Coaxial

Bias-Tee

ZFBT-33W-75-FT+

75Ω Wideband 1 to 3000 MHz

Generic photo used for illustration purposes only

CASE STYLE: K1486

Connectors	Model
N-Type	ZFBT-33W-75-FT+

+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	25 V max.
Input Current	200 mA

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

Coaxial Connections

RF	2 (N-female)
RF & DC	1 (N-male)
DC	(feed-through pin)
GROUND	GROUND

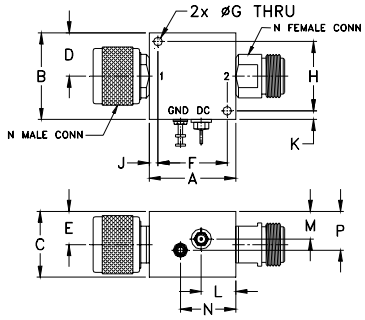
Features

- wideband, 1 to 3000 MHz
- low insertion loss, 0.45 dB typ.
- feed through terminal per DC port
- excellent VSWR, 1.18:1 typ.

Applications

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

Outline Drawing

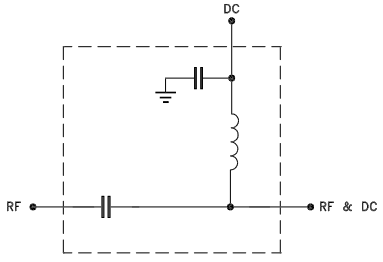


Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H
1.25	1.25	.95	.63	.47	1.00	.125	1.000
31.75	31.75	24.13	16.00	11.94	25.40	3.18	25.40

J	K	L	M	N	P	wt
.13	.13	.50	.40	.80	.56	grams
3.18	3.18	12.70	10.16	20.32	14.22	117.0

Electrical Schematic



Electrical Specifications at 25°C

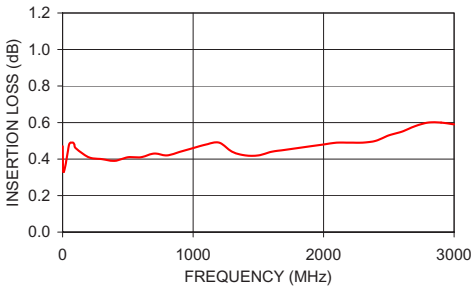
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		1		3000	MHz
Insertion Loss[1]	1-10	—	0.40	0.8	dB
	10-1500	—	0.45	0.9	
	1500-3000	—	0.50	1.1	
VSWR[1]	1-10	—	1.10	1.3	:1
	10-1500	—	1.18	1.38	
	1500-3000	—	1.18	1.38	
DC Resistance, DC to RF and DC port		–	1.0	—	ohms

1. Specifications and typical performance are relevant to input RF power up to +20dBm and DC Current up to 200mA.

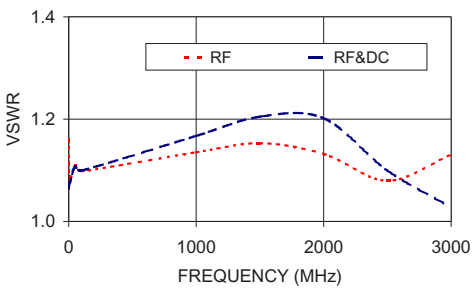
Typical Performance Data

Frequency (MHz)	INSERTION LOSS (dB)	VSWR (:1)	
		RF	RF&DC
1	0.47	1.16	1.06
5	0.34	1.08	1.07
10	0.33	1.08	1.08
50	0.48	1.11	1.11
100	0.46	1.10	1.10
1000	0.46	1.14	1.17
1500	0.42	1.15	1.20
2000	0.48	1.13	1.20
2500	0.53	1.08	1.10
3000	0.59	1.13	1.03

