COAXIAL

Wideband Bias-Tee ZBT-243-1A-FT+

50Ω 10 MHz to 24 GHz 2.92 mm Male to 2.92 mm Female

KEY FEATURES

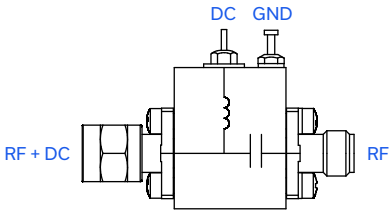
- Wideband Coverage, 10 MHz to 24 GHz
- Low Insertion Loss, 0.8 dB Typ.
- Excellent Return Loss, 15 dB Typ.
- Excellent Isolation, 40 dB Typ.
- High DC Input Current, 1 A Max.

Generic photo used for illustration purposes only

APPLICATIONS

- Broadband Communication
- Wideband Test & Measurement
- 4G LTE & 5G FR1 Infrastructure
- Aerospace and Defense

FUNCTIONAL DIAGRAM



PRODUCT OVERVIEW

Mini-Circuits' ZBT-243-1A-FT+ is a wideband coaxial bias-tee covering frequencies from 10 MHz to 24 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 as much as +33 dBm (2 W) RF input power and 1 A DC input current, and is ideal for applications such as biasing amplifiers, laser diodes, active antennas and more.

ELECTRICAL SPECIFICATIONS AT +25°C

Parameter	Frequency (GHz)	Min.	Typ.	Max.	Unit
Frequency Range	–	0.01	–	24	GHz
Insertion Loss	0.01 – 0.05	–	1.3	–	dB
	0.05 – 20.00	–	0.8	1.8	
	20.00 – 24.00	–	1.4	2.5	
Input Return Loss	0.01 – 0.05	–	14	–	dB
	0.05 – 24.00	–	15	9.5	
Output Return Loss	0.01 – 0.05	–	14	–	dB
	0.05 – 24.00	–	15	9.5	
Isolation[1]	0.01 – 24.00	–	40	–	dB
DC Resistance, DC to RF and DC port	–	–	0.2	–	Ohm

1. Isolation (RF+DC port to DC port) is tested with a 50 Ohm 2.92mm connector at the DC input port.

ABSOLUTE MAXIMUM RATINGS[2]

Operating Case Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +100 °C
RF Power	+33 dBm max.
Input Current[3] (Operational)	1 A
Voltage at DC Port	+28 V max.

