Coaxial

Precision Fixed Attenuator

BW-N30W20+

50Ω 20W 30dB DC to 18 GHz

Generic photo used for illustration purposes only

CASE STYLE: DC1645

Connectors	Model
N-Female N-Male	BW-N30W20+

Maximum Ratings

Operating Temperature	-55°C to 100°C**
Storage Temperature	-55°C to 100°C

**85°C with output into open or short.
Permanent damage may occur if any of these limits are exceeded.

Features

- DC to 18000 MHz
- precise attenuation
- excellent VSWR, 1.30 typ
- stainless steel N male and female connectors

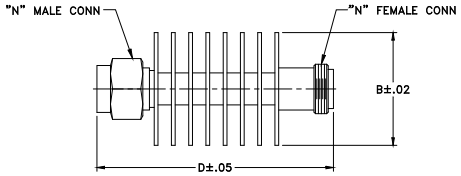
Applications

- matching
- instrumentation
- test set-ups
- high power measurements

+RoHS Compliant

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

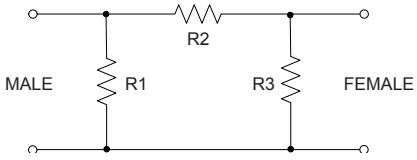
Outline Drawing



Outline Dimensions (inch / mm)

A	B	C	D	E	wt
--	1.50	--	3.04	--	grams
--	38.10	--	77.22	--	86.0

Electrical Schematic



Electrical Specifications at 25°C

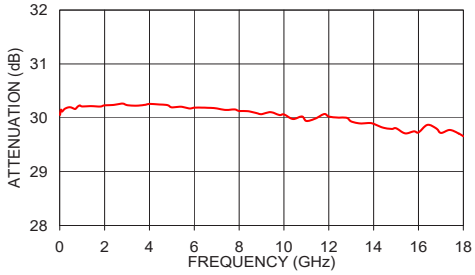
Parameter	Condition (GHz)	Min.	Typ.	Max.	Unit
Frequency Range		DC	—	18	GHz
Attenuation	DC - 18	—	30	—	dB
	DC- 12.4	29.0	—	31.0	
	12.4 - 18	28.5	—	31.5	
VSWR	DC - 6	—	—	1.30	:1
	6 - 12.4	—	—	1.3	
	12.4 - 18	—	—	1.4	
Input Power[1]		—	—	20	W

1. Max. power at 25°C ambient, derate linearly to 4W at 100°C. Peak power 500W max. 5µsec. pulse with, 100Hz PRF.

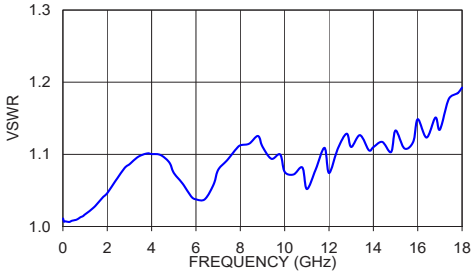
Typical Performance Data

Frequency (GHz)	Attenuation (dB)	VSWR (:1)
0.01	30.05	1.01
2.0	30.23	1.05
4.0	30.26	1.10
6.0	30.19	1.04
8.0	30.13	1.11
10.0	30.06	1.08
12.4	30.00	1.11
14.0	29.89	1.11
16.0	29.73	1.15
18.0	29.66	1.19

