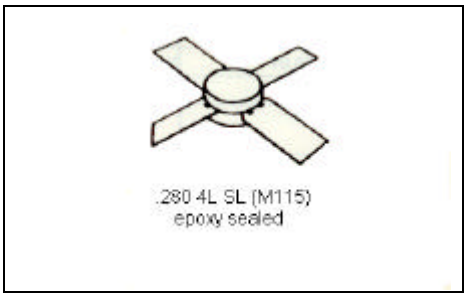
RF Products
Microsemi
Progress Powered by Technology

140 COMMERCE DRIVE
MONTGOMERYVILLE, PA
18936-1013
PHONE: (215) 631-9840
FAX: (215) 631-9855

SD1520-02

RF & MICROWAVE TRANSISTORS
AVIONICS APPLICATIONS

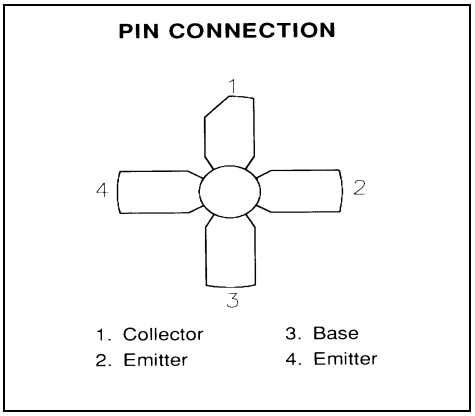


Features

- 1025 - 1150 MHz
- P_{OUT} = 1.0 WATT
- G_P = 10 dB MINIMUM
- GOLD METALIZATION
- INFINITE VSWR CAPABLE @ RATED CONDITIONS
- COMMON EMITTER CONFIGURATION

DESCRIPTION:

The SD1520-02 is a gold metalized, silicon NPN transistor designed for IFF, DME and TACAN applications. Internal impedance matching provides improved broadband performance.



ABSOLUTE MAXIMUM RATINGS (Tcase = 25°C)

Symbol	Parameter	Value	Unit
P_{DISS}	Power Dissipation*	5.8	W
I_C	Device Current*	0.25	A
T_J	Junction Temperature	+200	^oC
V_{CBO}	Collector - Base Voltage	50	V
V_{CEO}	Collector - Emitter Voltage	20	V
T_{STG}	Storage Temperature	-65 to +150	^oC

Thermal Data

$R_{TH(J-C)}$	Thermal Resistance Junction-case	30	°C/W

***Applies only to rated RF amplifier operation**

ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

Symbol	Test Conditions		Value			
			Min.	Typ.	Max.	Unit
BVceo	I_C = 5 mA	I_E = 0 mA	20	---	---	V
BVcbo	I_C = 1 mA	I_E = 0 mA	50	---	---	V
BVebo	I_E= 1 mA	I_C = 0 mA	3.5	---	---	V
Ices	V_{CB} = 28 V		---	---	0.5	mA
HFE	V_{CE} = 5 V	I_C = 100 mA	10	---	200	---

DYNAMIC

Symbol	Test Conditions			Value			
				Min.	Typ.	Max.	Unit
P_{out}	f = 1025-1150 MHz	P_{IN} = 100 mW	V_{CC} =28V	1.0			W
G_P	f = 1025-1150 MHz	P_{IN} = 100 mW	V_{CC} =28V	10	---	---	dB

IMPEDANCE DATA:

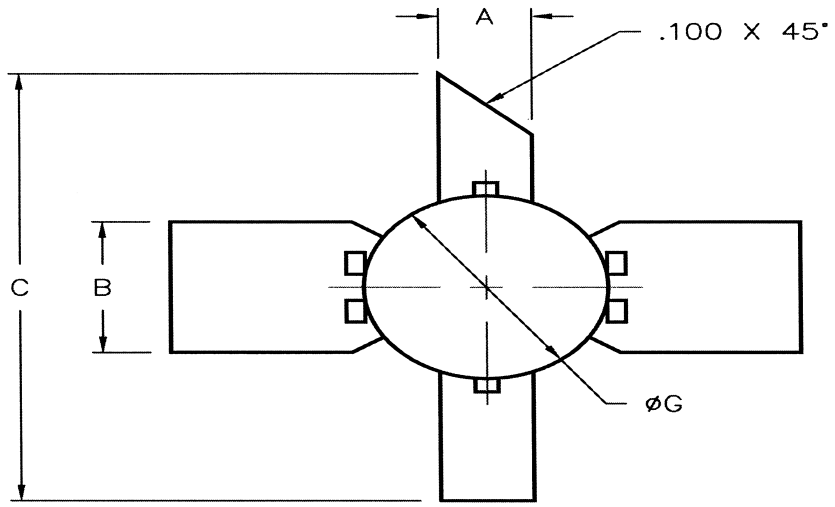
FREQUENCY	Z_{in}	Z_{cl}
1030 MHz	8.1 – j13.0	15.3 + j8.5
1090 MHz	7.7 – j11.6	16.7 + j13
1150 MHz	7.6 – j10.2	19 + j17.7

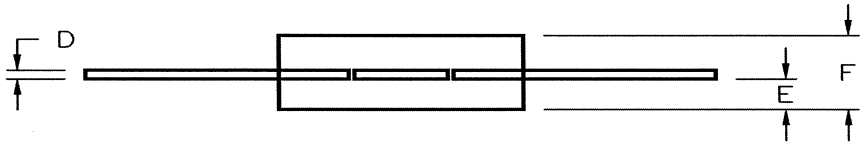
Pin = 100mW
Vcc = 28V

RF Products
Microsemi
Progress Powered by Technology

SD1520-02

PACKAGE MECHANICAL DATA





	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			