Coaxial

Bias-Tee

ZFBT-282-1.5A+

50Ω Wideband 10 to 2800 MHz

Generic photo used for illustration purposes only

CASE STYLE: V1381

Connectors	Model
SMA	ZFBT-282-1.5A+

+RoHS Compliant

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

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power	30 dBm max.
Voltage at DC port	30 V max.
Input Current	1.5A*
DC resistance from DC to RF&DC port	0.5 ohm typ.

* Max Current 1.2 A above 80°C.
Permanent damage may occur if any of these limits are exceeded.

Coaxial Connections

RF	1 (SMA female)
RF&DC	2 (SMA male)
DC	3 (SMA female)

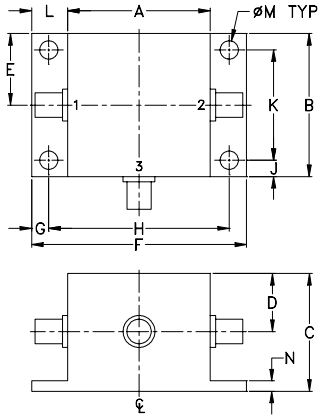
Features

- wideband, 10 to 2800 MHz
- low insertion loss, 0.6 dB typ.
- good isolation, 45 dB typ.
- high current, 1.5A

Applications

- biasing amplifiers
- biasing of laser diodes
- biasing of active antennas
- DC return
- DC blocking
- test accessory

Outline Drawing



Outline Dimensions (inch / mm)

A	B	C	D	E	F	G
1.25	1.25	.94	.47	.63	2.19	.25
31.75	31.75	23.88	11.94	16.00	55.63	6.35

H	J	K	L	M	N	wt
1.687	.25	.750	.47	.125	.10	grams
42.85	6.35	19.05	11.94	3.18	2.54	60.0

Bias-Tee Electrical Specifications

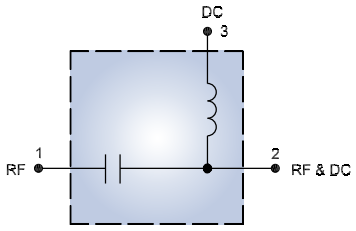
FREQUENCY (MHz)		INSERTION LOSS (dB)						ISOLATION (dB) (RF port to DC port) (RF&DC port to DC port)						VSWR (:1)					
		L		M		U		L		M		U		L		M		U	
f_L	f_U	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.
10	2800	0.5	1.0	0.6	1.0	0.8	1.6	50	30	45	30	30	20	1.16	1.35	1.10	1.20	1.08	1.35

L= low range (f_L to 10 f_L) M= mid range (10 f_L to f_U/2) U= upper range (f_U/2 to f_U)