BW-N30W20+
ATTENUATION



BW-N30W20+
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

Fixed Attenuator BW-N30W20+

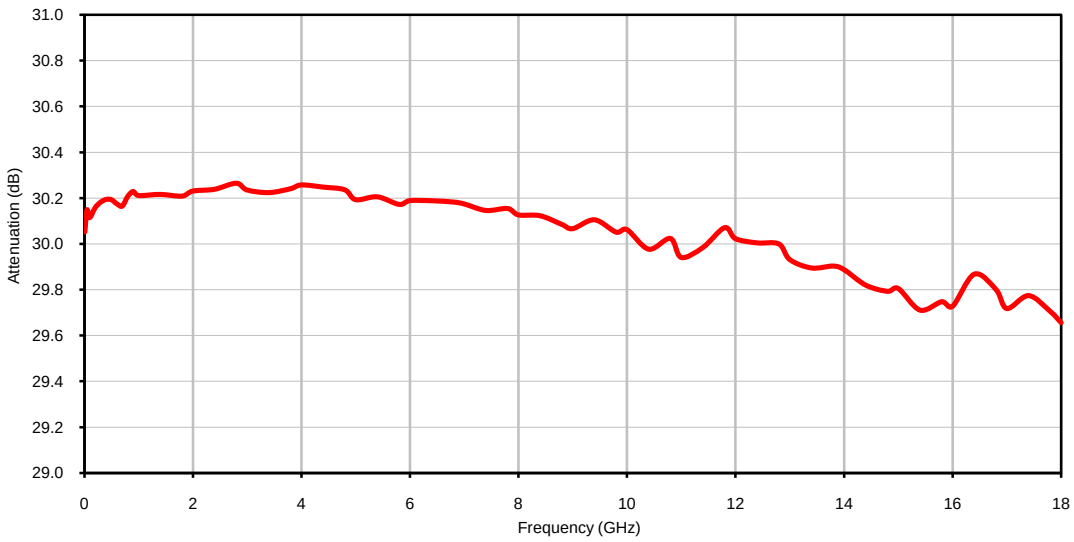
Typical Performance Data

FREQUENCY (GHz)	ATTENUATION (dB)	VSWR (:1)
0.01	30.05	1.01
0.05	30.15	1.01
0.1	30.11	1.01
0.2	30.16	1.01
0.3	30.18	1.01
0.4	30.19	1.01
0.5	30.19	1.01
0.6	30.17	1.01
0.7	30.16	1.01
0.8	30.21	1.01
0.9	30.23	1.01
1.0	30.21	1.02
1.4	30.22	1.03
1.8	30.21	1.04
2.0	30.23	1.05
2.4	30.24	1.06
2.8	30.26	1.08
3.0	30.24	1.09
3.4	30.22	1.10
3.8	30.24	1.10
4.0	30.26	1.10
4.4	30.25	1.10
4.8	30.24	1.09
5.0	30.19	1.07
5.4	30.21	1.06
5.8	30.17	1.04
6.0	30.19	1.04
6.4	30.19	1.04
6.8	30.18	1.06
7.0	30.17	1.08
7.4	30.15	1.09
7.8	30.15	1.11
8.0	30.13	1.11
8.4	30.12	1.11
8.8	30.09	1.13
9.0	30.07	1.11
9.4	30.11	1.09
9.8	30.05	1.10
10.0	30.06	1.08
10.4	29.98	1.07
10.8	30.02	1.08
11.0	29.94	1.05
11.4	29.98	1.08
11.8	30.07	1.11
12.0	30.02	1.07
12.4	30.00	1.11
12.8	30.00	1.13
13.0	29.93	1.11
13.4	29.90	1.13
13.8	29.90	1.11
14.0	29.89	1.11
14.4	29.82	1.12
14.8	29.79	1.10
15.0	29.81	1.13
15.4	29.71	1.11
15.8	29.75	1.12
16.0	29.73	1.15
16.4	29.87	1.12
16.8	29.80	1.15
17.0	29.72	1.13
17.4	29.77	1.18
17.8	29.71	1.18
18.0	29.66	1.19

