Coaxial

N-Type Fixed Attenuator

UNAT-20+

50Ω 0.5W 20 dB DC to 6000 MHz

Generic photo used for illustration purposes only

CASE STYLE: FF779

Connectors	Model
N-Type	UNAT-20+

+RoHS Compliant

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

Maximum Ratings

Operating Temperature	-45°C to 100°C
Storage Temperature	-55°C to 100°C

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

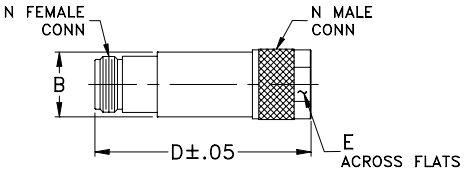
Features

- wideband coverage, DC to 6000 MHz
- rugged unibody construction
- off-the-shelf availability
- very low cost

Applications

- impedance matching
- signal level adjustment

Outline Drawing



Outline Dimensions (inch / mm)

B	D	E	wt
.68	2.11	.718	grams
17.27	53.59	18.24	72.5

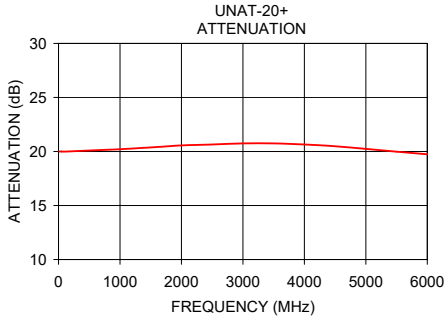
Electrical Specifications

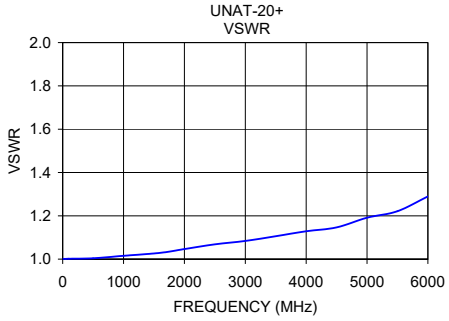
FREQ. RANGE (MHz)	ATTENUATION * (dB) Flatness **					VSWR (:1)					MAX. INPUT POWER (W)
		DC-3 GHz	3-4.5 GHz	4.5-6 GHz	DC-6 GHz	DC-3 GHz		3-4.5 GHz		4.5-6 GHz	
	Nom.	Typ.	Typ.	Typ.	Typ.	Typ.	Max.	Typ.	Max.	Typ.	
DC-6000	20±0.3	0.45	0.45	0.40	0.75	1.15	1.25	1.20	1.43	1.30	0.5

* Attenuation varies by 0.3 dB max. over temperature.
** Flatness= variation over band divided by 2.

Typical Performance Data

Frequency (MHz)	Attenuation (dB)	VSWR (:1)
10	20.00	1.00
50	20.00	1.00
100	19.99	1.00
500	20.09	1.00
1000	20.21	1.02
1600	20.41	1.03
2000	20.56	1.05
2500	20.65	1.07
3000	20.75	1.08
3500	20.75	1.11
4000	20.65	1.13
4500	20.48	1.15
5000	20.24	1.19
5500	19.98	1.22
6000	19.74	1.29





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 UNAT-20+

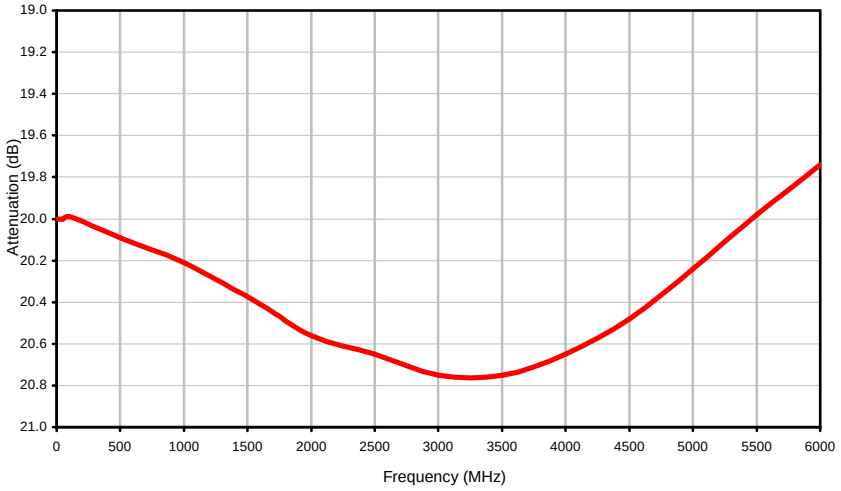
Typical Performance Data

FREQUENCY (MHz)	ATTENUATION (dB)	RETURN LOSS (dB)
10.00	20.00	65.19
50.00	20.00	66.51
100.00	19.99	60.37
500.00	20.09	53.83
1000.00	20.21	42.44
1600.00	20.41	36.91
2000.00	20.56	32.85
2500.00	20.65	29.64
3000.00	20.75	27.89
3500.00	20.75	25.99
4000.00	20.65	24.38
4500.00	20.48	23.31
5000.00	20.24	21.18
5500.00	19.98	20.03
6000.00	19.74	17.96

