

Attenuators

Fixed

HP 8490D



HP 8491A



HP 8492A



HP 8493A



HP 8498A



HP 8491A,B,C, 8492A, 8493A,B,C

Hewlett-Packard coaxial fixed attenuators provide precise attenuation, flat frequency response, and low SWR over broad frequency ranges. Attenuators are available in nominal attenuations of 3 dB and 6 dB, as well as 10 dB increments from 10 dB to 60 dB. These attenuators are swept-frequency tested to ensure specification compliance at all frequencies. Calibration points are provided on a nameplate chart attached to each unit (except for the HP 8491C).

HP 8498A High Power Attenuator

The HP 8498A Option 030 is designed to meet the needs of high power attenuation applications in the RF and microwave frequency range. It is a 25 watt average, 30 dB fixed attenuator with a frequency range of dc to 18 GHz. The maximum peak power specification is 500 watts (dc to 5.8 GHz) and 125 watts (5.8 to 18 GHz). Available only in a 30 dB version, the unit offers a 1.3 SWR and ± 1 dB accuracy at 18 GHz. Large heat-dissipating fins keep the unit cool even under continuous maximum input power conditions.

HP 8490D 50-GHz Fixed Attenuator

Hewlett-Packard coaxial fixed attenuators have been the standard for accurate flat response and low SWR. The HP 8490D offers exceptional performance to 50 GHz using the 2.4-mm connector. Attenuation values available are 3, 6, 10, 20, 30, and 40 dB. Ideally suited for extending the range of sensitive power meters, or for use as calibration standards, these broadband attenuators are manufactured with the same meticulous care as their lower frequency counterparts.

HP 11581A, 11582A, 11583A,C Attenuator Sets

A set of four attenuators (3, 6, 10 and 20 dB) is furnished in a walnut accessory case. The HP 11581A set consists of HP 8491A attenuators; the HP 11582A set, HP 8491B attenuators; the HP 11583A set, HP 8492A attenuators; and the HP 11583C set, HP 8493C attenuators. These sets are ideal for calibration labs or where precise knowledge of attenuation and SWR is desired.


HP 86213A Attenuator Set

Provides a set of four, 3, 6, 10 and 20 dB, 75 ohm type-N attenuators in a walnut accessory case (HP 0955-0765, 0955-0766, 0955-0767, and 0955-0768), respectively. Used for reducing power and improving match. SWR is 1.12 to 1.3 GHz and 1.3 to 3 GHz. Attenuation accuracy is ± 0.5 dB.









Attenuators

Fixed

Specifications

HP Model	Frequency Range (GHz)	Maximum Input Power		Option: 003 006 010 020 030 040						Connectors
				Atten.	3 dB	6 dB	10 dB	20 dB	30 dB	
 8490D	dc to 50	1 W avg.	Attenuation: Min: 0 to 50 GHz	2.5	5.4	9.4	19.2	29.2	38.2	2.4 mm (m, f)
			Max: 0 to 26.5 GHz	3.9	6.9	10.9	21.3	31.3	42.5	
			Max: 26.5 to 50 GHz	4.8	7.8	11.3	21.7	31.7	42.5	
			SWR: Max: 0 to 26.5 GHz	1.15	1.15	1.15	1.15	1.15	1.08	
			Max: 26.5 to 40 GHz	1.25	1.25	1.25	1.25	1.25	1.15	
			Max: 40 to 50 GHz	1.45	1.45	1.45	1.45	1.45	1.25	