Typical Performance Data

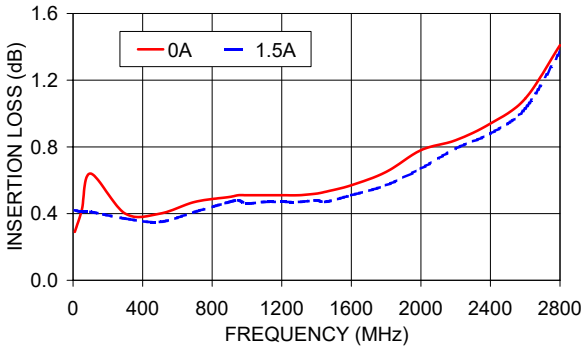
Freq. (MHz)	INSERTION LOSS (dB)		ISOLATION (dB)				VSWR (:1)			
			RF-DC		RF&DC-DC		RF		RF/DC	
	0A	1.5A	0A	1.5A	0A	1.5A	0A	1.5A	0A	1.5A
10.00	0.29	0.42	54.81	47.57	54.15	47.33	1.06	1.24	1.06	1.25
50.00	0.42	0.41	68.07	64.48	73.12	65.97	1.10	1.10	1.10	1.12
100.00	0.64	0.41	52.01	60.62	60.00	57.83	1.14	1.06	1.14	1.07
300.00	0.40	0.37	59.41	59.59	57.55	57.53	1.07	1.07	1.07	1.07
500.00	0.40	0.35	51.13	51.46	51.60	52.76	1.05	1.06	1.06	1.07
700.00	0.47	0.41	45.14	46.61	43.35	46.15	1.05	1.07	1.07	1.08
900.00	0.50	0.47	55.11	48.80	43.14	41.54	1.06	1.06	1.08	1.09
950.00	0.51	0.48	55.06	51.87	43.12	41.45	1.06	1.06	1.08	1.06
1000.00	0.51	0.46	52.18	56.35	44.66	41.54	1.06	1.06	1.08	1.09
1100.00	0.51	0.47	45.30	53.11	50.89	43.76	1.06	1.05	1.08	1.10
1200.00	0.51	0.47	42.03	45.81	44.47	47.09	1.06	1.06	1.08	1.09
1300.00	0.51	0.47	41.45	43.19	40.75	43.35	1.06	1.05	1.09	1.09
1400.00	0.52	0.48	40.88	42.11	38.26	39.95	1.06	1.05	1.10	1.09
1450.00	0.53	0.47	40.44	41.52	37.23	38.58	1.06	1.05	1.10	1.10
1600.00	0.57	0.51	37.75	38.77	34.31	35.38	1.07	1.06	1.11	1.10
1800.00	0.65	0.57	35.76	36.46	33.89	33.05	1.08	1.07	1.14	1.11
2000.00	0.78	0.67	35.26	36.66	35.48	34.12	1.09	1.08	1.15	1.12
2200.00	0.84	0.79	35.39	35.52	34.71	34.08	1.09	1.10	1.15	1.10
2400.00	0.94	0.88	35.29	35.6	32.29	32.06	1.11	1.12	1.17	1.11
2800.00	1.41	1.37	33.34	35.69	28.98	28.71	1.22	1.24	1.25	1.21

Electrical Schematic

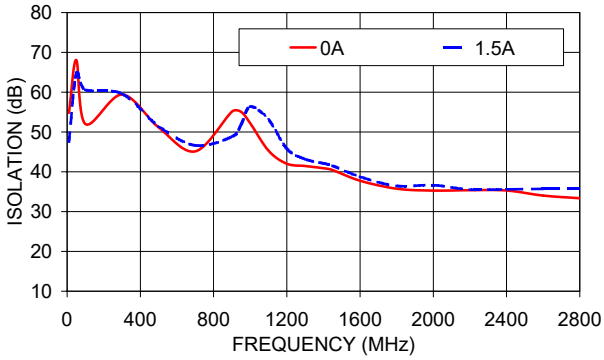


Notes
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's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

