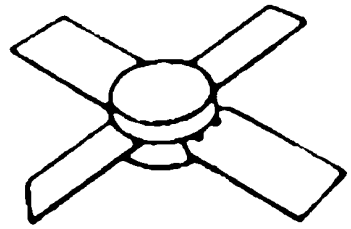
ADVANCED POWER TECHNOLOGY RF®
140 COMMERCE DRIVE
MONTGOMERYVILLE, PA
18936-1013
PHONE: (215) 631-9840
FAX: (215) 631-9855

SD1526-01

RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS



.280 4LSL (M115)
hermetically sealed

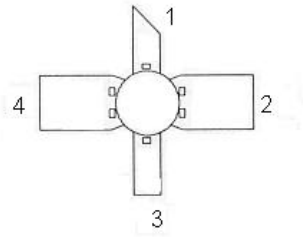
Features

- 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.

PIN CONNECTION



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

ABSOLUTE MAXIMUM RATINGS (Tcase = 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	ºC
T_J	Junction Temperature	200	ºC

Thermal Data

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

ADVANCED POWER TECHNOLOGY RF®
140 COMMERCE DRIVE
MONTGOMERYVILLE, PA
18936-1013
PHONE: (215) 631-9840
FAX: (215) 631-9855

SD1526-01

ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

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