ZFBT-33W-75-FT+
INSERTION LOSS



ZFBT-33W-75-FT+
VSWR



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

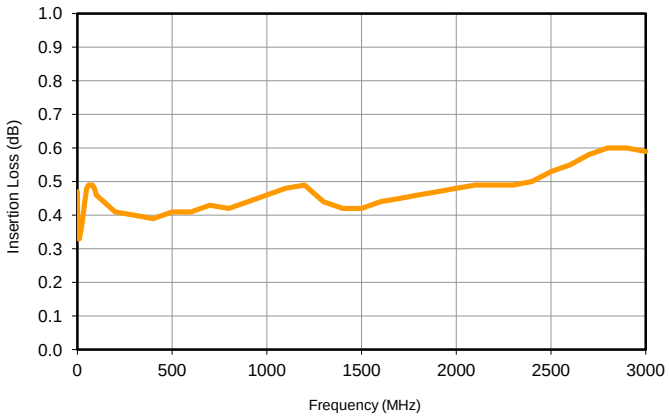
Bias-Tee, Coaxial ZFBT-33W-75-FT+

Typical Performance Data

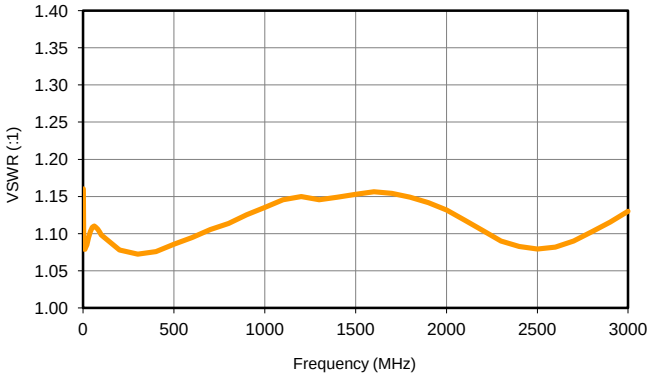
FREQ	INSERTION LOSS	VSWR	
		RF	RF & DC
(MHz)	(dB)	(:1)	
1.0	0.47	1.16	1.06
2.0	0.37	1.10	1.07
3.0	0.35	1.09	1.08
4.0	0.34	1.08	1.07
5.0	0.34	1.08	1.07
6.0	0.33	1.08	1.08
7.0	0.33	1.08	1.08
8.0	0.33	1.08	1.08
9.0	0.33	1.08	1.08
10.0	0.33	1.08	1.08
20.0	0.36	1.08	1.08
30.0	0.40	1.09	1.09
40.0	0.44	1.10	1.10
50.0	0.48	1.11	1.11
60.0	0.49	1.11	1.11
70.0	0.49	1.11	1.11
80.0	0.49	1.11	1.11
90.0	0.48	1.10	1.10
100.0	0.46	1.10	1.10
200.0	0.41	1.08	1.08
300.0	0.40	1.07	1.08
400.0	0.39	1.08	1.08
500.0	0.41	1.09	1.09
600.0	0.41	1.09	1.11
700.0	0.43	1.11	1.12
800.0	0.42	1.11	1.14
900.0	0.44	1.13	1.16
1000.0	0.46	1.14	1.17
1100.0	0.48	1.15	1.18
1200.0	0.49	1.15	1.17
1300.0	0.44	1.15	1.17
1400.0	0.42	1.15	1.19
1500.0	0.42	1.15	1.20
1600.0	0.44	1.16	1.21
1700.0	0.45	1.15	1.21
1800.0	0.46	1.15	1.21
1900.0	0.47	1.14	1.21
2000.0	0.48	1.13	1.20
2100.0	0.49	1.12	1.19
2200.0	0.49	1.10	1.17
2300.0	0.49	1.09	1.14
2400.0	0.50	1.08	1.12
2500.0	0.53	1.08	1.10
2600.0	0.55	1.08	1.08
2700.0	0.58	1.09	1.07
2800.0	0.60	1.10	1.05
2900.0	0.60	1.12	1.04
3000.0	0.59	1.13	1.03

