

# Miniature Variable Attenuator

## MV50 Series

**Key Features**

- C+L or 1310 nm band operation
- Excellent wavelength dependence and ripple
- Low PDL
- Improved thermal stability
- Compact size
- Single-channel or multichannel applications

**Applications**

- Power equalization in multichannel, optically amplified networks
- Power control into narrowband wavelength division multiplexers (WDMs) and configurable networks
- Power control into receivers

For the increasing bandwidth demands of today's networks, JDSU has now improved on the existing MV50 by allowing for 1310 nm operation, in addition to the C or L bands. As a next generation-version of the MV47, the MV50 offers excellent wavelength dependence and ripple, low polarization dependent loss (PDL), and improved thermal stability. The MV50 series of attenuators provides an economical solution to managing optical power.

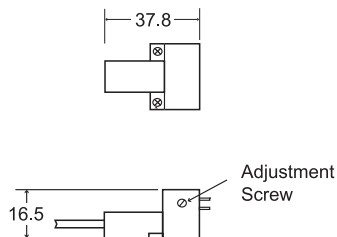
Identical in footprint (the MV50 can be substituted for the MV47) and similar in design concept to the MV47, the MV50 uses an advanced graded neutral density filter as its attenuating element. Reflective optics permit same-side jumper exit and enable easy panel mounting. Attenuation is controlled by turning an adjustment screw.

Excellent wavelength dependence and ripple facilitate single-channel or multichannel power equalization, making the MV50 ideal for dense wavelength division multiplexing (DWDM) systems.

## 2

## Dimensions Diagram

(Specifications in mm unless otherwise noted.)



## Specifications

Parameter	C Band	L Band	1310 nm
Wavelength range	1520 to 1565 nm	1565 to 1620 nm	1290 to 1330 nm
Insertion loss <sup>1</sup>	<1.5 dB	<1.5 dB	<2.5 dB
Dynamic range <sup>1</sup>	>35 dB	>35 dB	>35 dB
Wavelength dependence	<0.15 dB at minimum attenuation <0.25 dB at <10 dB <0.30 dB at <20 dB <0.40 dB at <35 dB	<0.15 dB at minimum attenuation <0.25 dB at <10 dB <0.30 dB at <20 dB <0.40 dB at <35 dB	-
Peak-to-peak ripple <sup>2</sup>	<0.30 dB	<0.30 dB	-
Polarization dependent loss <sup>1,2</sup>	<0.20 dB	<0.20 dB	<0.20 dB
Temperature dependence of attenuation <sup>2</sup>	<0.30 dB	<0.30 dB	<0.30 dB
Return loss <sup>1</sup>	>45 dB	>45 dB	>45 dB
Maximum input power (CW)	50 mW (17 dBm)	50 mW (17 dBm)	50 mW (17 dBm)
Fiber type	SMF-28	SMF-28	SMF-28
Dimensions (W x H x D)	37.8 x 16.5 x 23.4 mm	37.8 x 16.5 x 23.4 mm	37.8 x 16.5 x 23.4 mm
Operating temperature	0 to 60 °C	0 to 60 °C	0 to 60 °C
Storage temperature	-40 to 85 °C	-40 to 85 °C	-40 to 85 °C

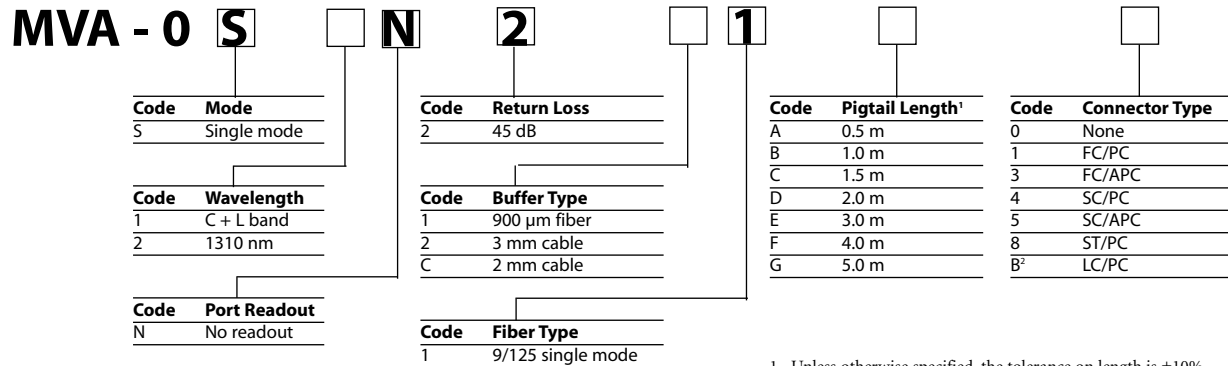
1. Excluding connectors.

2. Over all attenuation levels.

**Ordering Information**

For more information on this or other products and their availability, please contact your local JDSU account manager or JDSU directly at 1-800-498-JDSU (5378) in North America and +800-5378-JDSU worldwide or via e-mail at [customer.service@jdsu.com](mailto:customer.service@jdsu.com).

**Sample: MVA-0S1N221B1**



1. Unless otherwise specified, the tolerance on length is ±10%.  
Tolerances for lengths below 1 m are ±10 cm.
2. LC/PC with 900 μm fiber or 2 mm cable only.