

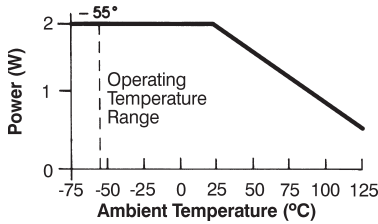
Coaxial Attenuators

SMA

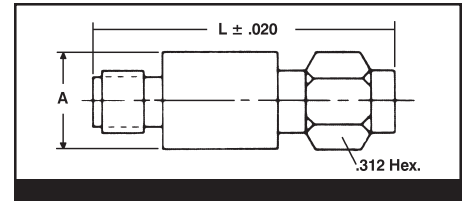
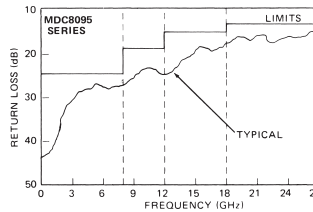
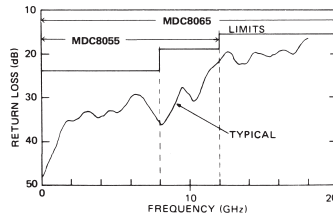
Features

- Meets or exceeds all applicable MIL Specs
- 50 Ohms impedance
- Rugged -55° to +125° operating temperature
- All attenuation values available
- Calibration chart at nominal cost
- Phase track ±5° typical between units
- Smallest models made
- Low VSWR
- Extremely flat over frequency
- Delivery from stock

Typical Temperature vs. Power Derating Chart



SMA attenuators are ruggedly constructed to all military specifications where applicable; including MIL-A-3933 and MIL-C-39012. A sufficient selection is included here for various frequency applications. Each performs well within the specified limit from -65°C to +125°C. The MDC7065 series will handle higher input power for some attenuation values. All models will handle 2 watts at +25°C derated to 0.5 watts at +125°C. Higher power models and other attenuation values are available. Upper frequency models use a thin-film laser trimmed attenuation element on a ceramic substrate. MDC1012, 1055 and 1065 have square bodies that technicians desire for the laboratory; all others are round. Calibration data is available at extra cost. Double male or female specified by the suffix "M" or "F". All models shown below are in stock. Additional frequency ranges are available. Type F attenuators available as model number MDC8011-(dB).



