

50Ω Wideband 20 to 2500 MHz

Maximum Ratings

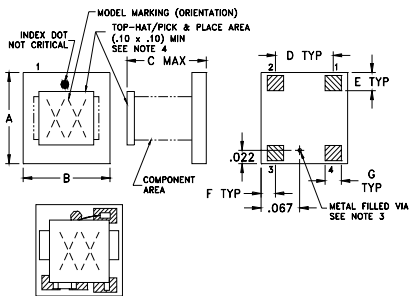
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	30dBm max.
Voltage at DC port	25V max.
Input Current	200mA

Permanent damage may occur if any of these limits are exceeded.

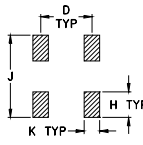
Pad Terminations

RF	4
RF&DC	3
DC	1
ISOLATE(see PCB Layout)	2

Outline Drawing



PCB Land Pattern

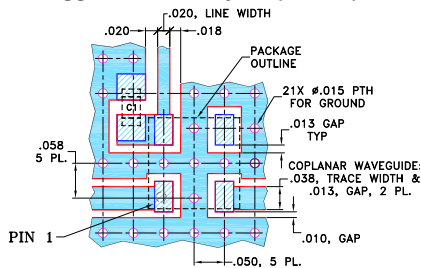


- Notes:
 1. Open style, Ceramic Base.
 2. Termination Finish: Palladium Silver.
 3. Must be isolated from external conductors on mounting surface. Suggested solder mask area is .025 x .025.
 At Mini-Circuits option via may be removed.
 4. Top-Hat total thickness: .013 inches MAX.

Outline Dimensions (inch)

A	B	C	D	E	F
.150	.150	.150	.100	.030	.025
3.81	3.81	3.81	2.54	0.76	0.64
G	H	J	K	wt	
.028	.050	.160	.030	grams	
0.71	1.27	4.06	0.76	0.10	

**Demo Board MCL P/N: TB-268
 Suggested PCB Layout (PL-146)**



- NOTE: 1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.020" ± 0.0015". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
 2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
 - DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Notes

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
 B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuits' applicable established test performance criteria and measurement instructions.
 C. The parts covered by this specification document are subject to Mini-Circuits' standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

Features

- wideband, 20 to 2500 MHz
- low insertion loss, 0.4 dB typ.
- miniature surface mount 0.15"x0.15"
- aqueous washable
- protected by US Patent 7,012,486

Applications

- biasing amplifiers
- biasing of laser diodes
- biasing of active antennas



CASE STYLE: GU1604

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications



Available Tape and Reel at no extra cost

Reel Size	Devices/Reel
7"	20, 50, 100, 200, 500, 1000
13"	2000

Bias-Tee Electrical Specifications

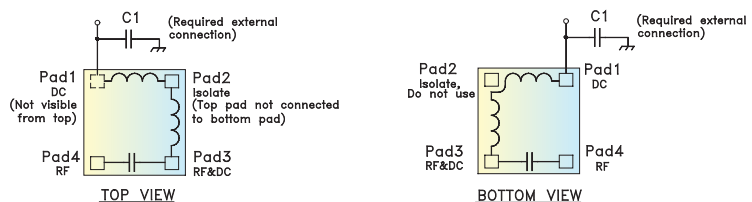
FREQUENCY (MHz)	INSERTION LOSS (dB)			ISOLATION (dB) (RF port to DC port) (RF&DC port to DC port)			VSWR (:1)												
	f_L	f_U		L	M	U	L	M	U										
20	2500	0.2	0.8	0.35	0.8	0.7	1.2	65	40	44	25	40	20	1.05	1.5	1.05	1.2	1.1	1.25

