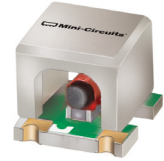


Surface Mount Bias-Tee

50Ω Wideband 10 MHz to 12 GHz

TCBT-123+



CASE STYLE: GU1414

+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" 10, 20, 50, 100, 200, 500
13" 1000

Maximum Ratings

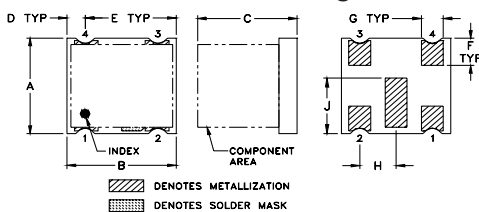
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	30dBm max.
Voltage at DC port	25V max.
Input Current	200mA

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

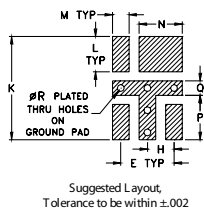
Pad Terminations

RF	2
RF&DC	1
DC	3
NOT USED	4

Outline Drawing



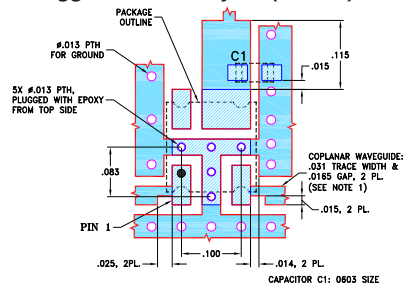
PCB Land Pattern



Outline Dimensions (inch)

A	B	C	D	E	F	G	H	J
.150	.150	.14	.025	.100	.043	.030	.050	.087
3.81	3.81	3.56	0.64	2.54	1.09	0.76	1.27	2.21
K	L	M	N	P	Q	R	wt	
.193	.066	0.031	.081	.083	.027	0.013	grams	
4.90	1.68	0.79	2.06	2.11	0.69	0.33	0.06	

Demo Board MCL P/N: TB-879+ Suggested PCB Layout (PL-481)



Features

- wideband, 10 to 12000 MHz
- low insertion loss, 0.5 dB typ.
- excellent VSWR, 1.25:1 typ.
- miniature surface mount 0.15"x0.15"
- aqueous washable
- protected by US Patent 8,644,029

Applications

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

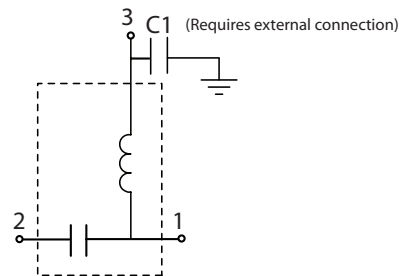
Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		10		12000	MHz
Insertion Loss	10-100	—	0.1	0.5	dB
	100-6000	—	0.3	0.8	
	6000-12000	—	0.8	1.6	
Isolation	10-100	30	55	—	dB
	100-6000	18	33	—	
	6000-12000	15	22	—	
VSWR	10-100		1.05	1.3	:1
	100-6000		1.2	1.5	
	6000-12000		1.3	1.7	

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB) with current	VSWR (:1) with current	ISOLATION (dB) 0mA
	RF & DC-RF	RF-DC	RF & DC - DC
10	0.17	1.25	36.31
100	0.04	1.03	69.24
500	0.06	1.01	59.14
1000	0.09	1.02	52.98
1500	0.09	1.04	46.74
2000	0.11	1.09	42.79
2500	0.10	1.12	39.96
3000	0.10	1.16	36.36
4000	0.12	1.16	31.23
5000	0.17	1.06	29.13
6000	0.23	1.03	27.37
7000	0.36	1.07	23.78
8000	0.28	1.11	22.78
10000	0.26	1.20	23.54
12000	0.75	1.36	20.82

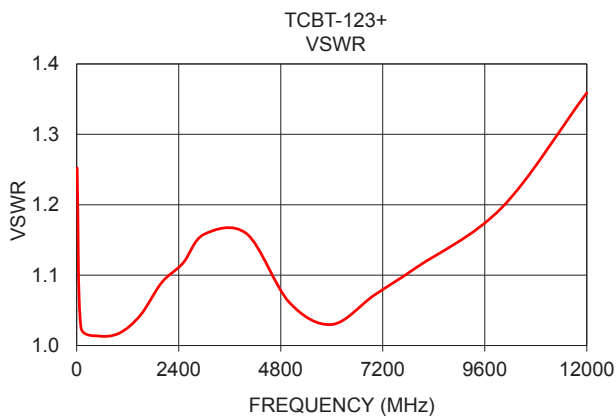
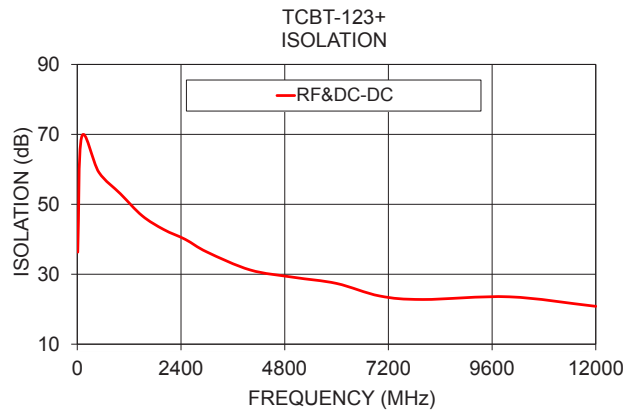
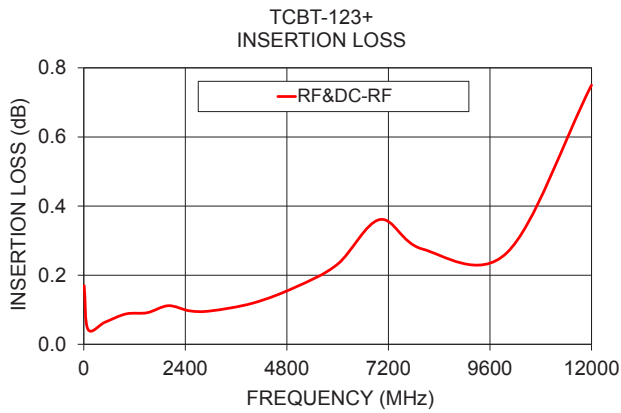
Functional Schematic



Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- The parts covered by this specification document are subject to Mini-Circuit's 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-Circuit's website at www.minicircuits.com/MCLStore/terms.jsp





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