JDS Uniphase

Product Bulletin

MV47W/V Series
Miniature Variable Attenuators

The MV47W/V Series is new in JDS Uniphase's line of MV47 single-mode miniature variable attenuators. While retaining the design features of the MV47L attenuator, the MV47W/V attenuators have been optimized for the best wavelength flatness and polarization dependent loss (PDL) in the 1550 nm window used for multichannel network applications.

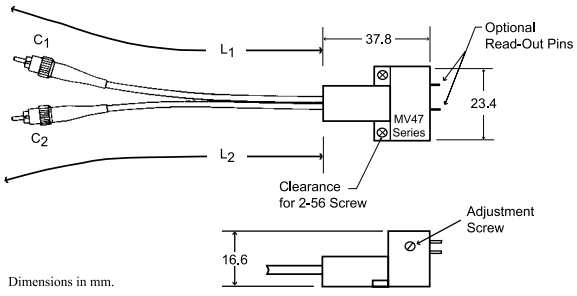
In optically amplified multichannel network applications, it is important to minimize the difference in power between channels in order to maintain high signal-to-noise ratio on all channels. Therefore, any attenuator used in locations where multiple channels are present should have low wavelength dependence and PDL. The MV47W/V attenuators meet these requirements. Furthermore, the low loss and PDL make the MV47W/V attenuators an excellent choice in locations where multiple wavelengths are not present, such as at the receiver.

The MV47W/V attenuators use graded neutral density filters to produce attenuation. Adjustment is through a trimpot-style mechanism. An optional, resistance readout for filter location purposes is available.

Key Features
- Optimized for 1550 nm window multichannel applications
- Low wavelength dependence and PDL
- Low insertion loss
- Resolution to 0.1 dB or better
- Optional resistance readout

Applications
- In-line power control in multichannel, optically amplified systems
- Receiver padding
- Transmitter power equalization

Dimensions



Dimensions in mm.

Specifications

Parameter		MV47W	MV47V
Attenuation range[1]		2 to 35 dB	
Wavelength range		1200 to 1700 nm	
Resolution		better than 0.1 dB, typical 0.02 dB	
Return loss[1]		>50 dB	>60 dB
PDL[1]		0.3 dB up to 15 dB and 0.6 dB from 15 to 30 dB	
PMD		<0.1 ps	
Over 1527 to 1560 nm:	attenuation range[1]	1.5 to 35 dB	
	attenuation variation	0.2 dB up to 15 dB and 0.4 dB from 15 to 30 dB	
	PDL[1]	0.2 dB up to 15 dB and 0.4 dB from 15 to 30 dB	
Over 1500 to 1590 nm:	attenuation range[1]	1.5 to 35 dB	
	attenuation variation	0.4 dB up to 15 dB and 0.8 dB from 15 to 30 dB	
	PDL[1]	0.2 dB up to 15 dB and 0.4 dB from 15 to 30 dB	
Adjustment		8 to 11 turns of trimpot screw, typical to 35 dB	
Thermal stability		0.005 dB/°C	
Estimated failure rate based on field returns[2]		23 FIT	
Readout version (optional)		resistance readout from 0 to 1 K ohms; increasing with increasing optical attenuation	
Fiber type		3 mm single-mode Kevlar reinforced cable or 900 µm buffered fiber	
Pigtail length		1.5 m standard	
Dimensions (WxHxD)		37.8 x 16.6 x 23.4 mm	
Operating temperature		-40 to 75 °C	
Storage temperature		-40 to 75 °C	

1. Excluding connectors (if installed).
2. Using the method of Bellcore TR-332, based on MV47L/U attenuators over a six year period.

Ordering Information

Indicate your requirements by selecting one option from each configuration table. Please print the corresponding codes in the available boxes to form your part number. For more information on this or other products and their availability, please contact your local JDS Uniphase sales representative or JDS Uniphase directly at 613 727-1303, or by fax 613 727-8284, or via email at sales@ca.jdsunph.com, or visit our Web site at www.jdsunph.com.

Sample: PR2000+1SC

MV47 □ □ +1 □ □ □ □ □ □ □ □ □ □ □ □

Code	Port Readout
0	No resistance readout
1	With resistance readout

Code	Pigtail Type
E	900 µm tight buffer
L	3.0 mm jacketed cable

Code	Length 1 (m)
0.3	0.3 meters (minimum)
...	...
...	...
001	1 meter
1.5	1.5 meters (standard)
...	...
005	5 meters
...	...
9.9	9.9 meters

Code	Connector Type 1
NC	No connector
FP	FC/HPC
FA	FC/APC
SC	SC/HPC
SU	SC/APC
SP	ST/HPC

Code	Length 2 (m)
00.3	0.3 meters (minimum)
...	...
...	...
0001	1 meter
01.5	1.5 meters (standard)
...	...
0005	5 meters
...	...
99.9	99.9 meters

Code	Connector Type 2
NC	No connector
FP	FC/HPC
FA	FC/APC
SC	SC/HPC
SU	SC/APC
SP	ST/HPC

Code	Series
L	Low RL of >50 dB, optimized at 1310 nm
H	Ultra-low RL or >60 dB, optimized at 1550 nm
U	Ultra-low RL or >60 dB, optimized at 1310 nm
W	Wavelength flat, low IL and PDL, RL of >50 dB, optimized at 1550 nm
V	Wavelength flat, low IL and PDL, RL of >60 dB, optimized at 1550 nm

Note:
1. Unless otherwise specified, the tolerance on length is ±5%.
2. Whole number Pigtail Lengths do not use the decimal.

JDS Uniphase

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