COAXIAL

Precision Fixed Attenuator BW-K20-2W44+

50Ω 2 W 20 dB DC to 40 GHz 2.92 mm Male to 2.92 mm Female

THE BIG DEAL

- Extremely Wideband, DC to 40 GHz
- Excellent VSWR, 1.20:1 Typ.
- Outstanding Attenuation Flatness
- Can Interface with SMA, K & 3.5 mm Connectors



Generic photo used for illustration purposes only

Model No.	BW-K20-2W44+
Case Style	FF1653
Connectors	2.92 mm Male to 2.92 mm Female

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

APPLICATIONS

- Impedance Matching
- Instrumentation
- Test Setups

PRODUCT OVERVIEW

Mini-Circuits' BW-Kx-2W44+ Series of precision fixed attenuators achieves extremely wide frequency range with excellent flatness of attenuation. Available in a variety of attenuation values for different requirements, these units support a broad range of system and testing applications. Precise performance, excellent VSWR (1.2:1 typ.) and rugged construction make these models ideal solutions for systems requiring precise attenuation across very wide frequency range.

KEY FEATURES

Feature	Advantages
Extremely Wideband, DC to 40 GHz	Ideal for an exceptionally wide variety of lab and system applications up to millimeter wave bands.
Excellent VSWR, 1.20:1 Typ.	Efficient power utilization with minimal signal power reflected back to source.
Outstanding Attenuation Flatness	Provides precise, consistent attenuation across the entire frequency band, ideal for broadband and multi-band usage.
Passivated Stainless Steel Connectors	Rugged construction withstands harsh environmental conditions for high reliability and long life of use.

REV. C
ECO-024604
BW-K20-2W44+
MCL NY
260811

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ELECTRICAL SPECIFICATIONS AT +25 °C

Parameter	Condition (GHz)	Min.	Typ.	Max.	Unit
Frequency Range		DC		40	GHz
Attenuation[1]	DC–40	–	20	–	dB
	DC–26.5	19.4	–	20.6	
	26.5–40	19.0	–	21.0	
VSWR	DC–18	–	1.06	1.3	:1
	18–26.5	–	1.13	1.4	
	26.5–40	–	1.16	1.5	
Input Power[2]	DC–40	–	–	2	W

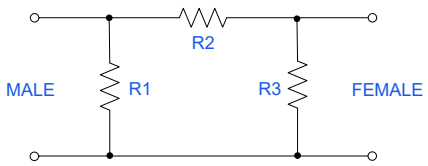
1. At +25 °C, accuracy includes frequency and power variations. Temperature coefficient for attenuation: 0.0004 dB/dB/°C Typ.
2. Max. Power at +25 °C ambient, derate linearly to 0.575 W at +100 °C.

ABSOLUTE MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature[3]	-55 °C to +100 °C
Storage Temperature	-55 °C to +100 °C

Permanent damage may occur if any of these limits are exceeded.
3. With mated connectors. Unmated, +85 °C Max.

ELECTRICAL SCHEMATIC

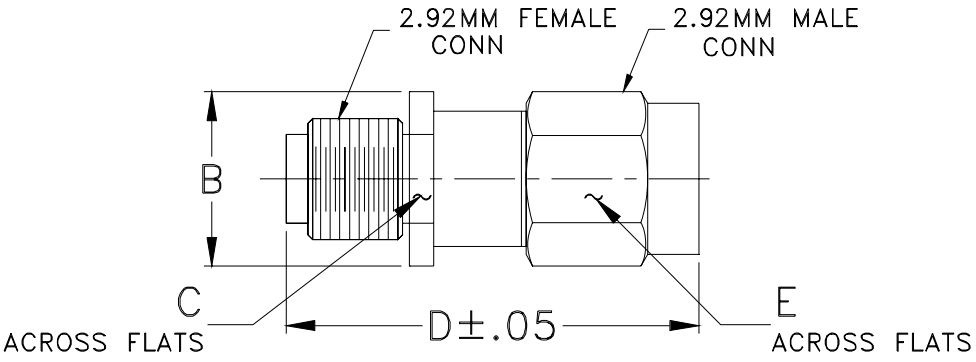


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OUTLINE DRAWING



OUTLINE DIMENSIONS (Inch / mm)

