COAXIAL

Fixed Attenuator

VAT-A-SERIES

50Ω Up to 1W DC to 6000 MHz

THE BIG DEAL

- Wideband coverage, DC to 6000 MHz
- Up to 1 watt rating
- Rugged unibody construction
- Excellent VSWR
- Excellent flatness

Generic photo used for illustration purposes only

Model No.	VAT-A-SERIES
Case Style	FF704
Connectors	SMA

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

APPLICATIONS

- Signal level adjustment
- Impedance matching

PRODUCT OVERVIEW

Mini-Circuits' VAT-A series are fixed attenuators from DC to 6000 MHz frequency range with excellent flatness in attenuation. VAT-A series is available with nominal attenuation of 1 to 30 dB. This attenuator series support testing and measurement application. Precise performance, excellent VSWR and rugged unibody construction makes the model ideal solution for systems requiring precise attenuation across very wide frequency range.

KEY FEATURES

Feature	Advantages
Rugged construction	Excellent durability for a long lifetime of use
Up to 1 Watt rating	Good power handling
Excellent VSWR	Well-matched for 50 Ω systems
Flat attenuation	Good performance over the band.

COAXIAL

Fixed Attenuator

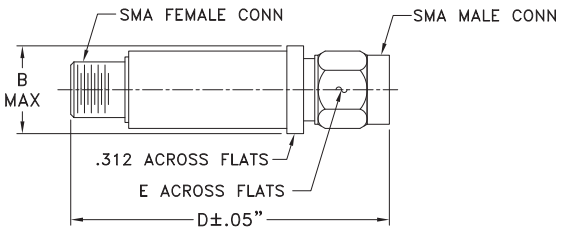
VAT-30A+

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.

OUTLINE DRAWING

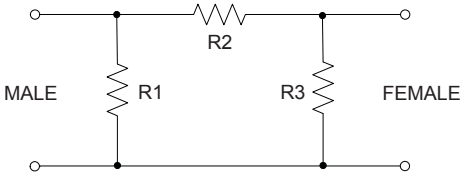


OUTLINE DIMENSIONS (Inch / mm)

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

Note: Please refer to case style drawing for details

ELECTRICAL SCHEMATIC



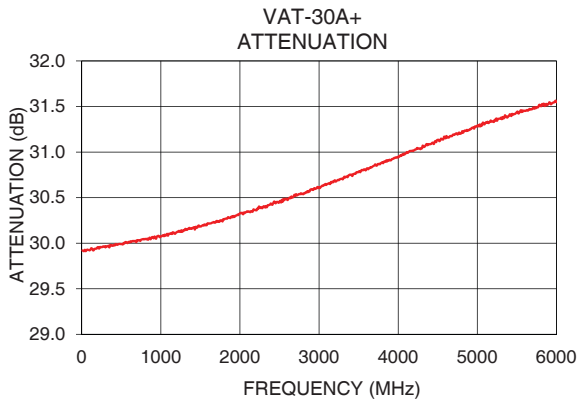
ELECTRICAL SPECIFICATIONS AT 25°C

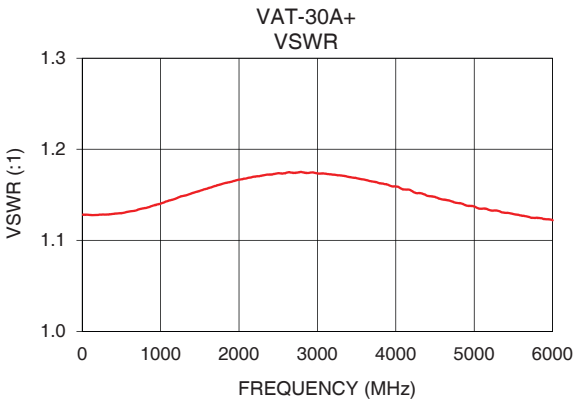
Parameter	Condition (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		DC	-	6000	MHz
Attenuation[1] nominal[3]	10	-	30 ± 0.3	-	dB
Attenuation Flatness[2]	DC-3000	-	0.7	-	dB
	3000-5000	-	0.7	-	
	5000-6000	-	0.3	-	
	DC-6000	-	1.3	-	
VSWR	DC-3000	-	1.2	1.6	:1
	3000-5000	-	1.2	1.6	
	5000-6000	-	1.3	-	
Input Power		-	-	0.4	W

1. Attenuation varies by 0.3 dB max. over temperature.
2. Flatness = variation over band divided by 2.
3. Nominal attenuation at 10 MHz