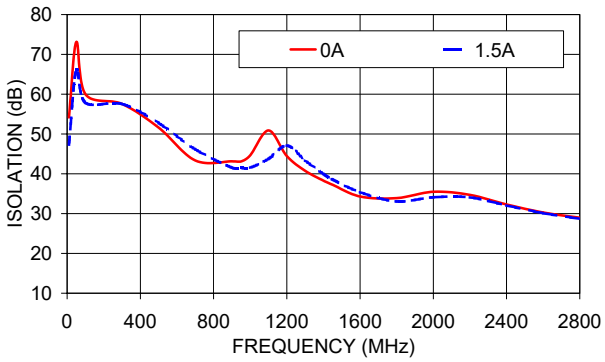
ZFBT-282-1.5A+
INSERTION LOSS



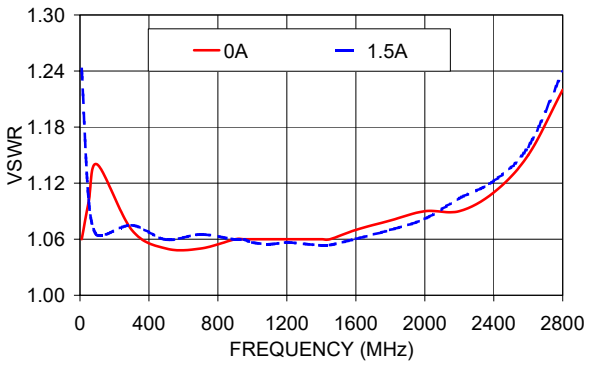
ZFBT-282-1.5A+
ISOLATION RF-DC



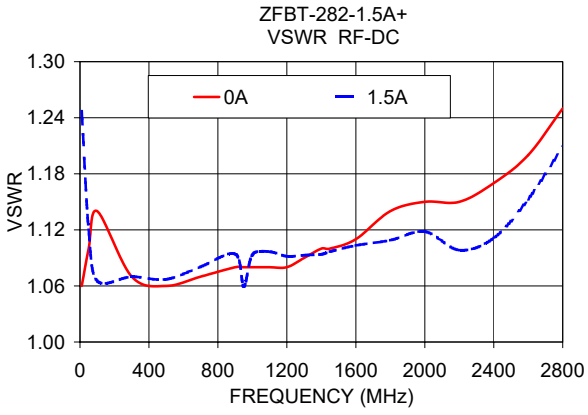
ZFBT-282-1.5A+
ISOLATION RF & DC-DC



ZFBT-282-1.5A+
VSWR RF



ZFBT-282-1.5A+
VSWR RF-DC

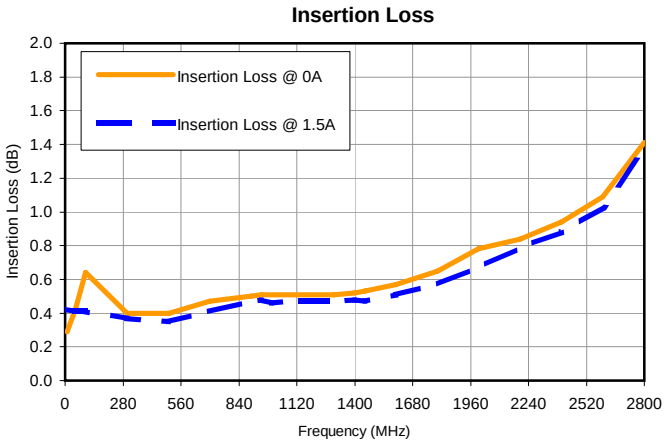


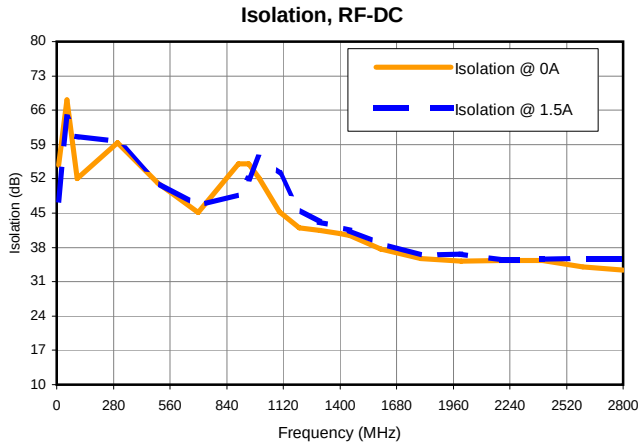
Bias-Tee, Coaxial ZFBT-282-1.5A+

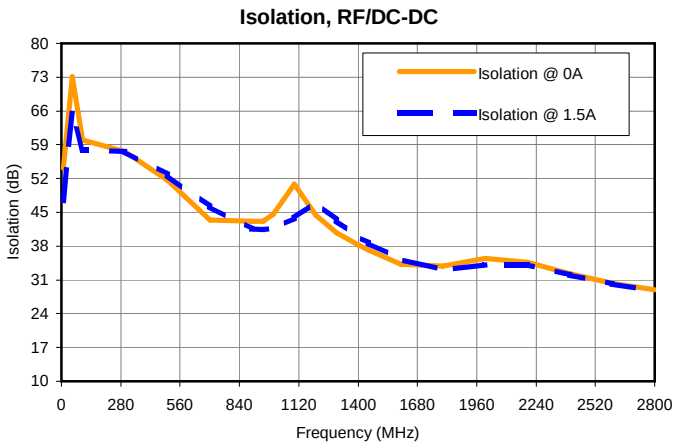
Typical Performance Data

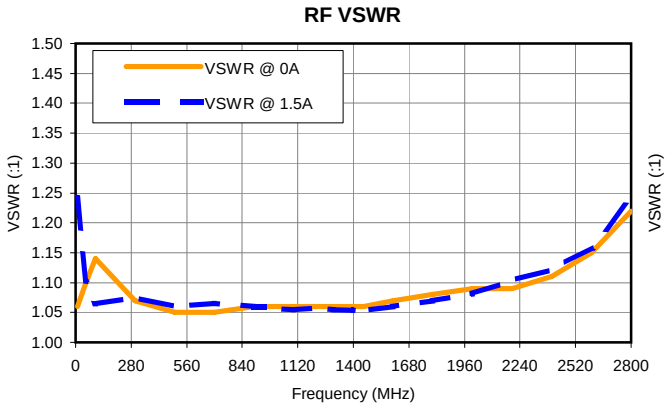
FREQ. (MHz)	INSERTION LOSS (dB)		ISOLATION (dB)				VSWR (:1)			
	0A	1.5A	RF-DC		RF/DC-DC		RF		RF/DC	
			0A	1.5A	0A	1.5A	0A	1.5A	0A	1.5A
10.0	0.29	0.42	54.81	47.57	54.15	47.33	1.06	1.24	1.06	1.25
50.0	0.42	0.41	68.07	64.48	73.12	65.97	1.10	1.10	1.10	1.12
100.0	0.64	0.41	52.01	60.62	60.00	57.83	1.14	1.06	1.14	1.07
300.0	0.40	0.37	59.41	59.59	57.55	57.53	1.07	1.07	1.07	1.07
500.0	0.40	0.35	51.13	51.46	51.60	52.76	1.05	1.06	1.06	1.07