2. Permanent damage may occur if any of these limits are exceeded.
3. Current derates by 7.5 mA per °C above 73 °C.

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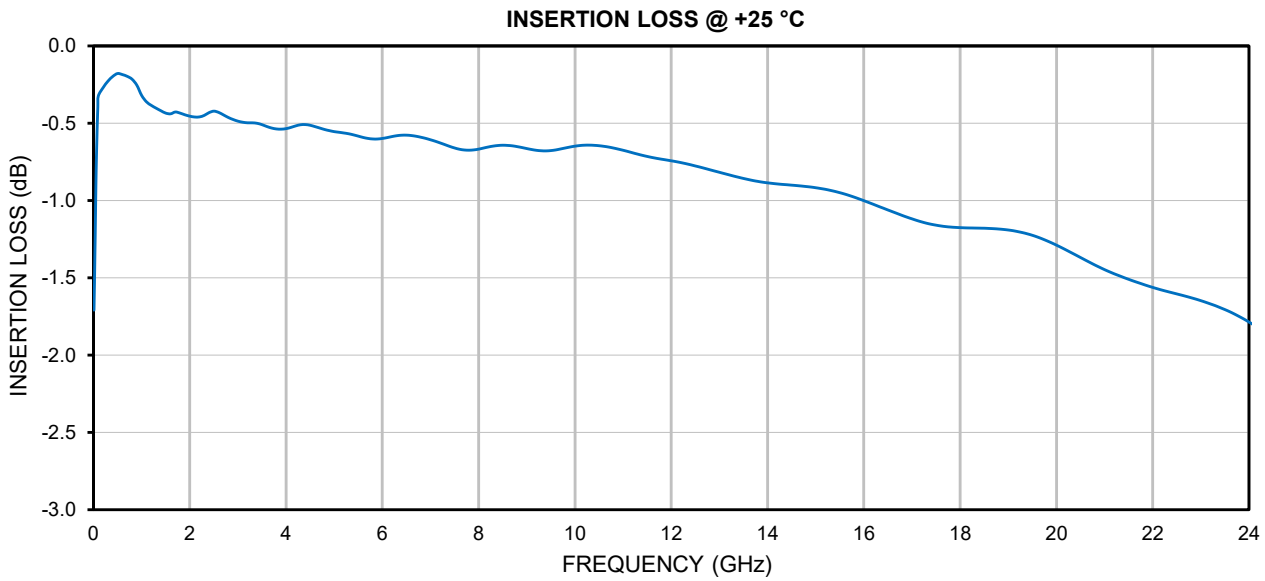
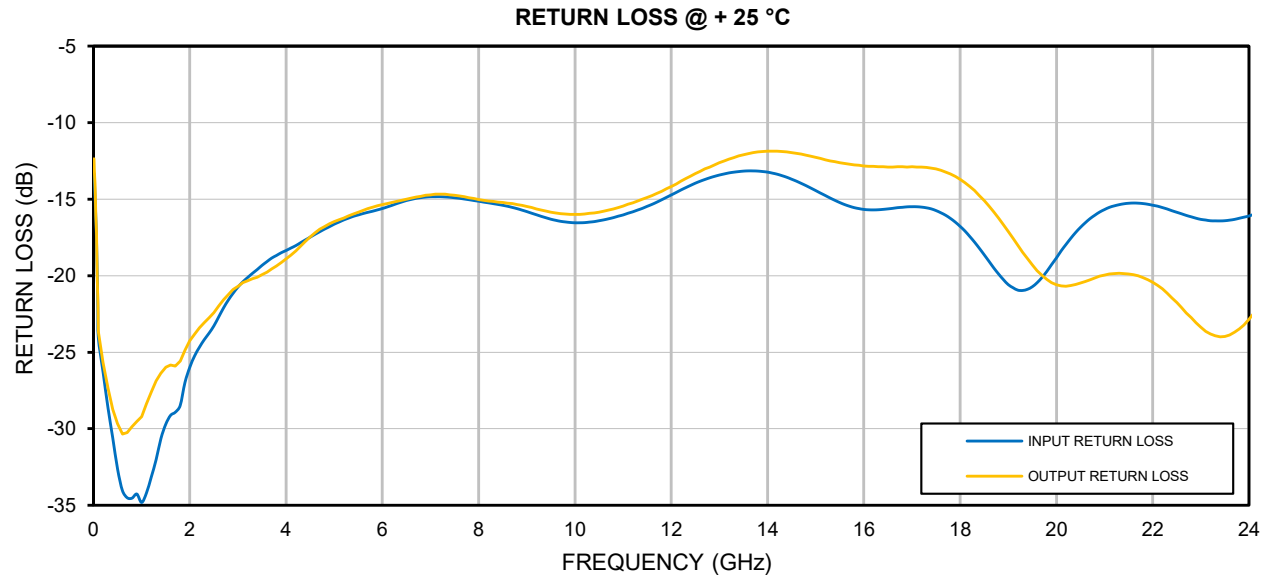
TYPICAL PERFORMANCE GRAPHS