B	C	D	E	wt
.36	.312	.88	.312	grams
9.14	7.92	22.35	7.92	4.73

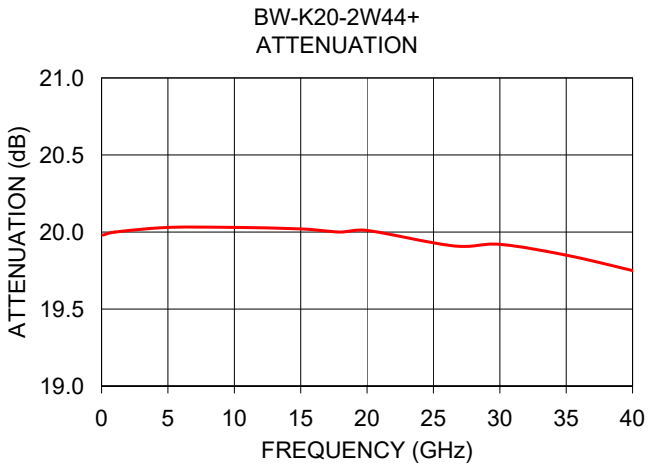
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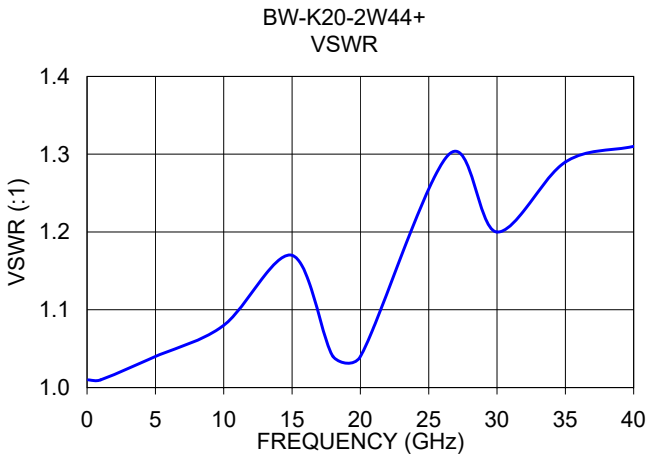
Precision Fixed Attenuator BW-K20-2W44+

50Ω 2 W 20 dB DC to 40 GHz 2.92 mm Male to 2.92 mm Female

TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (GHz)	Attenuation (dB)	VSWR (:1)
0.1	19.98	1.01
1.0	20.00	1.01
5.0	20.03	1.04
10.0	20.03	1.08
15.0	20.02	1.17
18.0	20.00	1.04
20.0	20.01	1.04
26.5	19.91	1.30
30.0	19.92	1.20
40.0	19.75	1.31