Typical Performance Curves

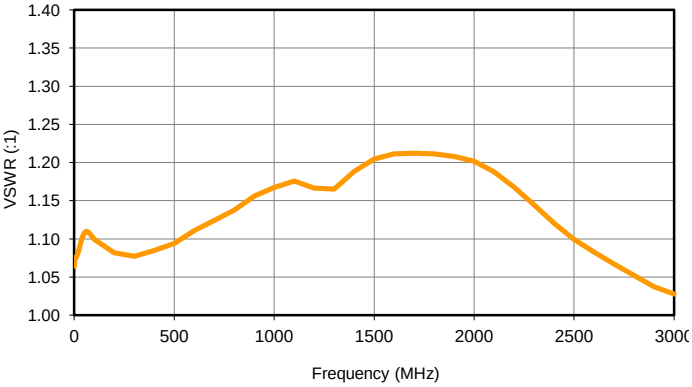
Insertion Loss



RF VSWR



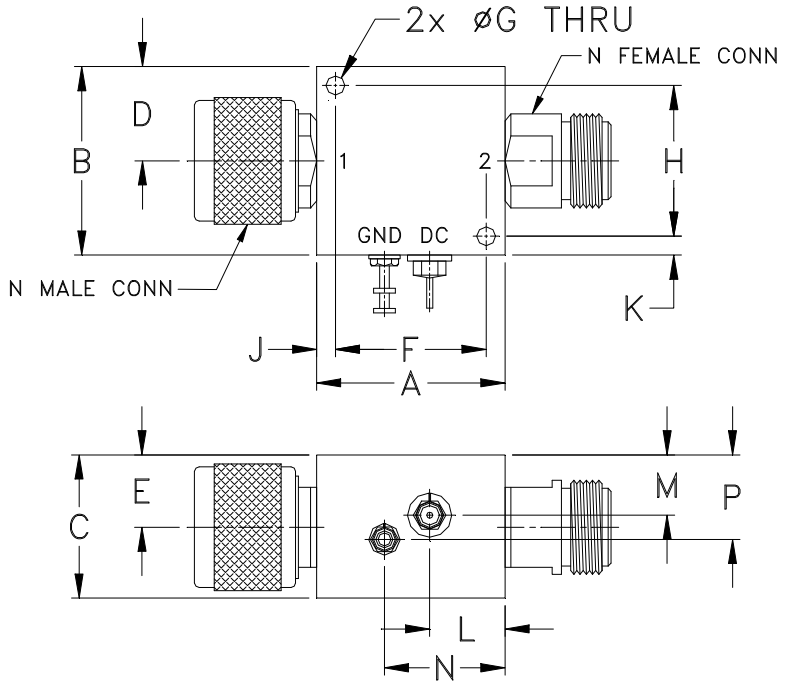
RF & DC VSWR



Case Style K

K1486

Outline Dimensions



CASE#	A	B	C	D	E	F	G	H	J	K	L	M	N
K1486	1.25 (31.75)	1.25 (31.75)	.95 (24.13)	.63 (16.00)	.47 (11.94)	1.000 (25.40)	.125 (3.18)	1.000 (25.40)	.13 (3.18)	.13 (3.18)	.50 (12.70)	.40 (10.16)	.80 (20.32)

CASE#	P	Q	WT. GRAMS
K1486	.56 (14.22)	-- --	117.0

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 ENV02T2

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
Humidity	90 to 95% RH, 240 hours, 50°C	MIL-STD-202, Method 103, Condition A, Except 50°C and end-point electrical test done within 12 hours
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C
Solder Reflow Heat	Sn-Pb Eutetic Process: 225°C peak Pb-Free Process 245° - 250°C peak	J-STD-020, Table 4-1, 4-2 and 5-2, Figure 5-1
Solderability	10X Magnification	J-STD-002, 95% Coverage
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	50g, 11 ms, 1/2-sine, 18 shocks: 3 each direction, each of 3 axes	MIL-STD-202, Method 213, Condition A
Marking Resistance to Solvents	Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C; distilled water + proylene glycol monomethyl ether + monoethanolamine at 63°C to 70°C	MIL-STD-202, Method 215