

Coaxial

# SMA Fixed Attenuator

50Ω 1W 3dB DC to 6000 MHz

VAT-3+



## 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
- 1 watt rating
- rugged unibody construction
- off-the-shelf availability
- very low cost

## Applications

- impedance matching
- signal level adjustment

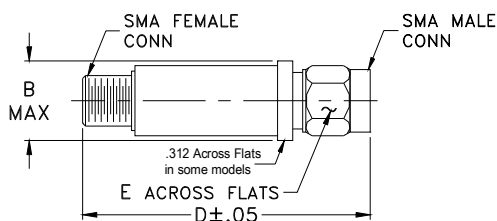
CASE STYLE: FF704

Connectors	Model	Price	Qty.
SMA	VAT-3+	\$13.95 ea.	(1-9)

**+RoHS Compliant**

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

## Outline Drawing



## Outline Dimensions (inch/mm)

B	D	E	wt
.410	1.43	.312	grams
10.41	36.32	7.92	10.0

## Electrical Specifications

FREQ. RANGE (MHz)	ATTENUATION * (dB)					VSWR (:1)					MAX. INPUT POWER (W)	
	Flatness **											
	DC-3 GHz	3-5 GHz	5-6 GHz	DC-6 GHz		DC-3 GHz	3-5 GHz	5-6 GHz				
$f_L-f_U$	Nom.	Typ.	Typ.	Typ.	Typ.	Typ.	Max.	Typ.	Max.	Typ.		
DC-6000	3±0.3	0.20	0.15	0.15	0.45	1.05	1.20	1.15	1.40	1.40		1.0

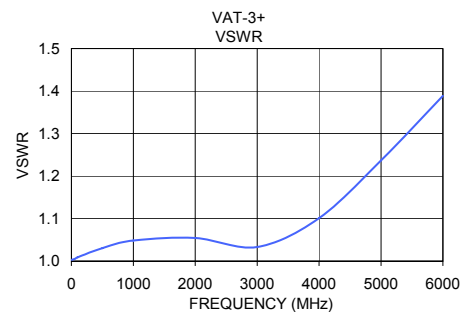
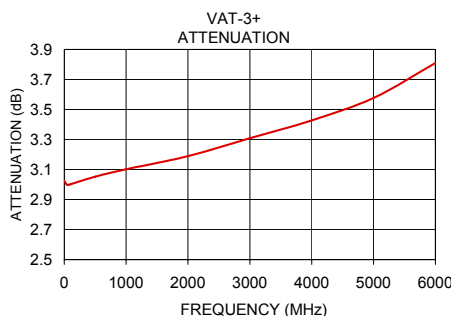
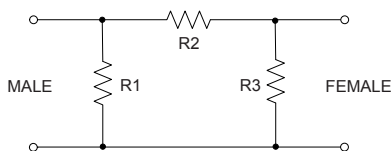
\* Attenuation varies by 0.3 dB max. over temperature.

\*\* Flatness= variation over band divided by 2.

## Typical Performance Data

Frequency (MHz)	Attenuation (dB)	VSWR (:1)
0.03	3.02	1.00
50.00	3.00	1.00
100.00	3.00	1.01
500.00	3.05	1.03
1000.00	3.10	1.05
2000.00	3.19	1.05
3000.00	3.31	1.03
4000.00	3.43	1.10
5000.00	3.58	1.24
6000.00	3.81	1.39

## Electrical Schematic



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P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

IF/RF MICROWAVE COMPONENTS

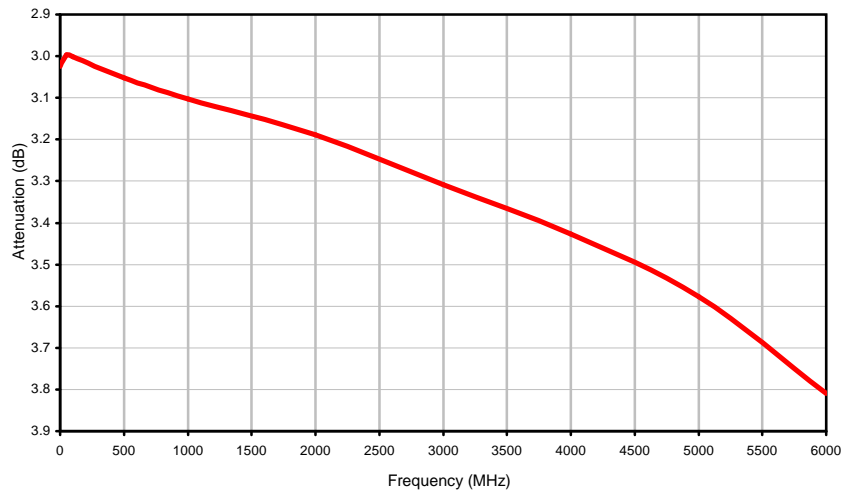
For detailed performance specs & shopping online see web site

**Notes:** 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet 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](http://www.minicircuits.com/MCLStore/terms.jsp).

