

**SD1526-01**

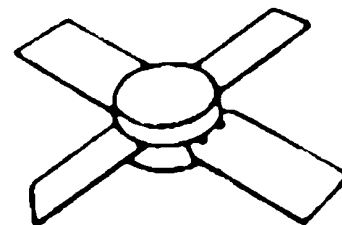
## RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

### Features

- GOLD METALLIZATION
- 960 - 1215 MHz
- $P_{OUT} = 5.0$  WATTS
- $G_P = 9.5$  dB MINIMUM
- EMITTER BALLASTED
- INFINITE VSWR CAPABILITY @ RATED CONDITIONS
- INPUT MATCHED, COMMON BASE CONFIGURATION

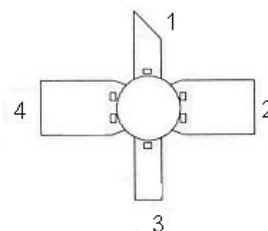
### DESCRIPTION:

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.



**.280 4LSL (M115)  
hermetically sealed**

PIN CONNECTION



1. COLLECTOR      3. EMITTER  
2. BASE            4. BASE

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

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	45	V
$V_{CES}$	Collector-Emitter Voltage	45	V
$V_{EBO}$	Emitter-Base Voltage	3.5	V
$I_C$	Device Current	1	A
$P_{DISS}$	Power Dissipation	21.9	W
$T_{STG}$	Storage Temperature	-65 to +150	°C
$T_J$	Junction Temperature	200	°C

### Thermal Data

$R_{TH(J-C)}$	Thermal Resistance Junction-case	8.0	°C/W
---------------	----------------------------------	-----	------

## ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

### STATIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
$BV_{CBO}$	$I_C = 10 \text{ mA}$ $I_B = 0$	45	---	---	V
$BV_{CES}$	$I_C = 25 \text{ mA}$ $V_{BE} = 0$	45	---	---	V
$BV_{EBO}$	$I_E = 10 \text{ mA}$ $I_C = 0$	3.5	---	---	V
$I_{CES}$	$V_{CE} = 28 \text{ V}$ $V_{BE} = 0$	---	---	1.0	mA

### DYNAMIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
$P_{OUT}^{**}$	$f = 1090 \text{ MHz}$ $V_{CC} = 28 \text{ V}$	---	6.0	---	W
$G_P$	$f = 1090 \text{ MHz}$ $V_{CC} = 28 \text{ V}$	---	9.5	---	dB
$P_{OUT}^{**}$	$f = 1025\text{--}1150 \text{ MHz}$ $V_{CC} = 28 \text{ V}$	5.0	---	---	W
$G_P$	$f = 1025\text{--}1150 \text{ MHz}$ $V_{CC} = 28 \text{ V}$	9.5	---	---	dB
$P_{OUT}^{***}$	$f = 960\text{--}1215 \text{ MHz}$ $V_{CC} = 28 \text{ V}$	---	4.0	---	W
$G_P$	$f = 960\text{--}1215 \text{ MHz}$ $V_{CC} = 28 \text{ V}$	---	9.0	---	dB