Freq Range (GHz)	DC-2.5	DC-4.0	DC-8.0	DC-12.4		DC-18.0	DC-23		
Model	*MDC1012-dB	MDC8040-dB	MDC8030-dB	*MDC1055-dB	MDC8055-dB	*MDC1065-dB	MDC8065-dB	MDC7065-dB	MDC7065X-dB**
ATTENUATION AND MAXIMUM DEVIATION OVER THE ENTIRE FREQUENCY RANGE IN dB (Deviation is much tighter over narrower frequency segments - contact MIDISCO for data)	0-0.30	0-0.30	0-0.30	0-0.30	0-0.30	0-0.40	0-0.30	0-0.40	0-0.30
	1±0.30	1±0.30	1±0.30	1±0.30	1±0.30	1±0.30	1±0.30	1±0.65	1±0.30
	2±0.30	2±0.30	2±0.30	2±0.30	2±0.30	2±0.30	2±0.30	2±0.65	2±0.30
	3±0.30	3±0.30	3±0.30	3±0.30	3±0.30	3±0.30	3±0.30	3±0.70	3±0.30
	4±0.30	4±0.30	4±0.30	4±0.30	4±0.30	4±0.30	4±0.30	4±0.70	4±0.30
	5±0.30	5±0.30	5±0.30	5±0.30	5±0.30	5±0.30	5±0.30	5±0.80	5±0.30
	6±0.35	6±0.30	6±0.30	6±0.30	6±0.30	6±0.30	6±0.35	6±0.80	6±0.30
	7±0.35	7±0.30	7±0.30	7±0.30	7±0.35	7±0.30	7±0.35	7±0.80	7±0.50
	8±0.40	8±0.30	8±0.30	8±0.30	8±0.40	8±0.30	8±0.40	8±0.80	8±0.50
	9±0.45	9±0.30	9±0.30	9±0.30	9±0.45	9±0.30	9±0.45	9±0.40	9±0.50
	10±0.50	10±0.40	10±0.40	10±0.40	10±0.50	10±0.40	10±0.50	10±0.40	10±0.50
	11±0.50	11±0.50	11±0.50	11±0.50	11±0.50	11±0.50	11±0.50	11±0.50	11±0.50
	12±0.60	12±0.50	12±0.50	12±0.50	12±0.50	12±0.50	12±0.60	12±0.50	12±0.50
	13±0.60	13±0.50	13±0.50	13±0.50	13±0.50	13±0.50	13±0.60	13±0.50	13±0.50
	14±0.70	14±0.50	14±0.50	14±0.50	14±0.50	14±0.50	14±0.70	14±0.50	14±0.50
	15±0.70	15±0.50	15±0.50	15±0.50	15±0.50	15±0.50	15±0.70	15±0.50	15±0.50
	16±0.80	16±0.50	16±0.50	16±0.50	16±0.75	16±0.50	16±0.80	16±0.50	16±0.50
	17±0.80	17±0.50	17±0.50	17±0.50	17±0.75	17±0.50	17±0.80	17±0.50	17±0.50
	18±0.90	18±0.50	18±0.50	18±0.50	18±0.75	18±0.50	18±0.90	18±0.50	18±0.50
	19±0.90	19±0.50	19±0.50	19±0.50	19±0.75	19±0.50	19±0.90	19±0.50	19±0.50
20±1.00	20±0.50	20±0.50	20±0.50	20±0.75	20±0.50	20±1.00	20±0.50	20±0.50	
30±1.50	30±0.60	30±0.60	30±0.60	30±1.25	30±0.60	30±1.25	30±0.60	30±1.20	30±1.00
40±1.75	40±0.75	40±0.75	40±0.75	40±1.50	40±1.00	40±1.50	40±1.00	40±1.75	40±1.50
Length "L" (in.)	1.45 max (0-20dB) 2.15 max (30-40dB)	(0-12dB) 0.86 (13-40dB) 1.02	(0-12dB) 0.86 (13-40dB) 1.02	1.25 max all models	(0-12dB) 0.86 (13-40dB) 1.02	1.25 max all models	(0-12dB) 0.86 (13-40dB) 1.02	(10-12dB) 0.755 (13-30dB) 0.885 (31-40dB) 1.02	(0-20dB) 0.700 (21-40dB) 0.830
"A"(nom.)	*0.375 sq.	0.30 dia.	0.30 dia.	*0.375 sq.	0.30 dia.	*0.375 sq.	0.30 dia.	0.35 dia. max	0.312 hex
Weight (oz.)	0.25	0.15	0.15	0.25	0.15	0.25	0.15	0.18	0.15
VSWR (max.) @f (GHz)	DC-1.0 (1.20) 1.0-2.5 (1.30)	DC-4.0 (1.15)	DC-4.0 (1.15) 4.0-8.0 (1.25)	DC-4.0 (1.15) 4.0-10.0 (1.30) 10.0-12.4 (1.35)	DC-8.0 (1.15) 8.0-12.4 (1.25)	DC-4.0 (1.15) 4.0-8.0 (1.30) 8.0-12.4 (1.35) 12.4-18.0 (1.40)	DC-8.0 (1.20) 8.0-12.4 (1.25) 12.4-18.0 (1.35)	DC-8.0 (1.20) 8.0-12.4 (1.25) 12.4-18.0 (1.35)	DC-4.0 (1.10) 4.0-8.0 (1.15) 8.0-12.4 (1.20) 12.4-23 (1.25)
Power	2 Watts average and 500 watts peak - maximum rated average power at 25°C ambient temperature that derates linearly to 1.25 watts at +75 and 0.5 watt at +125°.							2w Avg.(min) 200w peak	2w Avg.(min) 250w peak

* MDC1012R, MDC1055R and MDC1065R are available with 0.36 diameter round body indicated by suffix "R".

** MDC7065X-dB has 5/16 hex on body for torquing in tight spaces.

NOTE: All SMA attenuators are Stainless Steel.