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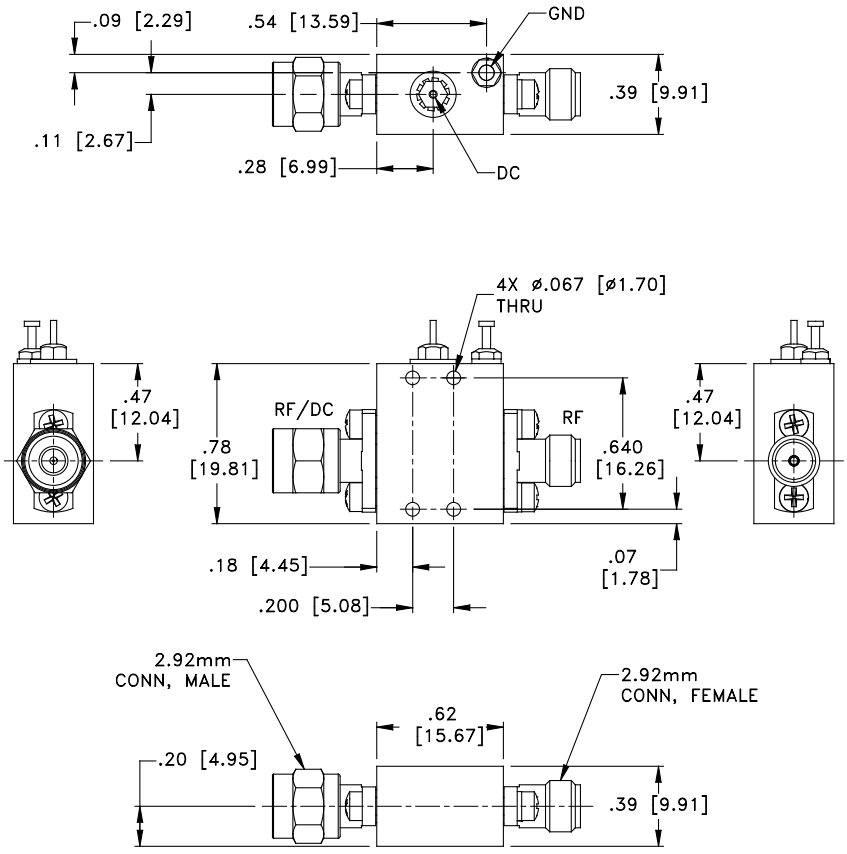
CONNECTOR SPECIFICATIONS

Description	RF & DC PORT	RF PORT	DC PORT
Connector Type	2.92 mm Male	2.92 mm Female	Filtered Feedthrough

CASE STYLE DRAWING



Weight: 32 grams
Dimensions are in inches [mm]. Tolerances: 2 Pl.±.03; 3 Pl. ±.015 Inches

PRODUCT MARKING*: ZBT-243-1A-FT+

*Marking may contain other features or characters for internal lot control.

Wideband Bias-Tee ZBT-243-1A-FT+

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ADDITIONAL INFORMATION IS AVAILABLE ON OUR DASHBOARD CLICK HERE

Performance Data & Graphs	Data Graphs S-Parameter (S2P Files) Data Set (.zip file)
Case Style	Y3206-4
RoHS Status	Compliant
Environmental Ratings	ENV135

NOTES

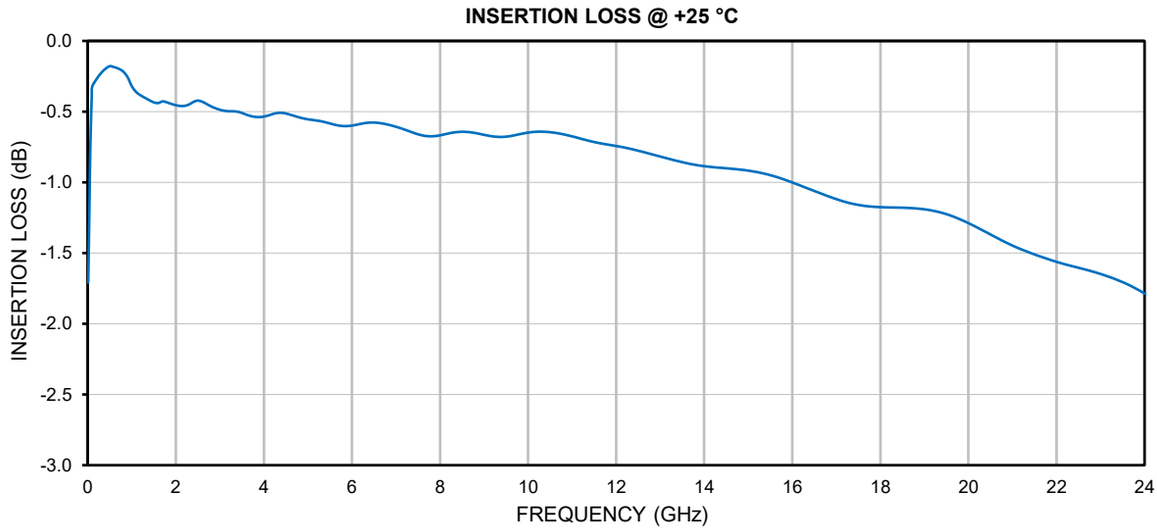
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuits' 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