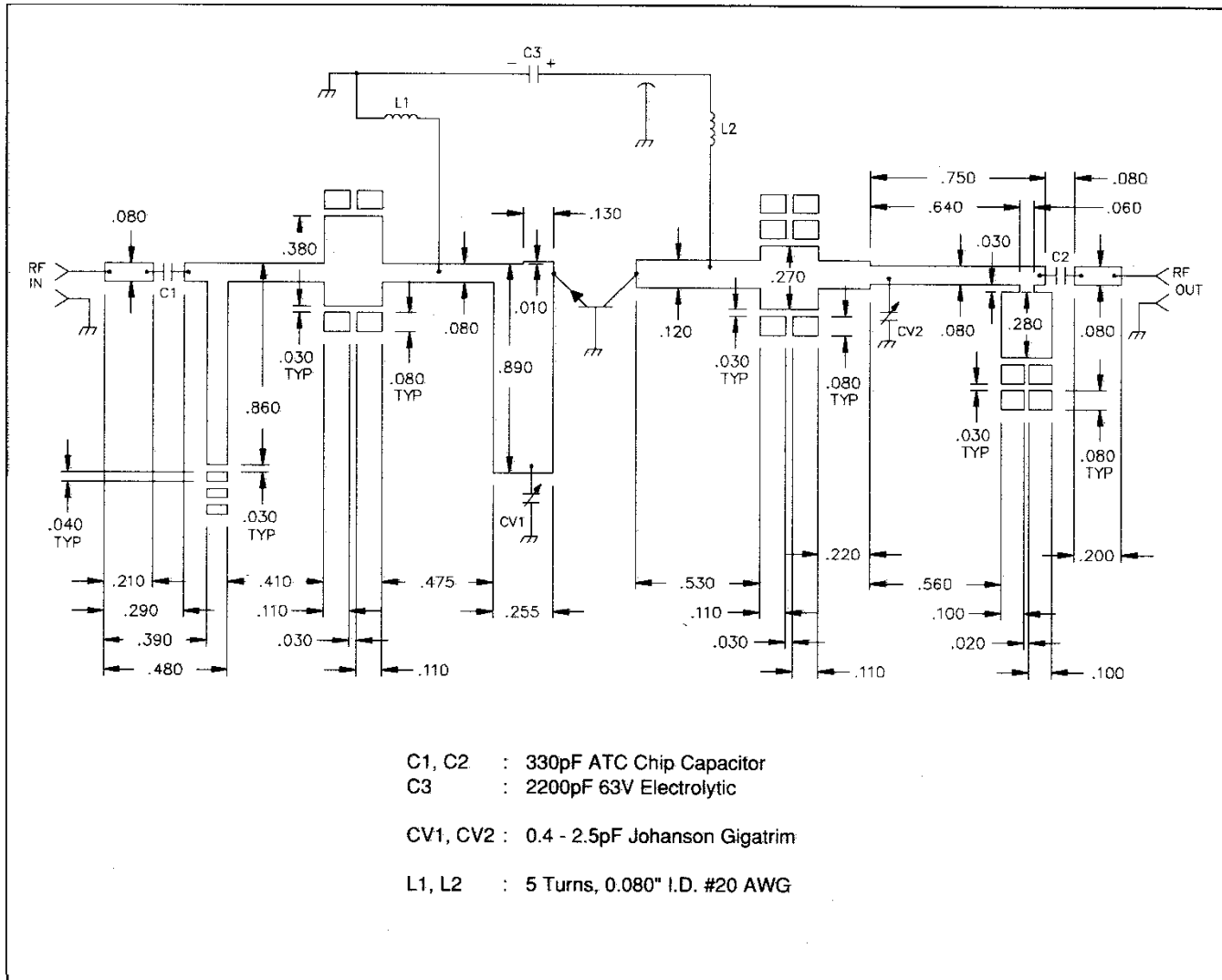
\*\* Pulse width 10  $\mu\text{Sec}$ , duty cycle 1%.

\*\*\* Pulse width 10  $\mu\text{Sec}$ , duty cycle 10%.

### IMPEDANCE DATA

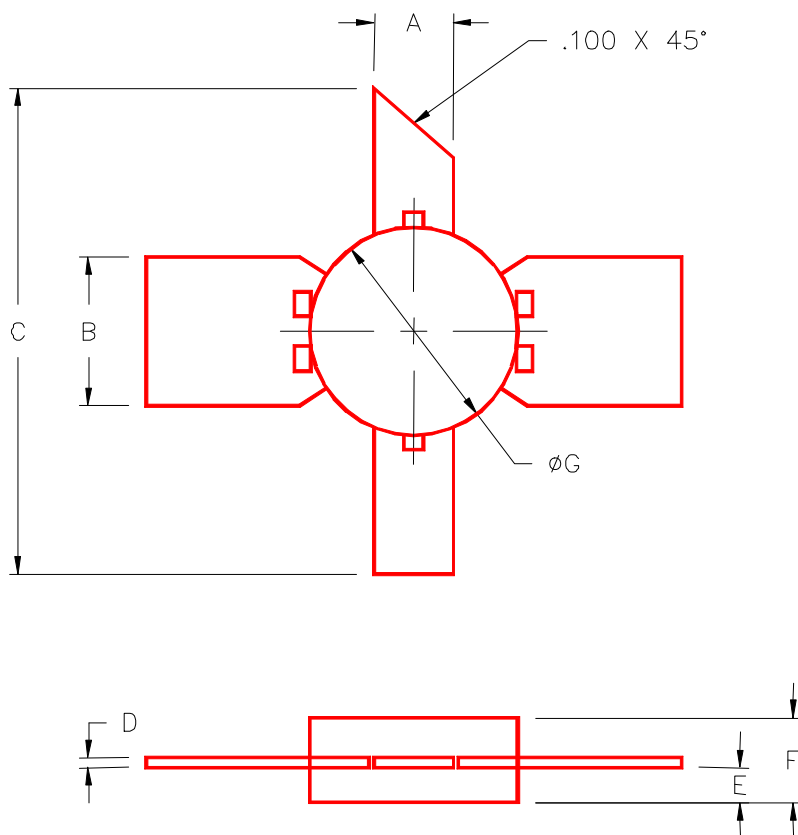
Frequency	$Z_{IN} (\Omega)$	$Z_{CL} (\Omega)$
1025 MHz	11.0+ j 11.6	15 + j 22.0
1090 MHz	12.5+ j 12.0	19 + j 19.5
1150 MHz	12.2+ j 8.2	16 + j 20.5

## 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			