Coaxial

Bias-Tee

ZABT-80W-13-S+

50Ω High Power 80W 20 to 1000 MHz

The Big Deal

- Very high power handling, 80W
- High isolation (DC-RF), up to 70 dB
- Good VSWR, 1.2:1



CASE STYLE: AW1564-2

Product Overview

Mini-Circuits' ZABT-80W-13-S+ is a coaxial bias-tee providing high power handling, low loss and high isolation across the 20 to 1000 MHz band. Capable of handling up to 5A DC current, this model is ideal for high power systems requiring DC feed on the RF line such as remote antennas and repeaters. The unit comes housed in a rugged aluminum alloy case (3.00 x 2.06 x 2.03") with SMA connectors and a heat sink for efficient cooling.

Key Features

Feature	Advantages
High RF power and DC current handling, 80W, 5A	ZABT-80W-13-S+ supports systems with high power requirements such has high power amplifiers, transmit antennas and more.
Low insertion loss, 0.6 dB	Preserves signal strength from input to output and minimizes overall system loss.
Good VSWR, 1.2:1	Provides efficient power utilization with minimal power reflected back to source.
High DC-RF isolation, up to 70 dB	Minimizes RF signal leakage and interference with other system elements.
Wideband, 20 to 1000 MHz	Supports a variety of high power wideband and multi-band applications.

Notes
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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.
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Generic photo used for illustration purposes only

CASE STYLE: AW1564-2

Connectors	Model
SMA	ZABT-80W-13-S+

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

Maximum Ratings

Operating Temperature	-55°C to 65°C
Storage Temperature	-55°C to 100°C
RF Power	49 dBm max.
Voltage at DC port	50 V max.
Input Current	5A
DC resistance from DC to RF&DC port	1.0 ohm typ.

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

Coaxial Connections

RF	OUT
RF&DC	IN
DC	CPL

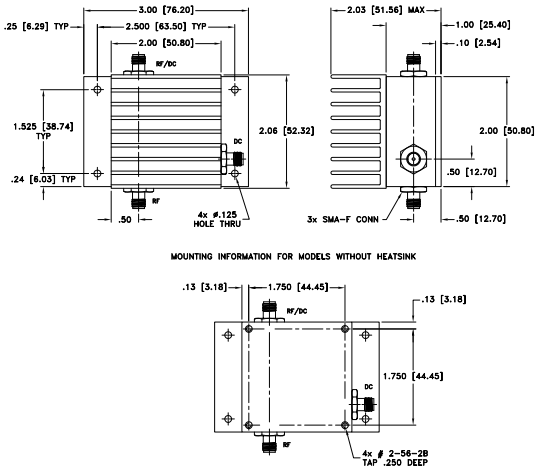
Features

- high isolation (DC-RF), 50 dB typ.
- low insertion loss, 0.6 dB typ.
- good VSWR 1.2:1typ.

Applications

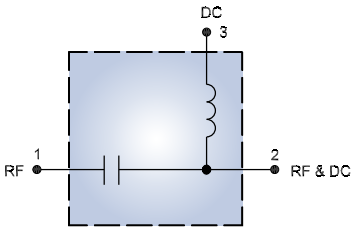
- biasing amplifiers
- biasing of laser diodes
- biasing of active antennas
- DC return
- DC blocking
- test accessory

Outline Drawing



Weight: 165 grams
Dimensions are in inches [mm]. Tolerances: 2Pl. ± .03; 3Pl. ± .015

Electrical Schematic



Electrical Specifications at 25°C

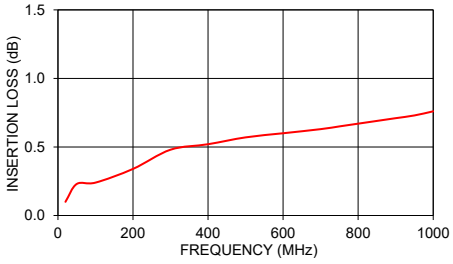
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		20		1000	MHz
Insertion Loss*	20-200	—	0.15	0.6	dB
	200-500	—	0.6	0.8	
	500-1000	—	0.8	1.1	
Isolation	20-200	40	70	—	dB
	200-500	35	60	—	
	500-1000	30	50	—	
VSWR**	20-200	—	1.06	1.2	:1
	200-500	—	1.13	1.3	
	500-1000	—	1.25	1.5	

*Insertion Loss and Isolation are guaranteed up to 40 dBm-RF power and 3A DC current.
**VSWR measured with open and short at DC port.

