

Fixed Attenuators





Attenuators are used in a wide variety of applications and can satisfy almost any requirement where a reduction in power is needed. Attenuators are used to extend the dynamic range of devices such as power meters and amplifiers, reduce signal levels to detectors, match circuits and are used daily in lab applications to aid in product design. Attenuators are also used to balance out transmission lines that otherwise would have unequal signal levels.

DrawCom offers a wide selection of attenuators designed to exceed commercial specifications. Standard attenuation values of 3, 6, 10, 20 and 30 dB are available from STOCK! Need a special value? Many of our attenuators are available in all values from 0 - 40 dB in 1 dB increments. Custom models with different attenuation values, power ratings, frequency ranges, connector styles and configurations or plating are also readily available in quantity.

Input Power Attenuated													
dB	1	2	3	4	5	6	7	8	9	10	20	30	40
%	20.57	36.90	49.88	60.19	68.38	74.88	80.05	84.15	87.41	90.00	99.00	99.90	99.99

Convenient Electrical Conversions										
VSWR	1.05:1	1.10:1	1.15:1	1.20:1	1.25:1	1.30:1	1.35:1	1.40:1	1.50:1	2.00:1
Return Loss (-dB)	32.256	26.444	23.127	20.828	19.085	17.692	16.540	15.563	13.979	9.542
Voltage Reflection Coeff.	0.024	0.048	0.070	0.091	0.111	0.130	0.149	0.167	0.200	0.333
Match Efficiency (%)	99.94	99.97	99.51	99.17	98.77	98.30	97.78	97.22	96.00	88.89
Mismatch Loss (-dB)	0.003	0.010	0.021	0.036	0.054	0.075	0.097	0.122	0.177	0.512

For best results when selecting an RF attenuator for a given connector style, make sure to consider the amount of power being absorbed and the acceptable level of reflection (VSWR) that can be tolerated over the operating frequency range.

7-16 DIN Attenuators								
Part No.	Model	Average Power (Watts)	Peak Power (Watts)	Attenuation Value (dB)	Freq. (GHz)	VSWR (Max)	Attenuation Tolerance	Length (in) Diameter (in) Weight (g)
603-dB-11		5	250	3, 6 dB 10, 20 dB 30 dB	DC-2.5	1.20:1	± 0.30 dB ± 0.50 dB ± 0.75 dB	L=2.98 D=7/16 DIN W=220
606-dB-11		10	2000	3, 6 dB 10, 20 dB 30 dB	DC-2.5	1.20:1	± 0.30 dB ± 0.50 dB ± 0.75 dB	L=3.48 D=7/16 DIN W=213

Fixed Attenuators (cont.)






Type-N Attenuators								
Part No.	Model	Average Power (W)	Peak Power (W)	Attenuation Value (dB)	Freq. (GHz)	VSWR (Max)	Attenuation Tolerance	Length (in) Diameter (in) Weight (g)
612-dB-1		2	1000	3, 6, 10, 20 dB	DC-2.0 2.0-4.0	1.15:1 1.25:1	± 0.6 dB ± 0.8 dB	L=2.20 D=0.82 W=80
				30 dB**	DC-2.0 2.0-4.0	1.25:1 1.35:1	± 1.0 dB ± 1.5 dB	
605-dB-1		2	250	1, 6 dB 10, 20 dB 30 dB	DC-4.0 4.0-6.0	1.15:1 1.20:1	± 0.30 dB ± 0.50 dB ± 0.80 dB	L=1.76 D=0.62 W=48
605-dB-1F18		2	250	3, 6 dB 10, 20 dB 30, 40 dB	DC-4.0 4.0-8.0 8.0-12.4 12.4-18.0	1.15:1 1.20:1 1.25:1 1.30:1 1.40:1	Hz-6.0 GHz; ± 0.30 dB ± 0.50 dB ± 0.80 dB 6.0-18.0 GHz; ± 0.50 dB ± 0.75 dB ± 1.00 dB	L=1.76 D=0.62 W=2.08
615-dB-1		2	1000	40-60 dB 70-90 dB	DC-2.0	1.25:1	± 1.50 dB ± 2.00 dB	L=3.2 D=0.88 W=4.10
603-dB-1		5	125	1, 6 dB 10, 20 dB 30 dB	DC-4.0 4.0-6.0	1.15:1 1.20:1	± 0.30 dB ± 0.50 dB ± 0.75 dB	L=1.90 D=0.62 W=48
606-dB-1F4		10	1000	3, 6, 10 & 20 dB 30 dB	DC-1.0	1.15:1	± 0.25 dB ± 0.50 dB	L=3.15 D=1.25 W=109
				3, 6, 10 & 20 dB 30 dB	1.0-4.0	1.35:1	± 0.50 dB ± 0.75 dB	
630-dB-1F4		20	1000	3, 6, 10 & 20 dB 30 dB	DC-1.0	1.15:1	± 0.25 dB ± 0.50 dB	L=3.71 D=1.75 W=140
				3, 6, 10 & 20 dB 30 dB	1.0-4.0	1.35:1	± 0.50 dB ± 0.75 dB	
650-dB-1F4		50	1000	3, 6, 10 & 20 dB 30 dB	DC-1.0	1.15:1	± 0.25 dB ± 0.50 dB	L=3.71 D=2.25 W=180
				3, 6, 10 & 20 dB 30 dB	1.0-4.0	1.35:1	± 0.50 dB ± 0.75 dB	
690-dB-1		100	1000	3, 6, & 10 dB 20, 30 dB	DC-2.0 2.0-3.0	1.20:1 1.30:1	± 0.30 dB ± 0.50 dB	L=8.00 D=3.50 W=3.5 lbs
697-dB-1		150	1000	3, 6, & 10 dB 20, 30 dB	DC-2.0 2.0-3.0	1.30:1 1.40:1	± 0.30 dB ± 0.50 dB	L=7.97 D=5.00 W=5.1 lbs
TNC Attenuators								
Part No.	Model	Average Power (W)	Peak Power (W)	Attenuation Value (dB)	Freq. (GHz)	VSWR (Max)	Attenuation Tolerance	Length (in) Diameter (in) Weight (g)
612-dB-3		2	2000	3, 6, 10, 20 dB	DC-2.2 2.0-4.0	1.25:1 1.45:1	± 0.75 dB ± 1.25 dB	L=1.93 D=0.63
				30 dB**	DC-2.2 2.0-4.0	1.25:1 1.45:1	± 1.25 dB ± 1.50 dB	