DYNAMIC

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

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

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

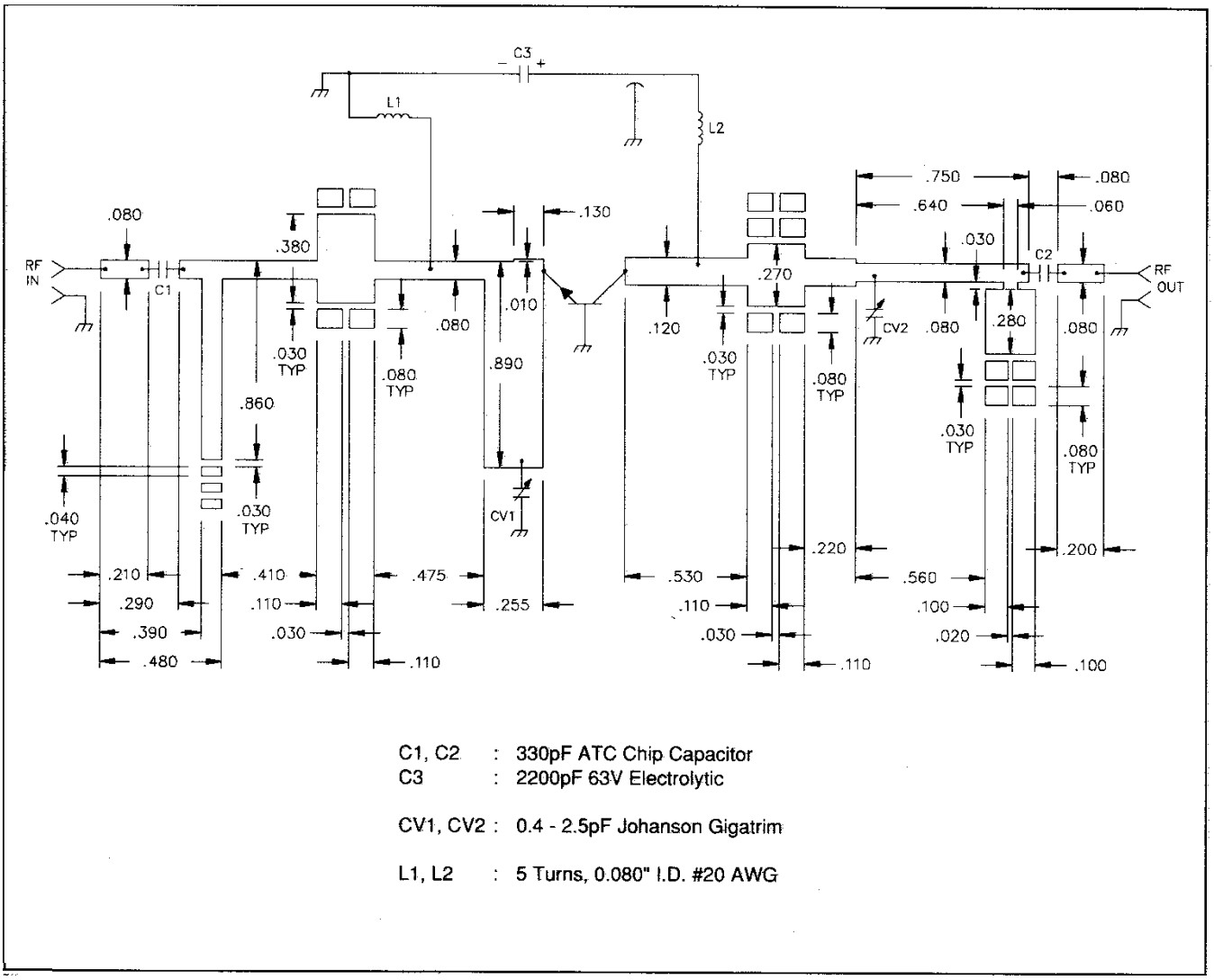
IMPEDANCE DATA

Frequency	Z_{IN} (Ω)	Z_{CL} (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

ADVANCED POWER TECHNOLOGY RF®
140 COMMERCE DRIVE
MONTGOMERYVILLE, PA
18936-1013
PHONE: (215) 631-9840
FAX: (215) 631-9855

SD1526-01

TEST CIRCUIT



C1, C2 : 330pF ATC Chip Capacitor
C3 : 2200pF 63V Electrolytic

CV1, CV2 : 0.4 - 2.5pF Johanson Gigatrim

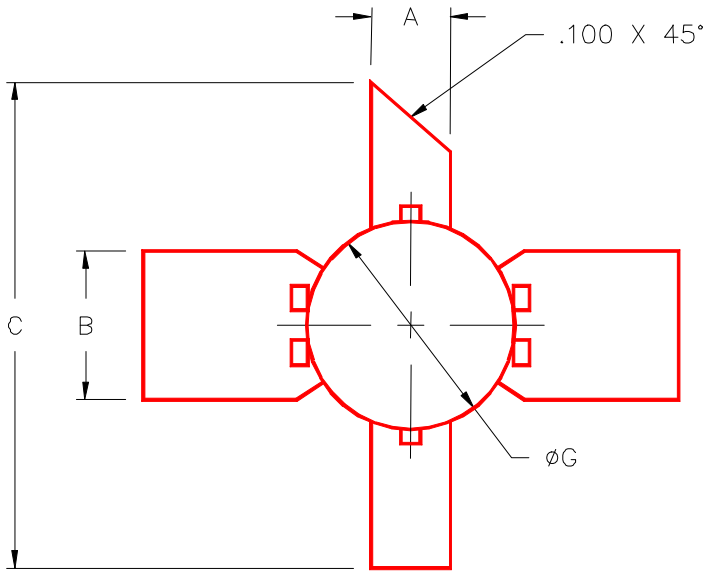
L1, L2 : 5 Turns, 0.080" I.D. #20 AWG

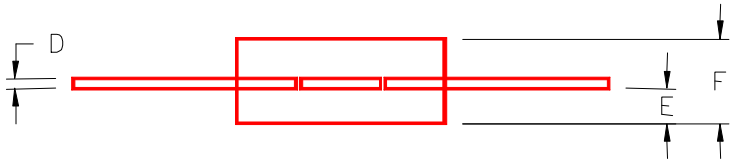
ADVANCED POWER TECHNOLOGY RF®
140 COMMERCE DRIVE
MONTGOMERYVILLE, PA
18936-1013
PHONE: (215) 631-9840
FAX: (215) 631-9855

SD1526-01

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			