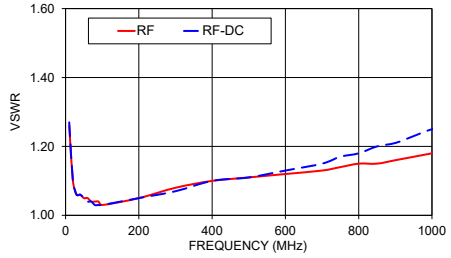
Typical Performance Data

Freq. (MHz)	INSERTION LOSS (dB)	VSWR (:1)		ISOLATION (dB)	
		RF	RF&DC	RF-DC	RF&DC-DC
20.00	0.10	1.10	1.10	83.62	83.86
50.00	0.23	1.05	1.05	75.27	74.94
100.00	0.24	1.03	1.03	70.33	70.33
200.00	0.34	1.05	1.05	66.55	66.31
300.00	0.48	1.08	1.07	65.47	65.11
400.00	0.52	1.10	1.10	65.62	65.12
500.00	0.57	1.11	1.11	65.90	65.28
600.00	0.60	1.12	1.13	66.03	65.47
700.00	0.63	1.13	1.15	65.54	65.28
750.00	0.65	1.14	1.17	65.19	65.15
800.00	0.67	1.15	1.18	64.87	64.88
850.00	0.69	1.15	1.20	64.20	64.68
900.00	0.71	1.16	1.21	63.64	64.50
950.00	0.73	1.17	1.23	62.63	64.12
1000.00	0.76	1.18	1.25	61.72	63.64

