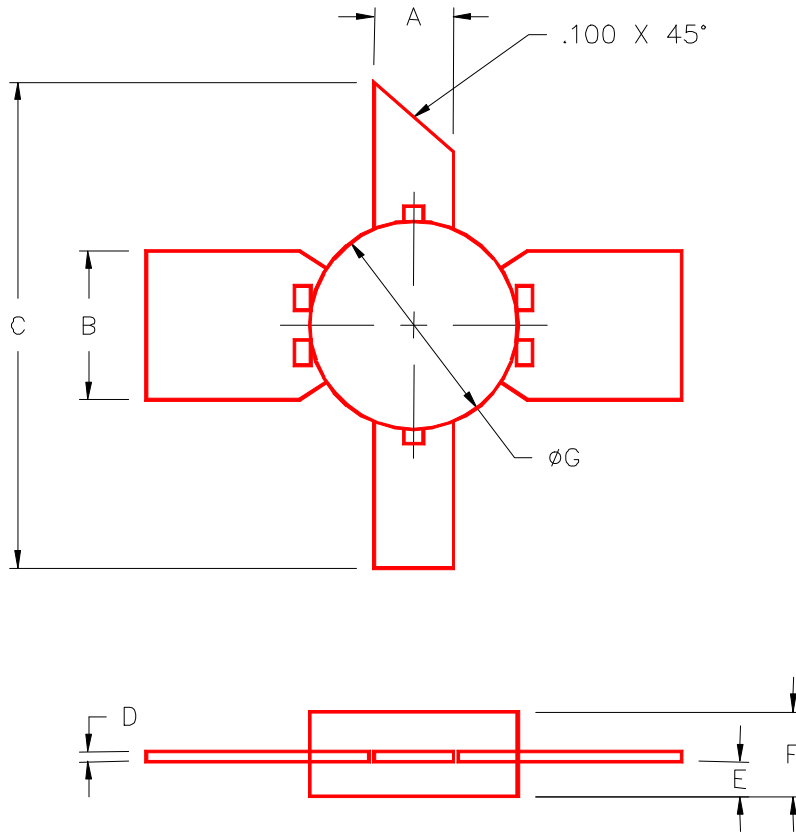
**SD1526-01**

TEST CIRCUIT



**PACKAGE MECHANICAL DATA**

**PACKAGE STYLE M115**



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.095/2,41	.105/2,67			
B	.195/4,95	.205/5,21			
C	1.000/25,40				
D	.004/0,10	.007/0,18			
E	.050/1,27	.065/1,65			
F	.120/3,05	.135/3,43			
G	.275/6,99	.285/7,21			