TYPICAL PERFORMANCE DATA

Frequency (MHz)	Attenuation (dB)	VSWR (:1)
10	29.92	1.13
100	29.92	1.13
500	29.99	1.13
900	30.07	1.14
1000	30.08	1.14
1400	30.17	1.15
1500	30.19	1.15
2000	30.33	1.17
2500	30.46	1.17
2800	30.54	1.17
3000	30.61	1.17
4000	30.94	1.16
4500	31.13	1.15
5000	31.29	1.14
6000	31.55	1.12





NOTES

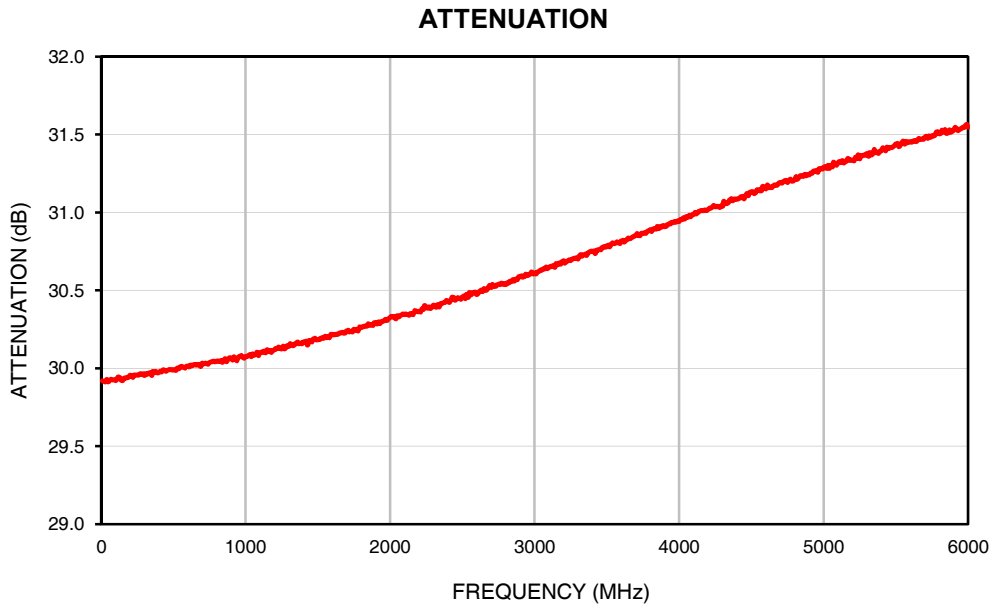
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's 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