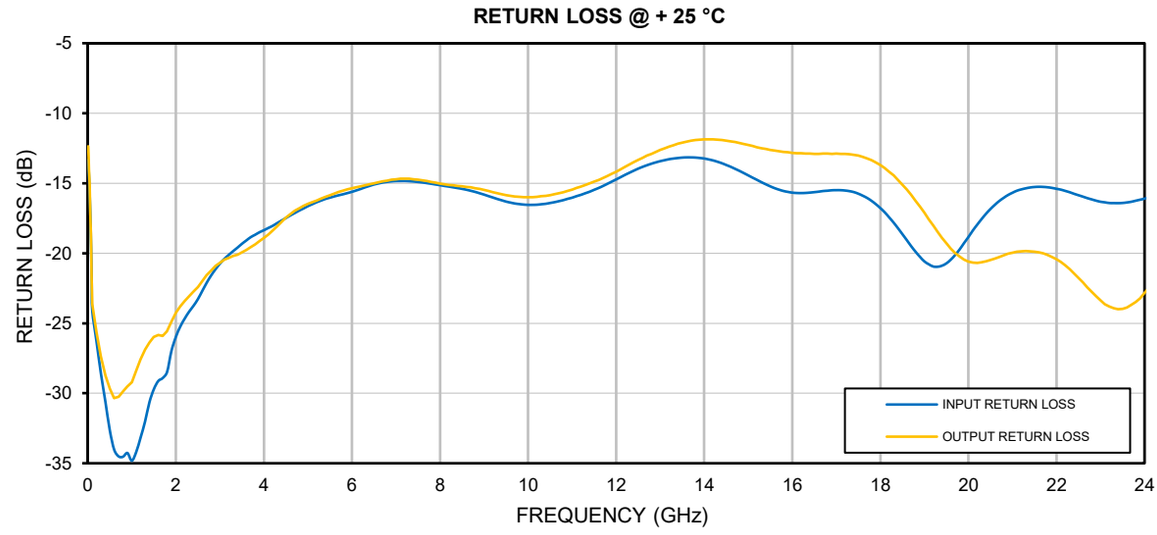
Bias-Tee, Coaxial ZBT-243-1A-FT+

Typical Performance Data

FREQUENCY (GHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)	
		INPUT	OUTPUT
0.01	-1.71	13.3	12.4
0.1	-0.90	16.4	16.1
0.5	-0.18	32.6	29.7
1.0	-0.32	34.8	29.2
2.0	-0.45	26.0	24.3
3.0	-0.49	20.7	20.7
4.0	-0.53	18.4	18.9
5.0	-0.55	16.6	16.5
6.0	-0.60	15.6	15.4
7.0	-0.61	14.8	14.7
8.0	-0.67	15.1	15.0
9.0	-0.66	15.8	15.5
10.0	-0.65	16.5	16.0
11.0	-0.67	16.0	15.4
12.0	-0.74	14.7	14.2
13.0	-0.82	13.4	12.6
14.0	-0.89	13.2	11.9
15.0	-0.92	14.4	12.3
16.0	-1.00	15.7	12.8
17.0	-1.12	15.5	12.9
18.0	-1.18	16.8	13.7
19.0	-1.19	20.6	17.1
20.0	-1.29	18.8	20.6
21.0	-1.45	15.7	20.0
22.0	-1.56	15.4	20.4
23.0	-1.65	16.3	23.4
24.0	-1.79	16.1	22.8