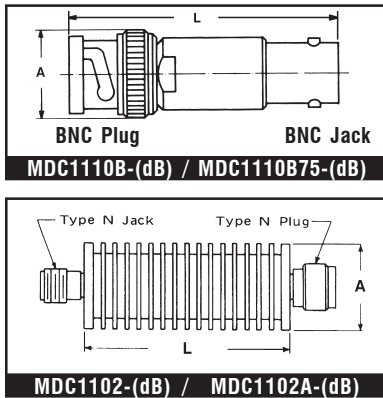
Coaxial Attenuators

Type BNC, N, TNC, 7 mm

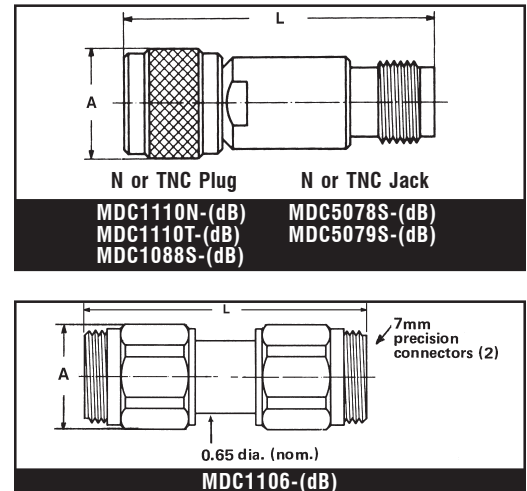
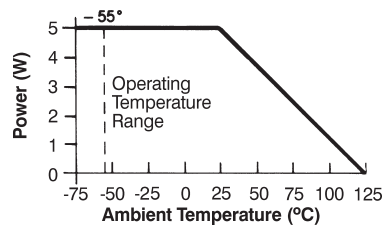
Features

- 50 or 75 Ohm Impedance
- Up to 20W average power (higher available)
- Rugged brass or stainless construction
- All attenuation values available
- Calibration chart at nominal cost
- Low VSWR and attenuation variation
- Good phase tracking
- Meets or exceeds all applicable MIL Specs
- Delivery from stock

attenuators are designed to exceed MIL-A-3933 and MIL-C-39012 where applicable. The high quality models shown here provide the user with a sufficient selection of attenuation values and frequency coverage to properly select for the application. Other attenuation values, different connector types such as SMS, SMC, SSMA and higher power models are available. Calibration charts may be purchased at nominal cost. Double male or female connector combinations are specified by the suffix "M" or "F". All models shown below are in stock. Additional frequency ranges are available.