Specifications

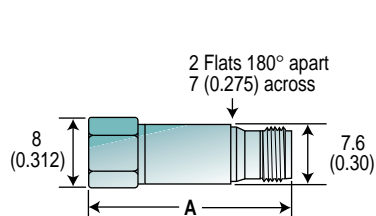
HP Model	Frequency Range (GHz)	Maximum SWR	Maximum Input Power	Attenuation Accuracy (± dB)								Connectors
				3 dB	6 dB	10 dB	20 dB	30 dB	40 dB	50 dB	60 dB	
 8491A	dc to 12.4	1.2 to 8 GHz	<div> <div></div> <div>2 W avg.</div> <div>100 W peak</div> </div>	0.3	0.3	0.5	0.5	1.0	1.5	1.5	2	N (m, f)
	3 to 30 dB	1.3 to 12.4 GHz										
	40 to 60 dB											
 8491B	dc to 18	1.2 to 8 GHz		0.3	0.3 to 12.4 GHz	0.6	0.6 to 12.4 GHz	1.0	1.5	1.5	2	N (m, f)
	3 to 30 dB	1.3 to 12.4 GHz			0.4 to 18 GHz		1.0 to 18 GHz					
	40 to 60 dB	1.5 to 18 GHz										
 8491C	dc to 18	1.2 to 8 GHz		0.3 to 12.4 GHz	0.4 to 12.4 GHz	0.6	0.6 to 12.4 GHz	1.0	—	—	—	N (m, f)
	3 to 30 dB	1.3 to 12.4 GHz		0.4 to 18 GHz	0.5 to 18 GHz		1.0 to 18 GHz					
		1.5 to 18 GHz										
 8492A	dc to 18	1.15 to 8 GHz	<div> <div></div> <div>2 W avg.</div> <div>100 W peak</div> </div>	0.3	0.3 to 12.4 GHz	0.6	0.6 to 12.4 GHz	1.0	1.5	1.5	2	APC-7
	3 to 30 dB	1.25 to 12.4 GHz			0.4 to 18 GHz		1.0 to 18 GHz					
	40 to 60 dB	1.35 to 18 GHz										
 8493A	dc to 12.4	1.2 to 8 GHz		0.3	0.3	0.5	0.5	1.0	—	—	—	SMA (m, f)
	3 to 20 dB	1.3 to 12.4 GHz										
	30 dB	1.5 to 18 GHz										
 8493B	dc to 18	1.2 to 8 GHz		±0.3 dB	0.3 to 12.4 GHz	0.6	0.6 to 12.4 GHz	1.0	—	—	—	SMA (m, f)
	3 to 20 dB	1.3 to 12.4 GHz			0.4 to 18 GHz		1.0 to 18 GHz					
	30 dB	1.5 to 18 GHz										
 8493C	dc to 26.5	1.1 to 8 GHz		0.5 to 18 GHz	0.6	0.3	0.5	0.7	1.0	—	—	3.5 mm (m, f)
	3 to 30 dB	1.15 to 12.4 GHz		1.0 to 26.5 GHz								
	40 dB	1.25 to 26.5 GHz ¹			0.6	0.5	0.6	1.0	1.3			
 8498A	dc to 18	1.15 to 8 GHz	25 W avg.	—	—	—	—	1.0	—	—	—	N (m, f)
	30 dB	1.25 to 12.4 GHz	500 W peak									
		1.30 to 18 GHz	(dc to 5.8 GHz)									
			125 W peak									
			500 W/ms									
			max. per pulse									
			(5.8 to 18 GHz)									

 Indicates QuickShip availability. Contact HP Direct or your local HP sales representative to confirm QuickShip.

¹ 1.27 for Option 006.

Attenuators

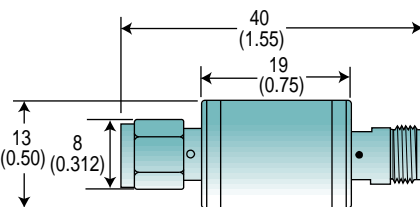
Fixed



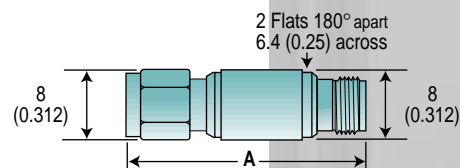
Dimension A

3, 6, 10, 20 dB: 27 (1.06)
30, 40 dB: 29 (1.14)

HP 8490D



HP 8493A,B



Dimension A

3, 6, 10, 20 dB: 33.8 (1.330)
30, 40 dB: 36.8 (1.450)

HP 8493C

Dimensions are in mm (inches) nominal, unless otherwise specified.

Fixed Attenuator Ordering Information

HP 8490/91/92/93/98 Series Ordering Example ¹

HP 849 3C	Option 010	Option UK6
Frequency Range	Attenuation	Calibration Documentation
0D: dc to 50 GHz	003: 3 dB	UK6: Commercial calibration test data with certificate
1A: dc to 12.4 GHz	006: 6 dB	UKS: Commercial calibration certificate
1B: dc to 18 GHz	010: 10 dB	
1C: dc to 18 GHz	020: 20 dB	
2A: dc to 18 GHz	030: 30 dB	
3A: dc to 12.4 GHz	040: 40 dB ²	
3B: dc to 18 GHz	050: 50 dB ²	
3C: dc to 26.5 GHz	060: 60 dB ²	
8A: dc to 18 GHz		

¹ Each order must specify an attenuation option.

² Not available on all models. See specification table.