COAXIAL

Wideband Bias Tee ZBT-V543-FT+

50Ω 10 MHz to 54 GHz 2.4 mm Male to 2.4 mm Female

THE BIG DEAL

- Wideband Millimeter Wave, 10 MHz to 54 GHz
- Low Insertion Loss, 1.8 dB Typ. for the Full Band
- Excellent Return Loss, 15 dB Typ.
- Excellent Isolation, >30 dB

Generic photo used for illustration purposes only

Model No.	ZBT-V543-FT+
Case Style	Y3206-1
Connectors	2.4 mm Male to 2.4 mm Female

+RoHS Compliant
The +Suffix identifies RoHS Compliance.
See our website for methodologies and qualifications

APPLICATIONS

- Broadband Communication
- Test & Measurement
- 5G RF & Millimeter Wave
- Aerospace and Defense

PRODUCT OVERVIEW

Mini-Circuits' ZBT-V543-FT+ is an ultra-wideband coaxial bias tee covering frequencies from 10 MHz to 54 GHz with low insertion loss, excellent return loss, and high DC to RF isolation over its entire frequency range. This model is capable of handling up to +30 dBm (1 W) RF input power and DC input current up to 250 mA. This wideband bias tee is ideal for applications such as biasing amplifiers, laser diodes, active antennas and more.

KEY FEATURES

Features	Advantages
Ultra-Wideband, 10 MHz to 54 GHz	Supports a wide range of applications with a single device, such as broadband communication systems, instrumentation, biasing broadband amplifiers, laser diodes, active antennas, and more.
Low Insertion Loss, Typically <2 dB in Full Band	Preserves signal strength from input to output and minimizes overall system loss.
Excellent Return Loss, 15 dB Typ.	Provides excellent matching for 50Ω systems with minimal signal reflection.
RF Power Handling Up to 1 W	Supports applications with a variety of power requirements.
Excellent DC–RF Isolation >30 dB Typ. in Full Band	Minimizes RF leakage and interference with other elements in the system.

REV. OR
ECO-013918
ZBT-V543-FT
MCL NY
261005

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ELECTRICAL SPECIFICATIONS AT +25 °C

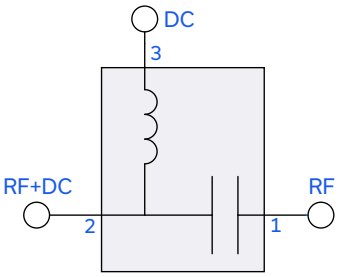
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		10		54000	MHz
Insertion Loss	10–30000	–	0.8	1.7	dB
	30000–54000	–	1.8	2.8	
Input VSWR	10–30000	–	1.2	2.0	:1
	30000–54000	–	1.4	2.0	
Output VSWR	10–30000	–	1.2	2.0	:1
	30000–54000	–	1.4	2.0	
DC Resistance, DC to RF and DC Port	–	–	2.5	–	Ω

ABSOLUTE MAXIMUM RATINGS

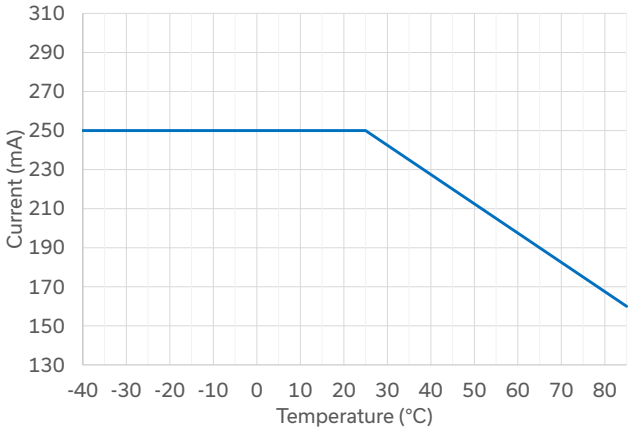
Parameter	Ratings
Operating Case Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +100 °C
RF Power	+30 dBm Max.
Input Current	SEE CHART BELOW
Voltage at DC Port	+25 V Max.