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

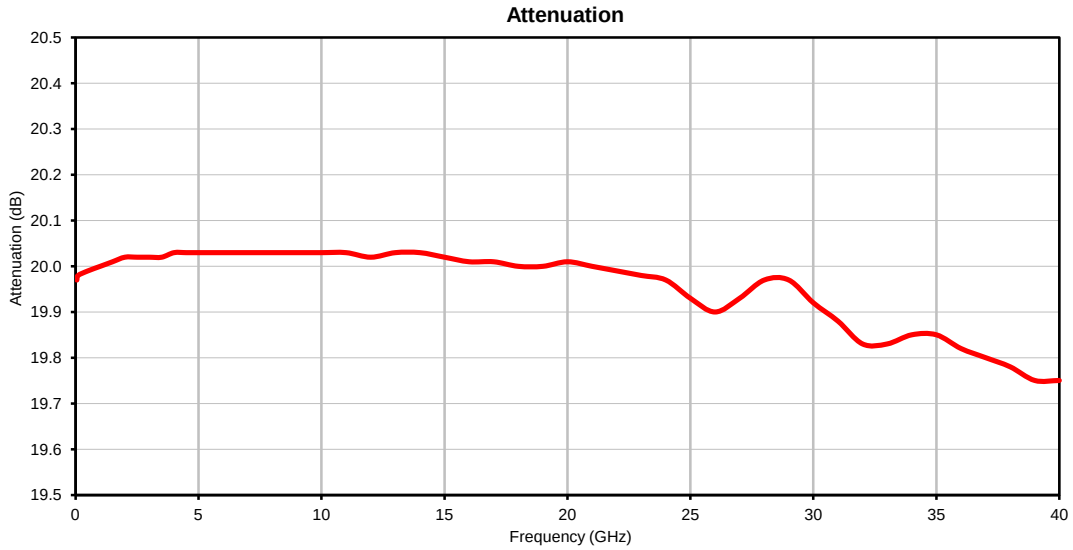
Fixed Attenuator BW-K20-2W44+

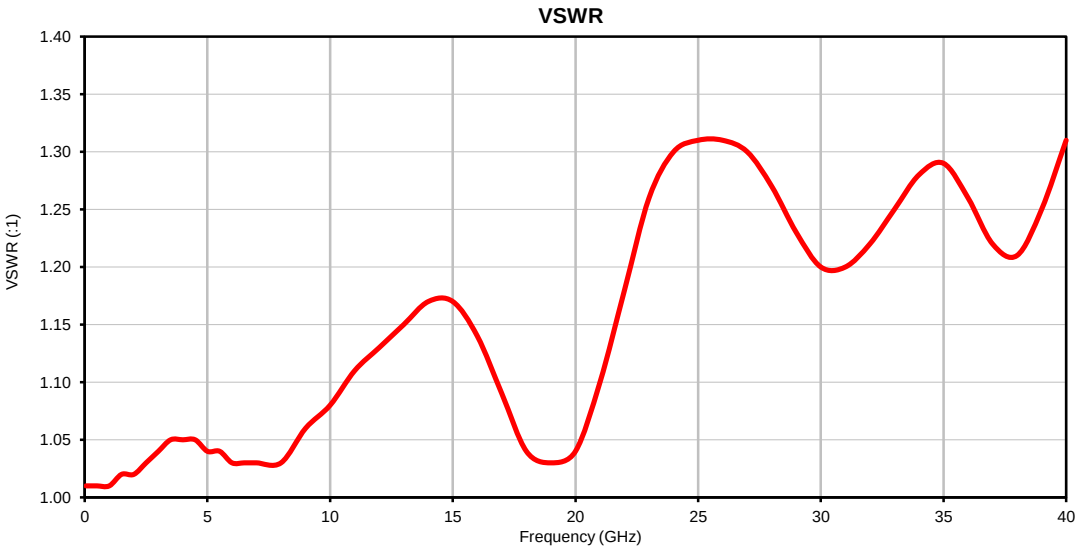
Typical Performance Data

FREQUENCY (GHz)	ATTENUATION (dB)	VSWR (:1)
0.05	19.97	1.01
0.1	19.98	1.01
0.5	19.99	1.01
1.0	20.00	1.01
1.5	20.01	1.02
2.0	20.02	1.02
2.5	20.02	1.03
3.0	20.02	1.04
3.5	20.02	1.05
4.0	20.03	1.05
4.5	20.03	1.05
5.0	20.03	1.04
5.5	20.03	1.04
6.0	20.03	1.03
6.5	20.03	1.03
7.0	20.03	1.03
8.0	20.03	1.03
9.0	20.03	1.06
10.0	20.03	1.08
11.0	20.03	1.11
12.0	20.02	1.13
13.0	20.03	1.15
14.0	20.03	1.17
15.0	20.02	1.17
16.0	20.01	1.14
17.0	20.01	1.09
18.0	20.00	1.04
19.0	20.00	1.03
20.0	20.01	1.04
21.0	20.00	1.10
22.0	19.99	1.18
23.0	19.98	1.26
24.0	19.97	1.30
25.0	19.93	1.31
26.0	19.90	1.31
27.0	19.93	1.30
28.0	19.97	1.27
29.0	19.97	1.23
30.0	19.92	1.20
31.0	19.88	1.20
32.0	19.83	1.22
33.0	19.83	1.25
34.0	19.85	1.28
35.0	19.85	1.29
36.0	19.82	1.26
37.0	19.80	1.22
38.0	19.78	1.21
39.0	19.75	1.25
40.0	19.75	1.31

Fixed Attenuator BW-K20-2W44+

Typical Performance Curves

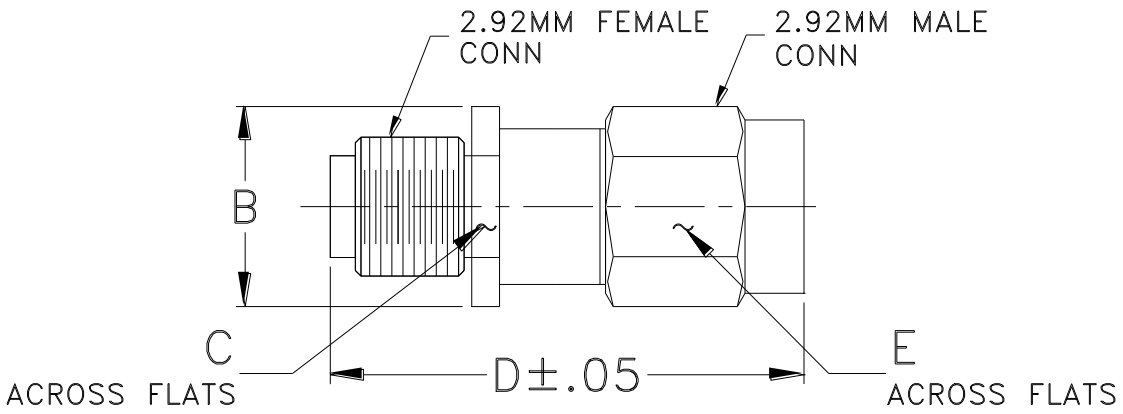




Case Style FF

FF1653

Outline Dimensions



CASE #.	A	B	C	D	E	WT GRAMS
FF1653	-- --	.36 (9.14)	.312 (7.92)	.88 (22.35)	.312 (7.92)	4.73

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

Notes:

1. Case material: Passivated Stainless steel.

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Mini-Circuits

Environmental Specifications ENV74

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
Thermal Shock	-55° to 125°C, 5 cycles	MIL-STD-202, Method107, Condition B

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