

Electrostatic MEMS Variable Optical Attenuator

ESVOA Series



Key Features



- Low insertion loss
- Low wavelength dependent loss
- Low polarization dependent loss
- Multiple devices easily packaged into common housing

Applications

- Power equalization in multi-channel, optically amplified networks
- Gain-tilt control in erbium doped fiber amplifiers (EDFAs)
- Power control in narrowband wavelength division multiplexers (WDMs) and configurable networks
- Photoreceiver trimming
- Receiver protection/switch during transmitter turn-ons

Compliance

- Telcordia 1209 and 1221

The JDSU Agile Optical Components family includes modulators, switches, attenuators and tunable filters. These products provide the basis for spectrally efficient DWDM transmission utilizing dispersion tolerant modulation, channel monitoring, wavelength switching, remote power control and dynamic channel selection. They support a wide range of flexible functionalities at lower operational expenses for the Agile Optical Network. In addition, we have a complete line of tunable lasers assemblies and sub-assemblies in our Agile Transmission Module family.

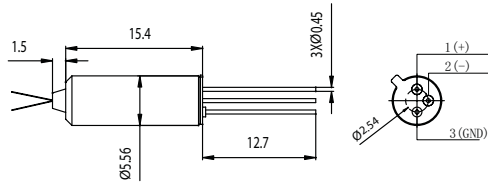
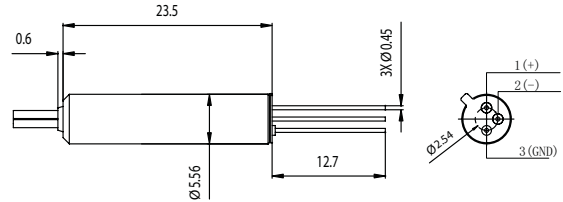
JDSU Electrostatic MEMS Variable Optical Attenuators (ESVOA) focus on key network optical power management applications. JDSU offers ESVOA series attenuators in normally open and normally closed states. ESVOA series attenuators fully comply with the Telcordia 1221 reliability program. Key features include a small size, low wavelength dependent loss (WDL), and high reliability.

The ESVOA series attenuator achieves highly repeatable optical attenuation over C and/or L bands using an electrostatic rotatable mirror. Applied voltage/power actuates the mirror to rotate, changing the light coupling between the input fiber and the output fiber of the ESVOA series attenuator.

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Dimensions Diagram

(Specifications in mm unless otherwise noted.)

250 μm fiber900 μm fiber

Specifications

Parameter		Specification
Attenuation type		Open or closed
Operating wavelength range		
C band		1525 to 1575 nm
L band		1570 to 1610 nm
Attenuation range	Minimum	30 dB
Insertion loss ¹	Maximum	0.7 dB
Tuning speed ²	Maximum	2 ms
Optical power handling		300 mW
Wavelength dependence ³		
At insertion loss (IL)		Maximum 0.2 dB
At 20 dB		Maximum ± 0.8 dB
Wavelength dependence ripple (0.4 nm)		
At 20 dB		Maximum 0.2 dB
Polarization dependence loss		
0 to 10 dB		Maximum 0.15 dB
10 to 20 dB		Maximum 0.3 dB
Return loss ¹	Minimum	45 dB
Drive voltage ^{2,4}	Maximum	6.5 V or 18 V DC
Drive power ²	Maximum	1.8 mW
Fiber type		9/125/250 or 9/125/900 SMF-28 or equivalent
Fiber marking		
Input port		Red
Output port		Clear/White
Operating temperature		-5 to 75°C

1. Excluding connectors

2. For full dynamic range

3. Over C or L bands at $23 \pm 3^\circ\text{C}$ relative to 1550 nm or 1590 nm

4. Other drive voltages available

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.

Sample: ESVOA-OC6200

ESVOA-							
Code	Attenuation Type		Code	Drive Voltage		Code	Fiber Length²
O	Open		6	6.5 V		0	1.0 meter
C	Closed		8	18 V		5	1.5 meters
Code	Wavelength Range		Code	Fiber Type		Code	Connector Type
C	C band		2	250 μm^1		0	No connector
L	L band		9	900 μm		1	FC/PC
						2	FC/APC
						3	SC/PC
						4	SC/APC
						5	LC/PC

1. 250 μm fiber is only available with the 'no connector' option.
2. Tolerance on fiber length is ± 0.1 m.

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