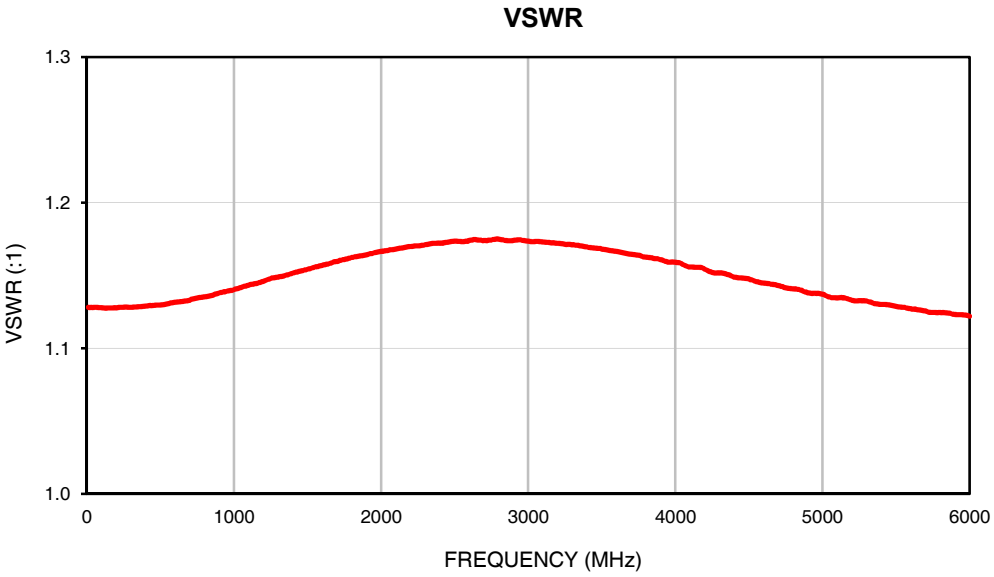
Coaxial Fixed Attenuator VAT-30A+

Typical Performance Data

FREQ. (MHz)	ATTENUATION (dB)	VSWR (:1)
10	29.92	1.13
20	29.92	1.13
50	29.91	1.13
100	29.92	1.13
200	29.96	1.13
300	29.95	1.13
400	29.97	1.13
500	29.99	1.13
600	30.02	1.13
700	30.03	1.13
800	30.05	1.14
900	30.07	1.14
1000	30.08	1.14
1100	30.10	1.14
1200	30.12	1.15
1300	30.14	1.15
1400	30.17	1.15
1500	30.19	1.15
1600	30.22	1.16
1700	30.24	1.16
1800	30.26	1.16
1900	30.29	1.16
2000	30.33	1.17
2100	30.34	1.17
2200	30.37	1.17
2300	30.40	1.17
2400	30.43	1.17
2500	30.46	1.17
2600	30.47	1.17
2700	30.52	1.17
2800	30.54	1.17
2900	30.59	1.17
3000	30.61	1.17
3100	30.65	1.17
3200	30.69	1.17
3300	30.70	1.17
3400	30.75	1.17
3500	30.79	1.17
3600	30.82	1.17
3700	30.85	1.16
3800	30.89	1.16
3900	30.91	1.16
4000	30.94	1.16
4100	30.99	1.16
4200	31.02	1.15
4300	31.04	1.15
4400	31.09	1.15
4500	31.13	1.15
4600	31.15	1.14
4700	31.19	1.14
4800	31.21	1.14
4900	31.24	1.14
5000	31.29	1.14
5100	31.32	1.13
5200	31.33	1.13
5300	31.38	1.13
5400	31.40	1.13
5500	31.44	1.13
5800	31.51	1.12
6000	31.55	1.12

Typical Performance Curves

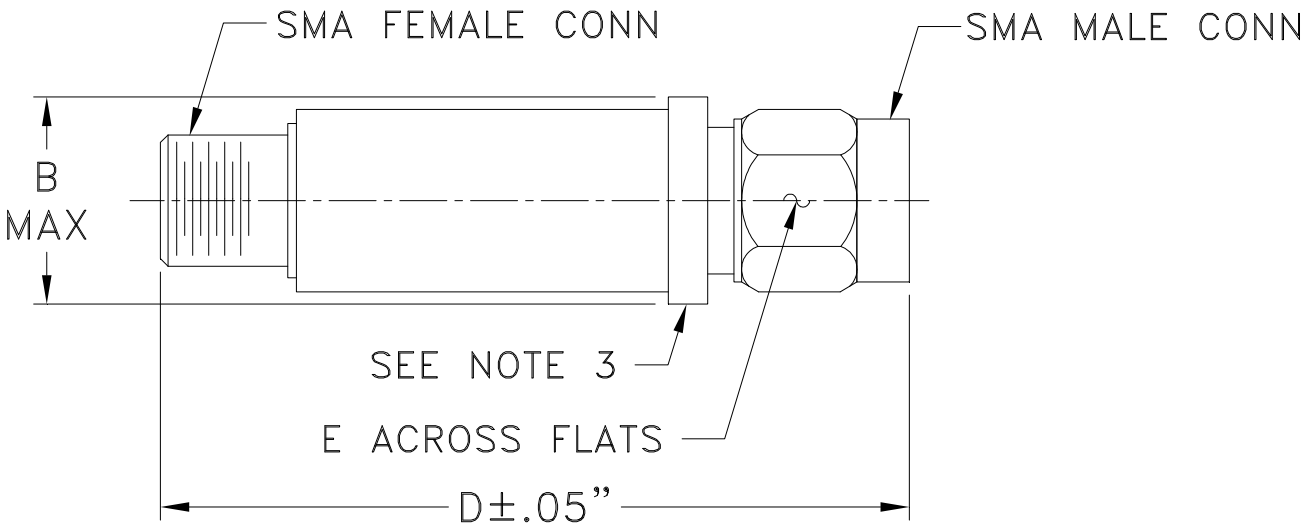




Case Style FF

FF704

Outline Dimensions



CASE #.	A	B	C	D	E	WT GRAMS
FF704	-- --	.410 (10.41)	-- --	1.43 (36.32)	.312 (7.92)	10.0

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

Notes:

1. Case material: Stainless steel.
2. Case finish: Gold plated.
3. Round Flange may have .312 Across Flats in some models.

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