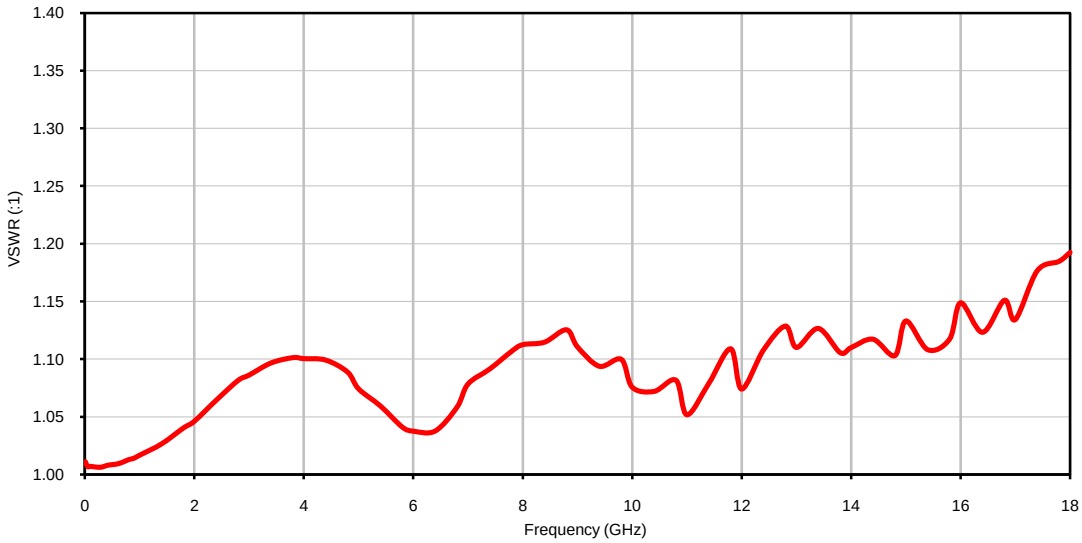
Fixed Attenuator BW-N30W20+

Typical Performance Curves

Attenuation



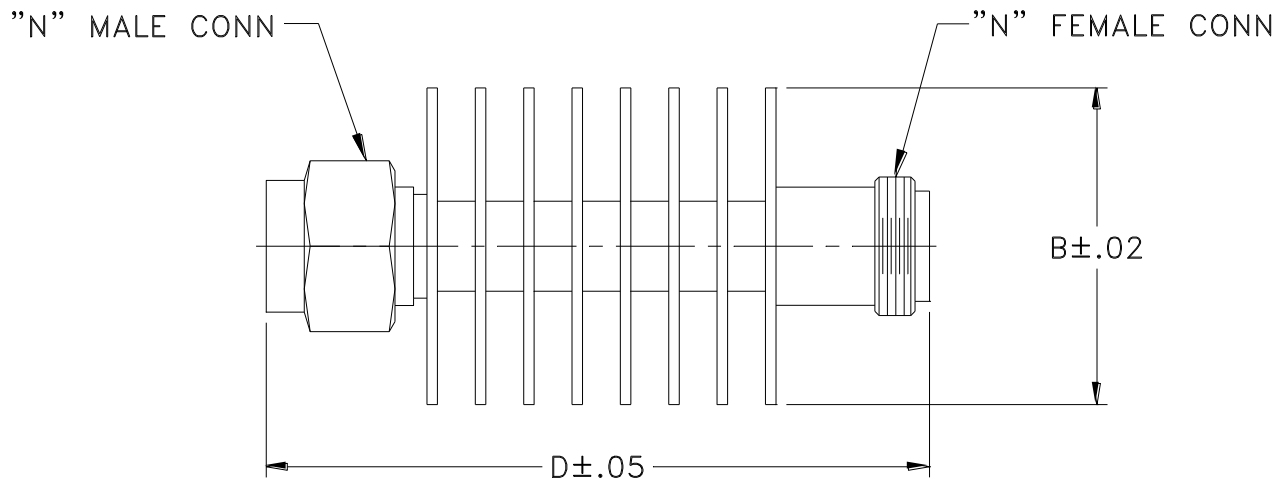
VSWR



Case Style DC

Outline Dimensions

DC1645



CASE#	A	B	C	D	E	WT. GRAMS
DC1645	--	1.50	--	3.04	--	86.00
	--	(38.10)	--	(77.20)	--	

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

Notes:

1. Case material: Aluminum alloy.
2. Case finish: Black anodize.

Mini-Circuits

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