

# Single Channel MEMS Variable Optical Attenuator



## Description

The MEMS Variable Optical Attenuator is based on the Micro-Electro-Mechanical System technology. These MEMS VOA can be used to achieve the remote control of the power in the networks by a MEMS chip with a movable mirror on the silicon. The mirror attenuates the laser light power by coupling the input beam onto the output fiber. The applied voltage to the device controls the mirror tilt angle, thus the desired attenuation amount.

## Features

- Wide Wavelength Operating Range
- Compact Size
- High Stability
- High Reliability

## Applications

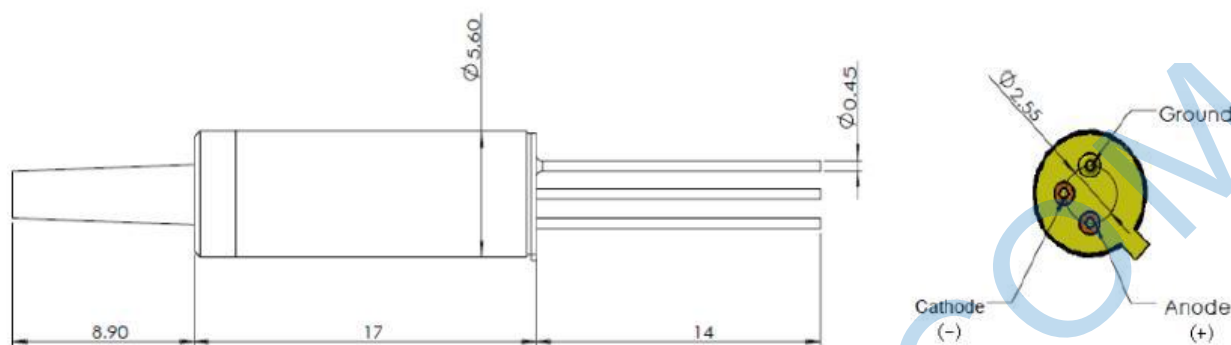
- Fiber Laser
- Fiber Optic Amplifier
- Fiber Optic Sensing
- Fiber Optic Communication

## Specifications

| Parameter                           | Unit | Value                                                          |                         |                         |                            |
|-------------------------------------|------|----------------------------------------------------------------|-------------------------|-------------------------|----------------------------|
| Operating Wavelength Range          | nm   | O Band<br>(1290-1330nm)                                        | C Band<br>(1530-1570nm) | L Band<br>(1570-1610nm) | Full Band<br>(1270-1620nm) |
| Attenuation Type                    | -    | Bright or Dark                                                 |                         |                         |                            |
| Attenuation Range                   | dB   | ≥15/20/30/40                                                   |                         |                         |                            |
| Attenuation Resolution              | -    | Continuous                                                     |                         |                         |                            |
| Insertion Loss                      | dB   | ≤0.7                                                           |                         |                         |                            |
| Return Loss                         | dB   | ≥45                                                            |                         |                         |                            |
| Response Time (10-90%optical power) | ms   | ≤2                                                             |                         |                         |                            |
| Driving Voltage                     | V    | 0-6.5 or 0-15                                                  |                         |                         |                            |
| Driving Power                       | mW   | ≤2                                                             |                         |                         |                            |
| Polarization Dependent Loss         | dB   | ≤0.1@0dB Attn., ≤0.5@20dB Attn.                                |                         |                         |                            |
| Wavelength Dependent Loss           | dB   | ≤0.3@0dB Attn. over 20nm span, ≤1.5@<20dB Attn. over 20nm span |                         |                         |                            |
| Max Optical Power (CW)              | mW   | 500                                                            |                         |                         |                            |
| Fiber Type                          | -    | SMF-28e                                                        |                         |                         |                            |
| Package Dimensions                  | mm   | Φ5.6 x L17                                                     |                         |                         |                            |
| Operating Temperature               | °C   | 0 to +70                                                       |                         |                         |                            |
| Storage Temperature                 | °C   | -40 to +85                                                     |                         |                         |                            |

**Notes:** Tested at 25 °C. Specifications exclude connectors.

## Product Dimensions



## Ordering Information

| <input type="checkbox"/> nm | <input type="checkbox"/> | <input type="checkbox"/> dB | <input type="checkbox"/> V | <input type="checkbox"/> | <input type="checkbox"/> m | <input type="checkbox"/> μm | <input type="checkbox"/> | <input type="checkbox"/> |
|-----------------------------|--------------------------|-----------------------------|----------------------------|--------------------------|----------------------------|-----------------------------|--------------------------|--------------------------|
| Operating Wavelength Range  | Attenuation Type         | Attenuation Range           | Driving Voltage            | Fiber Type               | Pigtail Length             | Pigtail Diameter            | Input Connector          | Output Connector         |
| O Band<br>(1290-1330nm)     | Bright                   | ≥15dB                       | 0-6.5V<br>(Default)        | SMF-28e                  | 0.5m                       | 250μm Bare Fiber            | None                     | None                     |
| C Band<br>(1530-1570nm)     | Dark                     | ≥20dB                       | 0-15V                      |                          | 1.0m                       | 900μm Loose Tube            | LC/UPC                   | LC/UPC                   |
| L Band<br>(1570-1610nm)     |                          | ≥30dB                       |                            |                          | 1.5m                       |                             | LC/APC                   | LC/APC                   |
| Full Band<br>(1270-1620nm)  |                          | ≥40dB                       |                            |                          | 2.0m                       |                             | SC/UPC                   | SC/UPC                   |
|                             |                          |                             |                            |                          |                            |                             | SC/APC                   | SC/APC                   |
|                             |                          |                             |                            |                          |                            |                             | FC/UPC                   | FC/UPC                   |
|                             |                          |                             |                            |                          |                            |                             | FC/APC                   | FC/APC                   |
|                             |                          |                             |                            |                          |                            |                             | ST/UPC                   | ST/UPC                   |
|                             |                          |                             |                            |                          |                            |                             | ST/APC                   | ST/APC                   |