

MEMS Variable Optical Attenuator (Polarization Maintaining)

(patents pending)

Product Description

The MM Series VOA is based on a proprietary micro-electro-mechanical mechanism featuring compact design, intrinsic reliability, easy direct drive, and excellent optical performance. The MM series VOA is compliant with the Telcordia 1209 and 1221 reliability standards.

The MM series VOA is available in either normally-open or normally-closed configurations and with an integrated tap option. The VOA is driven by applying an electrical voltage.



Performance Specifications

| MM Series PM VOA | Min | Typical | Max | Unit |
|---|-----------------------------|---------|-----|------|
| Wavelength | 1310±50 / 1480±50 / 1550±50 | | | nm |
| Insertion Loss ¹ | | 0.5 | 0.8 | dB |
| Attenuation Range | 25 | 30 | | dB |
| Wavelength Dependent Loss | @10dB | 0.2 | 0.4 | dB |
| | @20dB | 0.4 | 0.7 | dB |
| Temperature Dependent Loss ² | @10dB | 0.4 | 0.7 | dB |
| | @20dB | 0.8 | 1.2 | dB |
| Attenuation Resolution | Continuous | | | |
| Extinction Ratio | 18 | 23 | 35 | dB |
| Return Loss | 45 | | | dB |
| Response Time | | 3 | 6 | ms |
| Driving voltage ³ | | 5 | 6 | V |
| Power consumption ³ | | 80 | 120 | mW |
| Optical Power Handling | | 300 | 500 | mW |
| Operating Temperature | -5 | | 75 | °C |
| Storage Temperature | -40 | | 85 | °C |
| Reliability | Telcordia 1209 and 1221 | | | |
| Fiber Type | Corning panda PM 400/250 | | | |
| Package Dimension | See drawing below | | | mm |

Notes:

1. Excluding connectors
2. Reference to room temperature
3. For full dynamic range. Other drive voltages available

Features

- Compact
- Low Cost
- High Reliability
- Low Insertion Loss
- Low Power Consumption

Applications

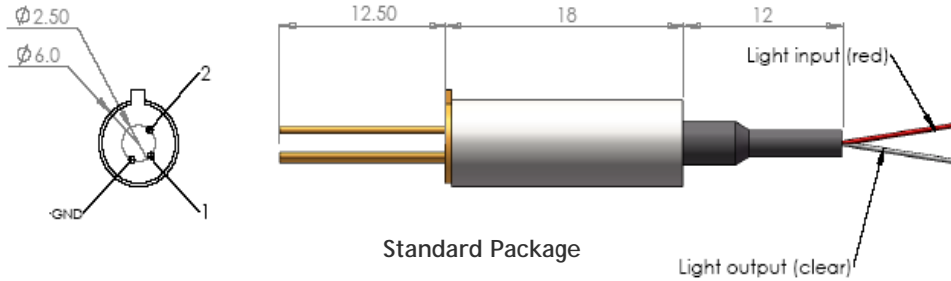
- Power Control
- Power Regulate
- Channel Balance
- Instrumentation



Revision: 060-05
05-19-11

MEMS Variable Optical Attenuator (Polarization Maintaining)

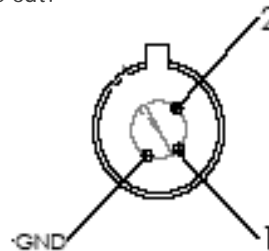
Mechanical Footprint Dimensions (mm)



Electrical Driving Instruction

NOTES

- Pin1 and Pin2 are for control voltage without polarity.
- GND connect to the case. It can be cut.
- Do not applying more than 6.5V.



Ordering Information

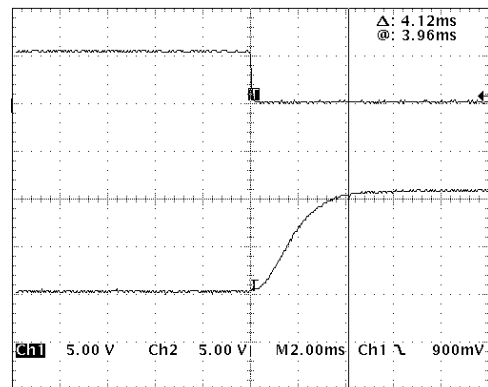
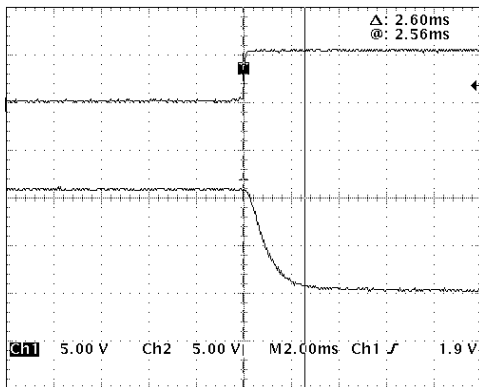
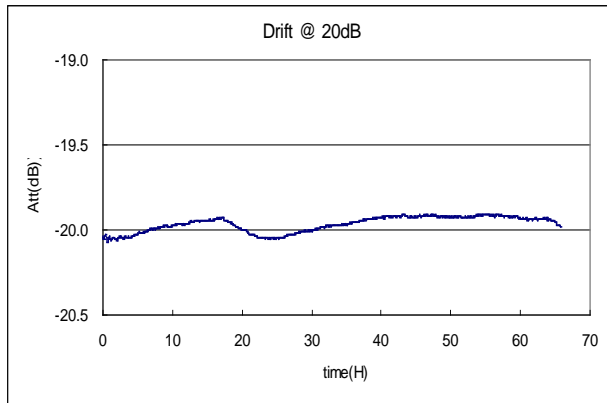
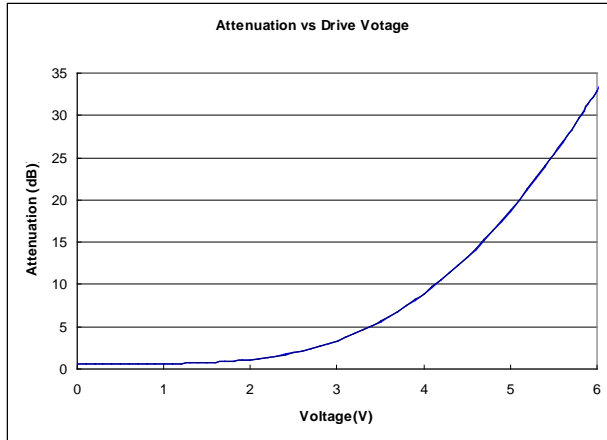
| TMOA- | <input type="checkbox"/> 8 <input type="checkbox"/> 1 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--------------------|---|---------------------------|--------------------------|---|---|---|--|--------------------------|
| Type | Wavelength | Off State | Package | Fiber | Fiber Length | Connector | | |
| PM voltage control | 1310=3 1550=5 C+L=2 1310/1550=8 Special=0 | Transparent=1 Opaque=2 | Standard=5 Special=0 | Panda 250um=1 Panda 400um=2 Special=0 | Bare fiber=1 900um loose tube=3 Special=0 | 0.25m=1 0.5m=2 1.0 m=3 Special=0 | None=1 FC/PC=2 FC/APC=3 SC/PC=4 SC/APC=5 ST/PC=6 LC=7 Special=0 | |

Revision: 060-05
05-19-11



MEMS Variable Optical Attenuator

Typical Performance Charts



Revision: 060-05
05-19-11