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

FUNCTIONAL SCHEMATIC



CURRENT DERATING



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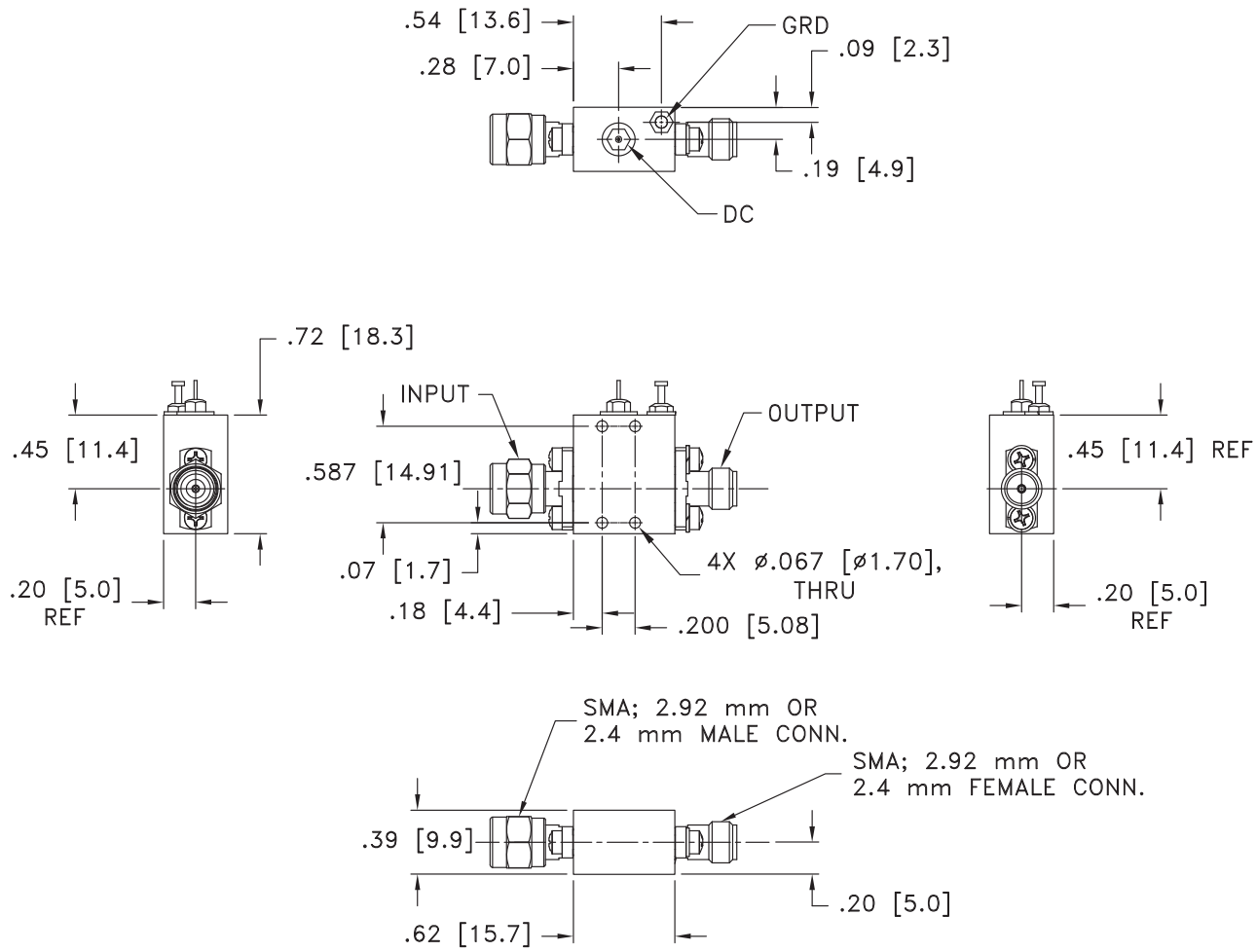
COAXIAL CONNECTIONS