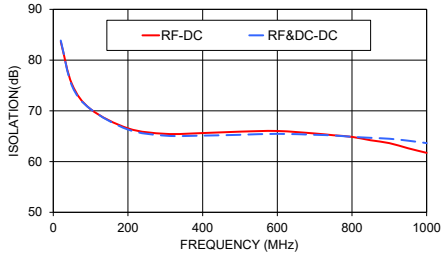
ZABT-80W-13-S+
INSERTION LOSS



ZABT-80W-13-S+
VSWR



ZABT-80W-13-S+
ISOLATION

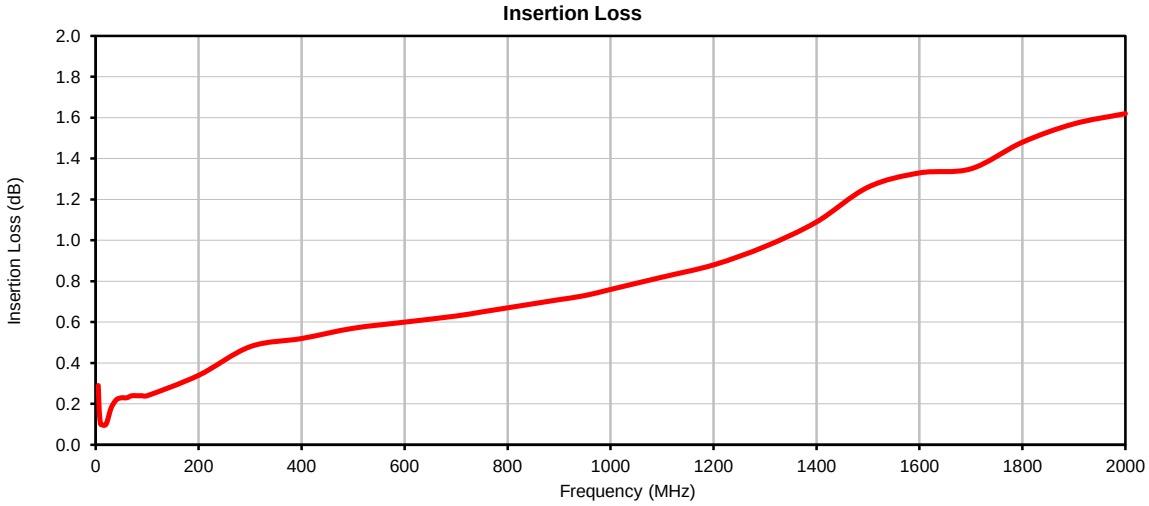


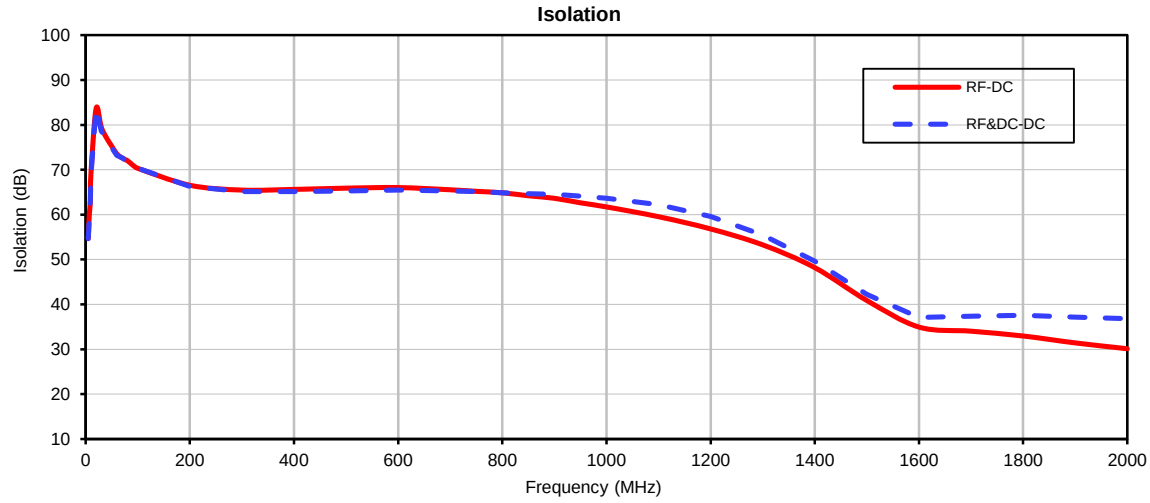
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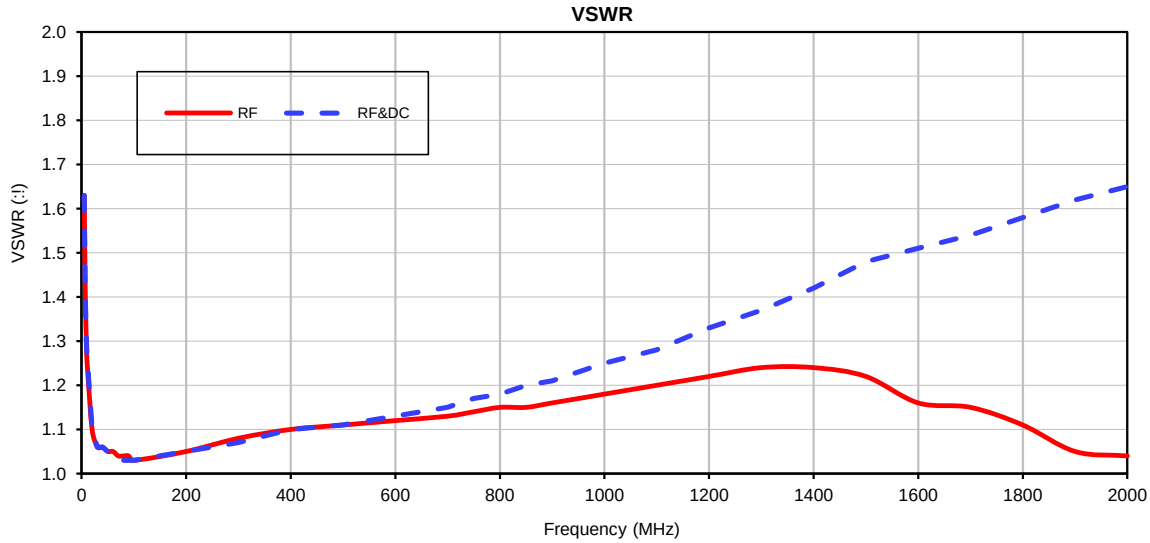
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	ISOLATION (dB)		VSWR (:1)	
		RF-DC	RF&DC-DC	RF	RF&DC
5	0.29	54.70	54.64	1.63	1.63
7	0.16	60.08	60.08	1.41	1.41
9	0.11	62.99	62.96	1.30	1.30
10	0.10	68.81	68.80	1.26	1.27
20	0.10	83.62	83.86	1.10	1.10
30	0.18	79.47	78.63	1.06	1.06
40	0.22	77.11	77.04	1.06	1.06
50	0.23	75.27	74.94	1.05	1.05
60	0.23	73.52	73.17	1.05	1.04
70	0.24	72.62	72.64	1.04	1.04
80	0.24	72.04	71.79	1.04	1.03
90	0.24	71.08	71.03	1.04	1.03
100	0.24	70.33	70.33	1.03	1.03
200	0.34	66.55	66.31	1.05	1.05
300	0.48	65.47	65.11	1.08	1.07
400	0.52	65.62	65.12	1.10	1.10
500	0.57	65.90	65.28	1.11	1.11
600	0.60	66.03	65.47	1.12	1.13
700	0.63	65.54	65.28	1.13	1.15
750	0.65	65.19	65.15	1.14	1.17
800	0.67	64.87	64.88	1.15	1.18
850	0.69	64.20	64.68	1.15	1.20
900	0.71	63.64	64.50	1.16	1.21
950	0.73	62.63	64.12	1.17	1.23
1000	0.76	61.72	63.64	1.18	1.25
1100	0.82	59.54	62.21	1.20	1.28
1200	0.88	56.81	59.60	1.22	1.33
1300	0.97	53.26	55.47	1.24	1.37
1400	1.09	48.19	49.63	1.24	1.42
1500	1.26	40.87	42.21	1.22	1.48
1600	1.33	34.95	37.09	1.16	1.51
1700	1.35	34.03	37.39	1.15	1.54
1800	1.48	32.96	37.58	1.11	1.58
1900	1.57	31.42	37.18	1.05	1.62
2000	1.62	30.12	36.82	1.04	1.65