700.0	0.47	0.41	45.14	46.61	43.35	46.15	1.05	1.07	1.07	1.08
900.0	0.50	0.47	55.11	48.80	43.14	41.54	1.06	1.06	1.08	1.09
950.0	0.51	0.48	55.06	51.87	43.12	41.45	1.06	1.06	1.08	1.06
1000.0	0.51	0.46	52.18	56.35	44.66	41.54	1.06	1.06	1.08	1.09
1100.0	0.51	0.47	45.30	53.11	50.89	43.76	1.06	1.05	1.08	1.10
1200.0	0.51	0.47	42.03	45.81	44.47	47.09	1.06	1.06	1.08	1.09
1300.0	0.51	0.47	41.45	43.19	40.75	43.35	1.06	1.05	1.09	1.09
1400.0	0.52	0.48	40.88	42.11	38.26	39.95	1.06	1.05	1.10	1.09
1450.0	0.53	0.47	40.44	41.52	37.23	38.58	1.06	1.05	1.10	1.10
1600.0	0.57	0.51	37.75	38.77	34.31	35.38	1.07	1.06	1.11	1.10
1800.0	0.65	0.57	35.76	36.46	33.89	33.05	1.08	1.07	1.14	1.11
2000.0	0.78	0.67	35.26	36.66	35.48	34.12	1.09	1.08	1.15	1.12
2200.0	0.84	0.79	35.39	35.52	34.71	34.08	1.09	1.10	1.15	1.10
2400.0	0.94	0.88	35.29	35.60	32.29	32.06	1.11	1.12	1.17	1.11
2600.0	1.09	1.03	34.02	35.69	30.26	30.10	1.15	1.16	1.20	1.15
2800.0	1.41	1.37	33.34	35.69	28.98	28.71	1.22	1.24	1.25	1.21