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All information contained in the present data sheet is subject to confirmation at time of ordering.

Coax Components

Fixed Attenuators (cont.)

SMA Attenuators								
Part No.	Model	Average Power (W)	Peak Power (W)	Attenuation Value (dB)	Freq. (GHz)	VSWR (Max)	Attenuation Tolerance	Length (in) Diameter (in) Weight (g)
662-dB-1		2	2000	3, 6, 10, 20 dB	DC-2.0 2.0-4.0	1.15:1 1.25:1	± 0.6 dB ± 0.8 dB	L=1.31 D=11/35 Hex W=62
				30 dB**	DC-2.0 2.0-4.0	1.25:1 1.35:1	± 1.0 dB ± 1.5 dB	
665-dB-1		2	250	0-6 dB	DC-4.0	1.15:1	± 0.30 dB	L=0.87 D=0.28 W=4.5 (1-20 dB) 5.0 (30 dB)
				7-20 dB	4.0-8.0	1.20:1	± 0.50 dB	
				21-30 dB	8.0-12.4 12.4-18.0	1.25:1 1.35:1	± 0.75 dB	
665-dB-1H		2	250	0-6 dB	DC-4.0	1.15:1	± 0.30 dB	L=0.86 D=.312 Hex W=4.6
				7-20 dB	4.0-8.0	1.20:1	± 0.50 dB	
				21-30 dB	8.0-12.4 12.4-18.0	1.25:1 1.35:1	± 0.75 dB	
602-dB-1		5	125	3, 6 dB	DC-4.0	1.15:1	± 0.30 dB	L=1.20 D=0.61 W=8.3
				10, 20 dB	4.0-6.0	1.20:1	± 0.50 dB	
				30 dB			± 0.75 dB	
604-dB-1		10	500	3, 6 dB	DC-6.0	1.20:1	± 0.30 dB	L=1.70 D=1.00 W=26
				10, 20 dB			± 0.50 dB	
				30 dB			± 0.70 dB	
631-dB-1		20	500	3, 6 dB	DC-6.0	1.20:1	± 0.30 dB	L=2.33 D=1.49 W=74
				10, 20 dB			± 0.50 dB	
				30 dB			± 0.75 dB	

BNC Attenuators								
Part No.	Model	Average Power (W)	Peak Power (W)	Attenuation Value (dB)	Freq. (GHz)	VSWR (Max)	Attenuation Tolerance	Length (in) Diameter (in) Weight (g)
612-dB-2		2	2000	3, 6, 10, 20 dB	DC-2.2 2.0-4.0	1.25:1 1.45:1	± 0.75 dB ± 1.25 dB	L=1.82 D=0.57 W=5.0
				30 dB**	DC-2.2 2.0-4.0	1.25:1 1.45:1	± 1.25 dB ± 1.50 dB	

QMA Attenuators								
Part No.	Model	Average Power (W)	Peak Power (W)	Attenuation Value (dB)	Freq. (GHz)	VSWR (Max)	Attenuation Tolerance	Length (in) Diameter (in) Weight (g)
663-dB-1		2	500	3, 6, 10, 20 dB	DC-2.0 2.0-4.0	1.15:1 1.25:1	± 0.60 dB ± 0.80 dB	L=1.63 D=0.41 11/32 HEX W=4.6
				30 dB**	DC-2.0 2.0-4.0	1.25:1 1.35:1	± 1.00 dB ± 1.50 dB	

NOTE:

** All other Values from 1-32 dB follow 30dB specs