Typical Performance Curves

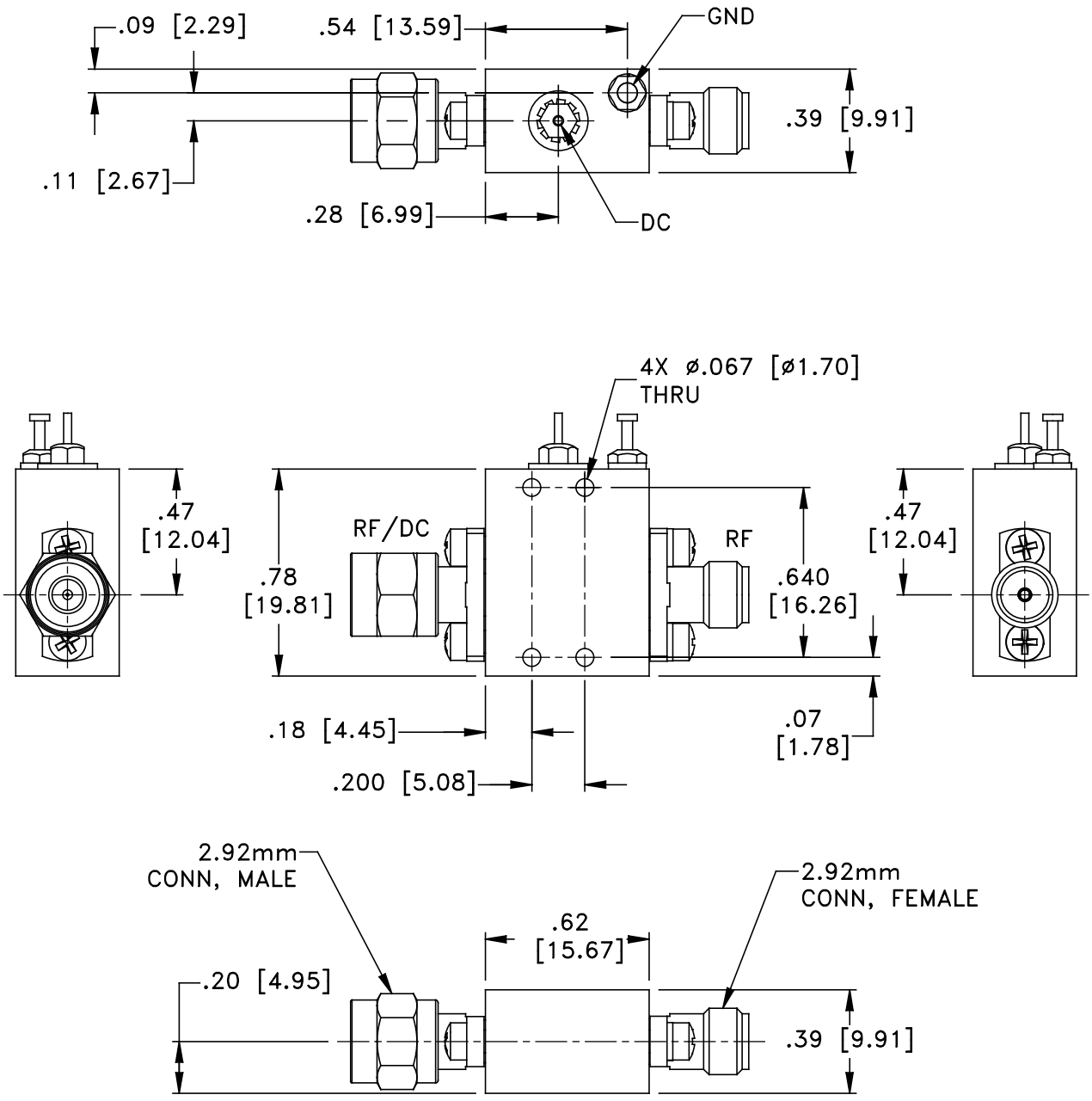




Case Style Y

Outline Dimensions

Y3206-4



Weight: 32 grams

Dimensions are in inches [mm]. Tolerances: 2 PL±.03; 3 PL ±.015 Inches

Notes:

1. Case material: Brass Alloy 360
2. Case finish: Gold plating
3. Refer to the individual model data sheet for the type of connectors available.

Mini-Circuits

Environmental Specifications ENV135

All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-40° to 85°C	Individual Model Data Sheet
Storage Temperature	-40° to +85° C Ambient Environment	Individual Model Data Sheet
Thermal Shock	-40° C to +85°C, 100 cycles	Transition time = 5 mins, Dwell time = 30 mins
Vibration	Random Vibration (Non-operating)	MIL-STD-810F Method 514.5 Procedure I, Category 24, Figure 513C-17
Mechanical Shock	Non-operation	MIL-STD 810F Method 516.5 Procedure 1, Table 516.5-II