Typical Temperature vs. Power Derating Chart for MDC5078S and MDC5079S Series



Freq Range (GHz)	DC-500 MHz		DC-2.0		DC-4.0		DC-12.4		DC-18.0	
	BNC	BNC	N	TNC	N	¹ TNC***	N	N	N	7 mm**
Connector Type	BNC	BNC	N	TNC	N	¹ TNC***	N	N	N	7 mm**
Model	MDC1110B75-(dB)	MDC1110B-(dB)	MDC1110N-(dB)	MDC1110T-(dB)	MDC1102A-(dB)	MDC1088S-(dB)	MDC5079S-(dB)	MDC1102-(dB)	MDC5078S-(dB)	MDC1106-(dB)
ATTENUATION AND MAXIMUM DEVIATION OVER THE ENTIRE FREQUENCY RANGE IN dB (Deviation is much tighter over narrower frequency segments - contact MIDISCO for data)	1±0.4	1±0.5	1±0.3	1±0.3		1±0.3	1±0.3		1±0.4	1±0.3
	2±0.4	2±0.5	2±0.3	2±0.3		2±0.3	2±0.3		2±0.4	2±0.3
	3±0.4	3±0.5	3±0.3	3±0.3	3±0.75	3±0.3	3±70.3	3±0.75	3±0.3	3±0.3
	4±0.4	4±0.5	4±0.4	4±0.4		4±0.3	4±0.3		4±0.3	4±0.3
	5±0.4	5±0.5	5±0.4	5±0.4		5±0.3	5±0.3		5±0.3	5±0.3
	6±0.4	6±0.5	6±0.4	6±0.4	6±0.75	6±0.3	6±0.3	6±0.75	6±0.3	6±0.3
	7±0.4	7±0.5	7±0.4	7±0.4		7±0.3	7±0.3		7±0.3	7±0.5
	8±0.4	8±0.5	8±0.4	8±0.4		8±0.4	8±0.3		8±0.3	8±0.5
	9±0.4	9±0.5	9±0.4	9±0.4		9±0.4	9±0.3		9±0.3	9±0.5
	10±0.4	10±0.5	10±0.4	10±0.4	10±0.75	10±0.5	10±0.5	10±0.75	10±0.5	10±0.5
	11±0.4	11±0.5	11±0.5	11±0.5		11±0.5	11±0.5		11±0.5	11±0.5
	12±0.4	12±0.5	12±0.5	12±0.5		12±0.6	12±0.5		12±0.5	12±0.5
	13±0.4	13±0.5	13±0.5	13±0.5		13±0.6	13±0.5		13±0.5	13±0.5
	14±0.4	14±0.5	14±0.5	14±0.5		14±0.6	14±0.5		14±0.5	14±0.5
	15±0.4	15±0.5	15±1.0	15±1.0		15±0.6	15±0.75		15±0.5	15±0.5
	16±0.4	16±0.5	16±1.0	16±1.0		16±0.7	16±0.75		16±0.5	16±0.5
17±0.4	17±0.5	17±1.0	17±1.0		17±0.7	17±0.75		17±0.5	17±0.5	
18±0.4	18±0.5	18±1.0	18±1.0		18±0.8	18±0.75		18±0.5	18±0.5	
19±0.4	19±0.5	19±1.0	19±1.0		19±0.9	19±0.75		19±0.5	19±0.5	
20±0.4	20±0.5	20±1.0	20±1.0	20±0.75	20±1.0	20±0.75	20±0.75	20±0.5	20±0.5	
30±0.4	30±0.75	30±1.5	30±1.5	30±1.00	30±1.5	30±0.75	30±1.00	30±1.00	30±0.75	
40±0.4	40±0.75	40±1.5	40±1.5		40±2.0	40±0.75		40±1.00	40±1.5	
		50±2.0	50±2.0	50±2.0		50±0.75		50±1.25	50±1.5	
		60±2.5	60±2.5	60±2.5		60±1.20		60±1.50	60±1.5	
Length "L" (in.)*	1.43	1.90	2.50	2.30	2.75	1.80	2.04	3.20	2.04	2.12 (thru 30 dB)
"A"(nom.)	0.58 dia.	0.58 dia.	0.82 dia.	0.63 dia.	1.50 dia.	0.63 dia.	0.83 dia.	1.50 dia.	0.83 dia.	0.87 dia.
Material & Finish	Brass - Nickel or Silver plated				Stainless Steel & Black Anodize	Brass - Nickel plated	Stainless Steel	Stainless Steel & Black Anodize	Stainless Steel	
Weight (oz.)	1.40	1.40	2.8	1.40	6.0	1.8	2.6	6.0	2.6	5.0
Impedance (ohms)	75	50	50	50	50	50	50	50	50	50
VSWR (max.) @f (GHz)	DC-0.5 (1.30)		DC-2.0 (1.25)		DC-4.0 (1.20)	DC-4.0 (1.15) 4.0-8.0 (1.25) 8.0-12.4 (1.28)	DC-4.0 (1.15) 4.0-8.0 (1.20) 8.0-12.4 (1.25)	DC-4.0 (1.20) 4.0-8.0 (1.25) 8.0-12.4 (1.35)	DC-4.0 (1.15) 4.0-8.0 (1.20) 8.0-12.4 (1.25) 12.4-18.0 (1.40)	DC-4.0 (1.10) 4.0-12.4 (1.15) 12.4-18 (1.20)
Power	1 Watt Average 1 kW Peak	1 Watt Average 500 W Peak	2 Watts Average; 200 W Peak		20 watts Avg. 1 kW peak @ +25°C	2 watts Avg. 500 W peak @ +25°C	5 watts Avg. 500 W peak @ +25°C	20 watts Avg. 1 kW peak @ +25°C	5 watts Avg. 500 W peak @ +25°C	2 watts Avg. 250 W peak @ +25°C
Oper. Temp. Range	-55° to +125°C		-55° to +100°C		-55° to +125°C					

* Higher values may be slightly longer.

Note: BNC attenuators - DC-4.0 GHz also available; Model MDC1051-(dB)

** 7 mm attenuators are also available in 1 dB increments from 21 to 29 dB with a +/-0.75 dB accuracy, and from 31-60 dB with a +/-1.5 dB accuracy.

*** Available in Stainless Steel version up to 18 GHz (MDC1088SX, etc.) consult MIDISCO.