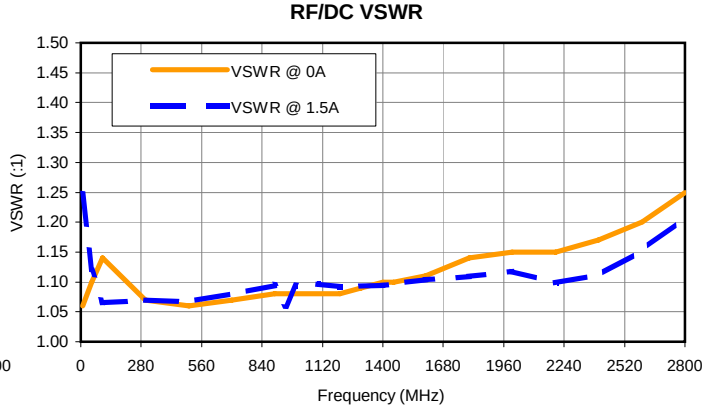
Typical Performance Curves







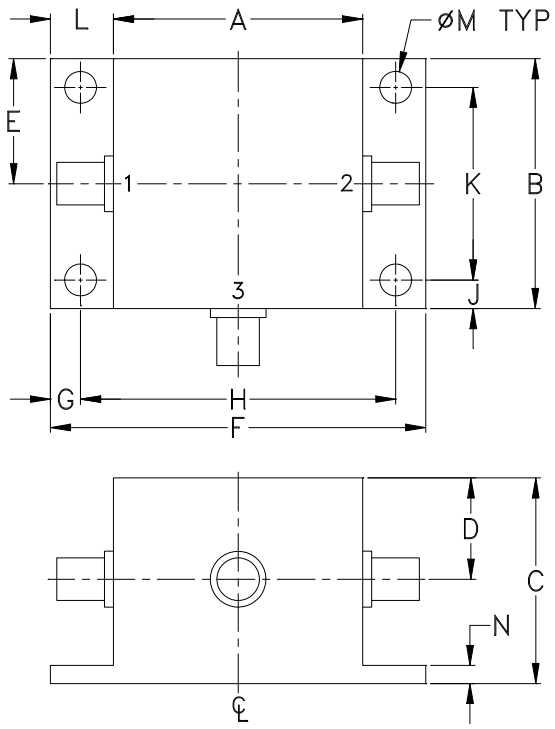




Case Style V

V1381

Outline Dimensions



CASE#	A	B	C	D	E	F	G	H	J	K	L	M	N	WT GRAMS
V1381	1.25 (31.75)	1.25 (31.75)	.94 (23.88)	.47 (11.94)	.63 (16.00)	2.19 (55.63)	.25 (6.35)	1.687 (42.85)	.25 (6.35)	.750 (19.05)	.47 (11.94)	.125 (3.18)	.10 (2.54)	60.0

Dimensions are in inches (mm). Tolerances: 2 Pl. ± .03; 3 Pl. ± .015

Notes:

1. Case material: Aluminum alloy.
2. Case finish:
   For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.
3. Refer to the individual model data sheet for the type of connectors available.

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Environmental Specifications ENV28

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	-55° to 100°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Barometric Pressure	100,000 Feet	MIL-STD-202, Method 105, Condition D
Humidity	90% RH, 65°C Units may require bake-out after humidity to restore full performance.	MIL-STD-202, Method 103
Thermal Shock	-65° to 125°C, 5 cycles	MIL-STD-202, Method 107, Condition B
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
Mechanical Shock	100g, 6ms sawtooth, 3 shocks each direction 3 axes (total 18)	MIL-STD-202, Method 213, Condition I