Typical Performance Curves

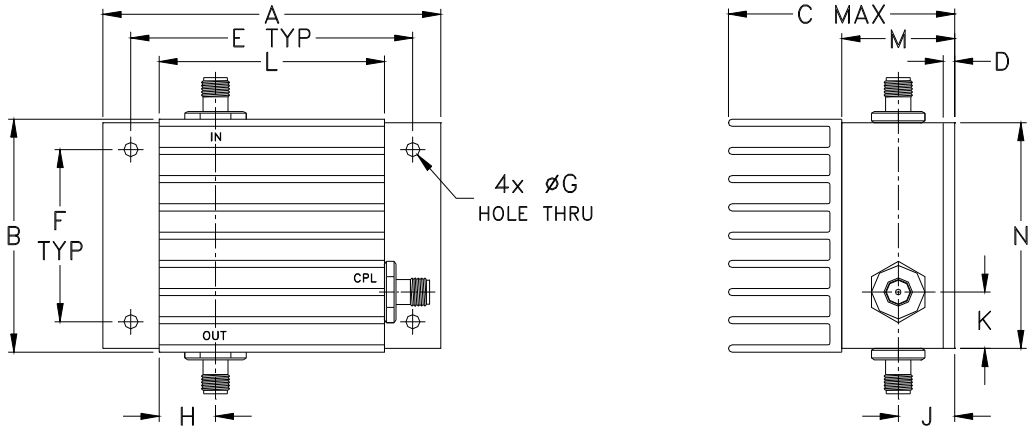




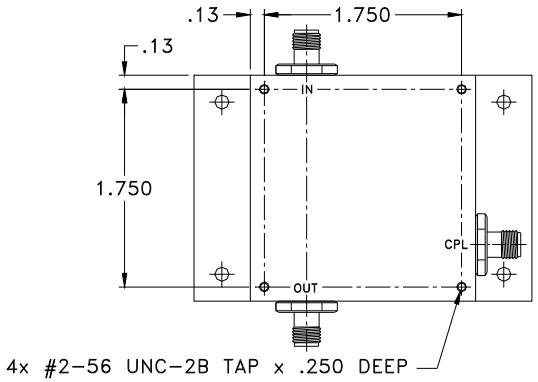


AW1564

Outline Dimensions



MOUNTING INFORMATION FOR MODELS WITHOUT HEATSINK



CASE #	A	B	C	D	E	F	G	H	J	K	L
AW1564	3.00 (76.20)	2.06 (52.32)	2.03 (51.56)	.10 (2.54)	2.500 (63.50)	1.525 (38.74)	.125 (3.18)	.50 (12.70)	.50 (12.70)	.50 (12.70)	2.00 (50.80)

CASE #	M	N	WT, GRAMS	WT WITHOUT HEATSINK, GRAMS
AW1564	1.00 (25.40)	2.00 (50.80)	230	165

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

Notes:

1. Case material: Aluminum alloy.
2. Finish:
   For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.
3. Heat sink finish: Black anodize.

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Mini-Circuits

Environmental Specifications **ENV28T13**

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 75°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

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