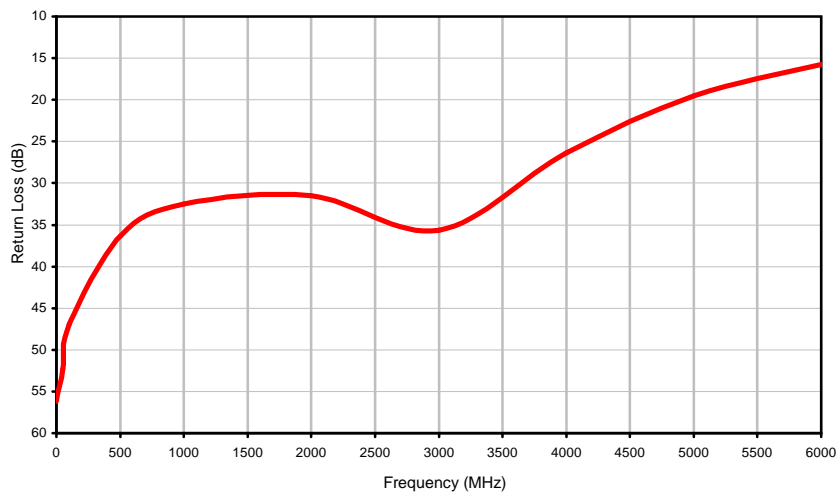
REV. G  
M129173  
VAT-3+  
LC/TD/CP/AM  
130228

## Typical Performance Curves

### Attenuation



### Return Loss



REV. X1  
VAT-3+  
061109

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## Typical Performance Data

FREQUENCY (MHz)	ATTENUATION (dB)	RETURN LOSS (dB)
0.03	3.02	56.17
50.00	3.00	52.32
100.00	3.00	46.96
500.00	3.05	36.37
1000.00	3.10	32.48
2000.00	3.19	31.52
3000.00	3.31	35.67
4000.00	3.43	26.35
5000.00	3.58	19.50
6000.00	3.81	15.77

REV. X1  
VAT-3+  
061109  
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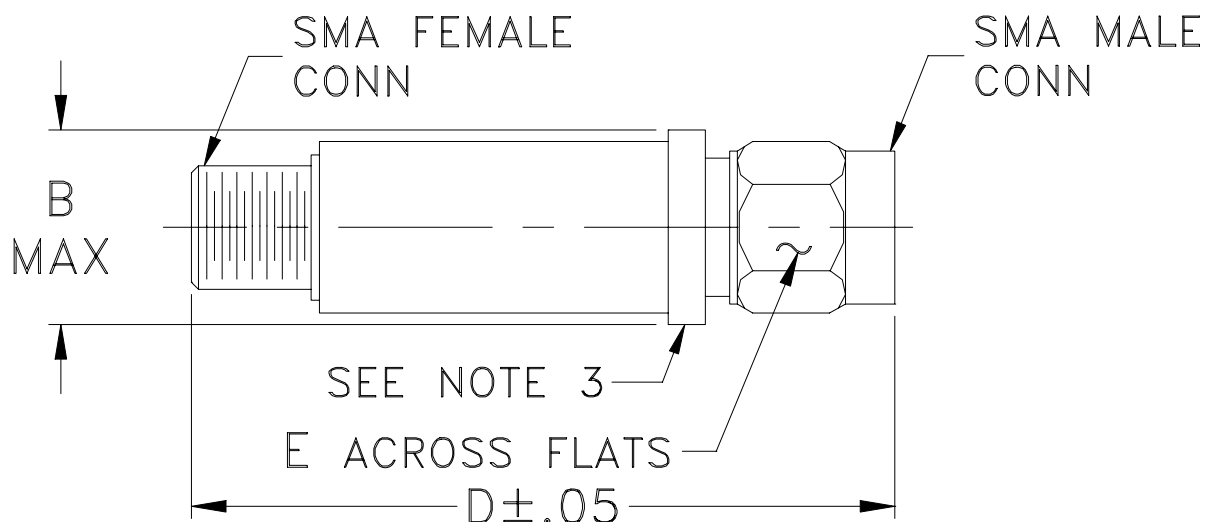


# Case Style

# FF

FF704  
FF886  
FF887  
FF888  
FF969  
FF1118  
FF1145

## Outline Dimensions



CASE #.	A	B	C	D	E	WT GRAMS
FF704		.410 (10.41)		1.43 (36.32)		10.0
FF886		.62 (15.75)		1.90 (48.26)		22.0
FF887		.62 (15.75)		2.24 (56.90)		26.0
FF888	-- --	.410 (10.41)	-- --	1.18 (29.97)	.312 (7.92)	7.0
FF969		.555 (14.10)		1.75 (44.45)		20.0
FF1118		.410 (10.41)		2.67 (67.82)		17.0
FF1145		.410 (10.41)		1.91 (48.51)		11.8

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

### Notes:

1. Case material: Stainless steel.
2. Case finish: Passivation for FF888, gold plate on all remaining case style.
3. Round Flange may have .312 Across Flats in some models.

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RF/IF MICROWAVE COMPONENTS



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 to 95% RH, 40°C, 96 hours; Units may require bake-out after humidity to restore full performance.	MIL-STD-202, Method 103, Condition B
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