Input	2.4 mm Male
Output	2.4 mm Female

OUTLINE DRAWING



Weight: 35 grams
Dimensions are in inches [mm]. Tolerances: 2 Pl. ±0.03; Pl. ±0.015 in

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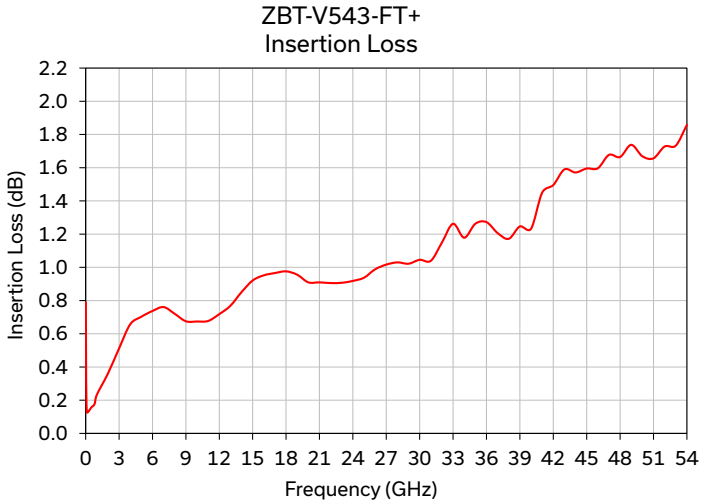
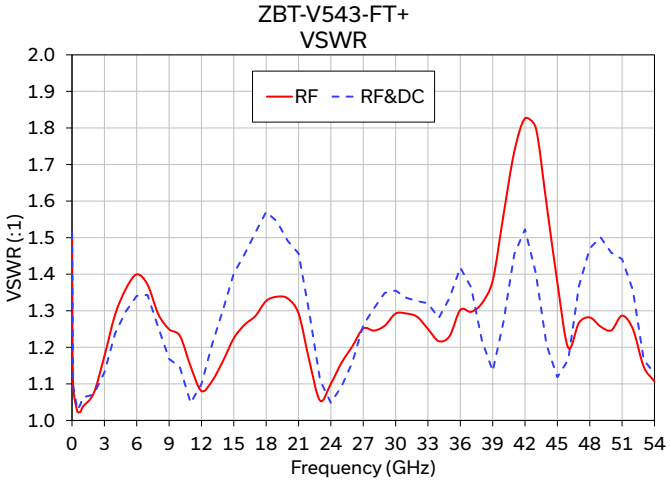
TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (GHz)	Insertion Loss (dB)	VSWR (:1)	
		Input (DC + RF)	Output (RF)
0.01	0.79	1.51	1.50
0.1	0.13	1.09	1.10
1	0.23	1.06	1.04
2	0.36	1.07	1.07
4	0.66	1.24	1.29
6	0.74	1.34	1.40
8	0.72	1.25	1.29
10	0.67	1.15	1.23
12	0.72	1.10	1.08
14	0.85	1.30	1.16
16	0.95	1.46	1.26
18	0.98	1.57	1.33
20	0.91	1.49	1.33
22	0.91	1.30	1.16
24	0.92	1.05	1.10
26	0.99	1.16	1.20
28	1.03	1.31	1.25
30	1.05	1.36	1.29
32	1.15	1.33	1.28
34	1.18	1.28	1.22
36	1.27	1.42	1.30
38	1.17	1.22	1.32
40	1.23	1.27	1.56
42	1.50	1.52	1.83
44	1.57	1.21	1.59
46	1.60	1.17	1.20
48	1.66	1.47	1.28
50	1.67	1.46	1.25
52	1.73	1.36	1.25
54	1.86	1.13	1.11





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/terms/viewterm.html