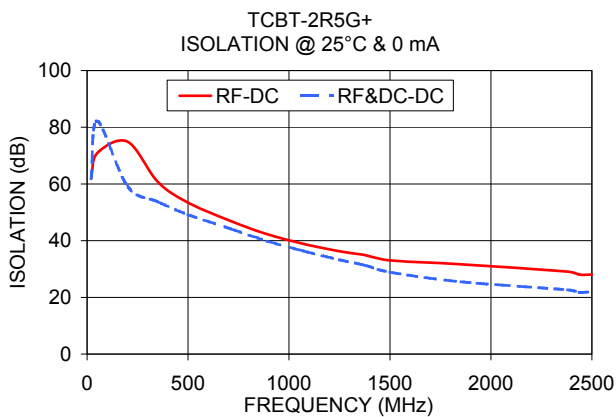
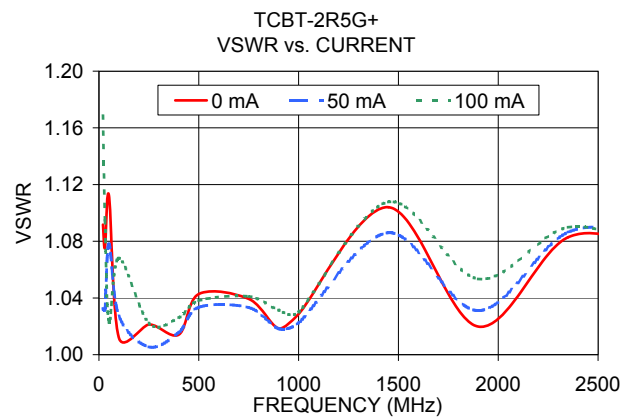
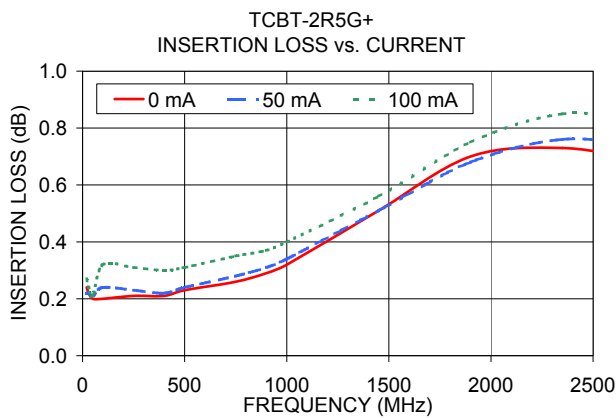
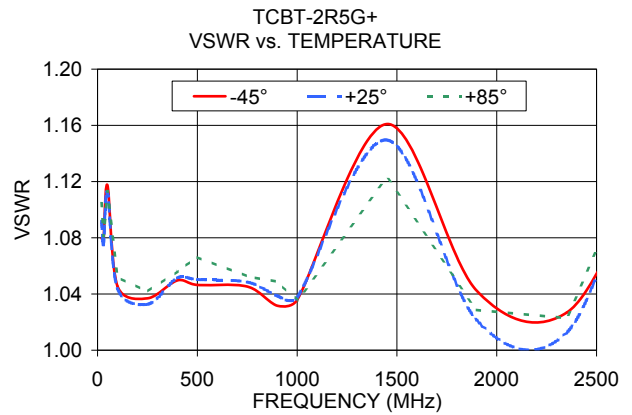
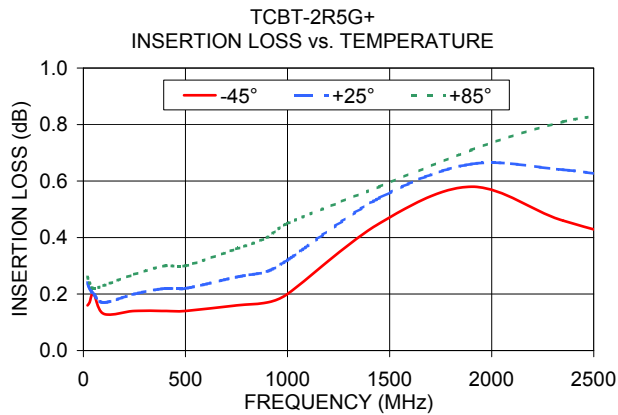
L= 20-200 MHz M=200-1250 MHz U=1250-2500 MHz
 External C1(0.01µF) is required. See functional schematic and PCB layout.

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB) with current			VSWR (:1) with current			FREQUENCY (MHz)	ISOLATION (dB) 0mA	
	0mA	50mA	100mA	0mA	50mA	100mA		RF - DC	RF&DC-DC
20.00	0.24	0.22	0.27	1.09	1.03	1.17	20	61.91	61.88
30.00	0.22	0.22	0.24	1.08	1.03	1.09	50	70.90	82.16
50.00	0.20	0.21	0.21	1.11	1.08	1.02	200	74.93	59.19
100.00	0.20	0.24	0.32	1.01	1.03	1.07	350	60.74	53.73
250.00	0.21	0.23	0.31	1.02	1.01	1.02	500	53.42	49.17
400.00	0.21	0.22	0.30	1.01	1.02	1.03	710	46.96	44.20
500.00	0.23	0.24	0.31	1.04	1.03	1.04	890	42.32	39.88
750.00	0.26	0.28	0.35	1.04	1.03	1.04	1070	38.90	36.40
900.00	0.29	0.31	0.37	1.02	1.02	1.03	1250	36.26	33.23
1000.00	0.32	0.34	0.40	1.03	1.02	1.03	1375	34.93	31.36
1450.00	0.51	0.51	0.56	1.10	1.09	1.11	1500	33.06	28.86
1900.00	0.70	0.68	0.75	1.02	1.03	1.05	1852	31.65	25.51
2350.00	0.73	0.76	0.85	1.08	1.09	1.09	2380	29.08	22.65
2800.00	0.69	0.74	0.83	1.08	1.09	1.08	2440	28.00	21.74
3250.00	0.71	0.76	0.85	1.07	1.09	1.07	2500	28.05	22.03

Functional Schematic





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