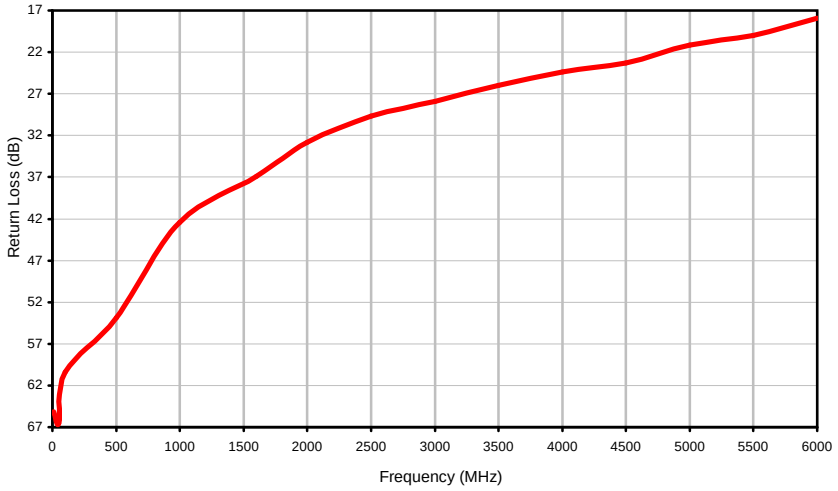
Mini-Circuits®
IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS9100 CERTIFIED RoHS compliant
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661
The Design Engineers Search Engine finds the model you need, Instantly • For detailed performance specs & shopping online see minicircuits.com

Typical Performance Curves

Attenuation



Return Loss

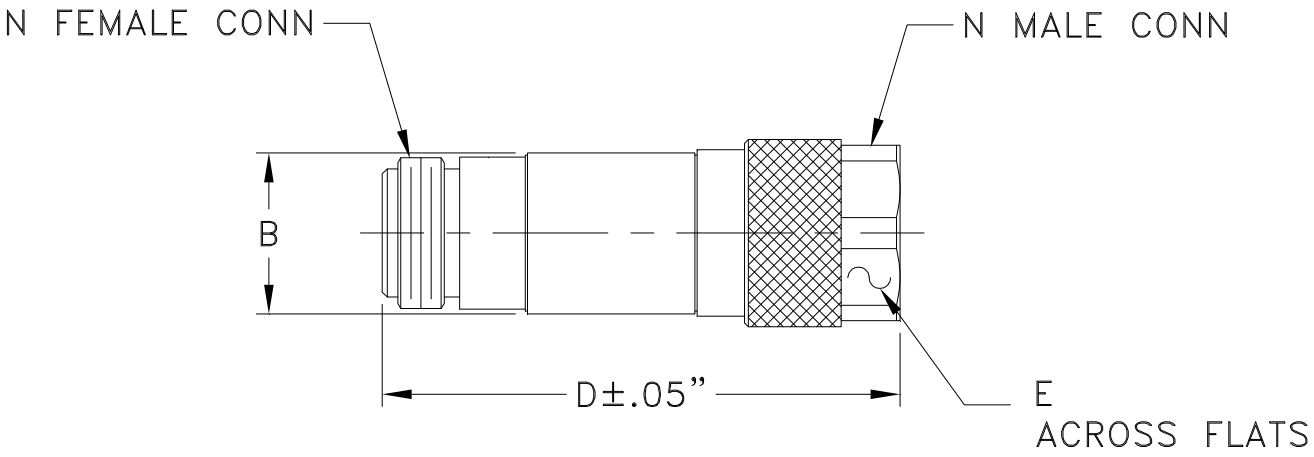


Mini-Circuits®
IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS9100 CERTIFIED RoHS compliant
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661
The Design Engineers Search Engine finds the model you need, Instantly • For detailed performance specs & shopping online see minicircuits.com

Case Style FF

FF779

Outline Dimensions



CASE #.	A	B	C	D	E	WT GRAMS
FF779	-- --	.71 (18.03)	-- --	2.11 (53.59)	.718 (18.24)	72.5

Dimensions are in inches (mm). Tolerances: 2Pl. +.05/-.04; 3Pl. ± .030

Notes:

1. Case material: Brass.
2. Case finish: Nickel plate.

This document and its contents are the property of Mini-Circuits.

Mini-Circuits

Environmental Specifications **ENV28T6**

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	-45° 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

This document and its contents are the property of Mini-Circuits.