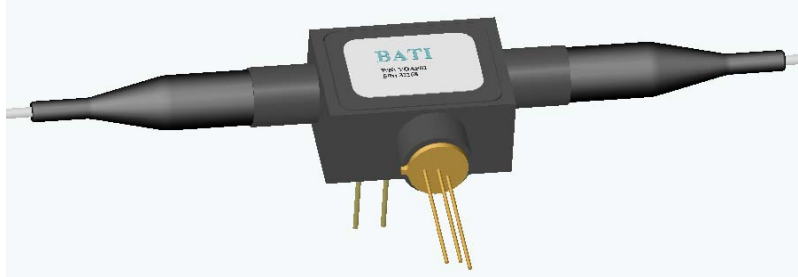


Eclipse™ Polarization Maintaining Variable Optical Attenuators

Polarization-preserving, High-speed Attenuation Control



For the first time, polarization-preserving, high-speed attenuation is available in a compact package. Boston Applied Technologies' Polarization Maintaining Variable Optical Attenuator (PM-VOA) maintains constant polarization output regardless of wavelength and level of attenuation. Based on the revolutionary OptoCeramic® electro-optic technology, the PM-VOA achieves very high-speed performance (typical transition time of less than 30 microseconds) in a compact solid-state device. The PM-VOA includes an integral tap/output monitor and a photo detector; this eliminates the need for an external polarization-maintaining coupler and photo detector, substantially reducing cost and space requirements.

Features

- Precise, high-speed attenuation control
- Constant polarization output
- Excellent optical performance
- Integral optical monitor tap
- All solid-state construction in a compact package
- Superb temperature stability

Applications

- Optical networks using polarization-maintaining fiber
- Instrumentation

Key Optical Specifications

Attributes ^{1,2}	Performance
Wavelength Range ³	1530-1565 nm
Insertion Loss	1 dB
Dynamic Range	30 dB
Spectral Flatness	0.1 dB @ 15 dB attenuation ⁴
Extinction Ratio	20 dB
Tap Output	0.05 μ A/ μ W of output power
Input Power	< 500 mW
Return Loss	$\geq$ 55 dB

Notes:

1. Unless otherwise specified, all measurements are at 25°C.
2. Meets or exceeds Telcordia GR1221 and GR1209 specifications.
3. Also operates in the L-Band with 0.2 dB additional insertion loss.
4. For single-wavelength applications.

Environmental Parameters

Operating Temperature Range	0°C to 70°C
Storage Temperature Range	-40°C to 85°C
Dimensions (Approximately)	29 x 12 x 8 mm 1.14 x 0.47 x 0.32 inches

System Design Considerations

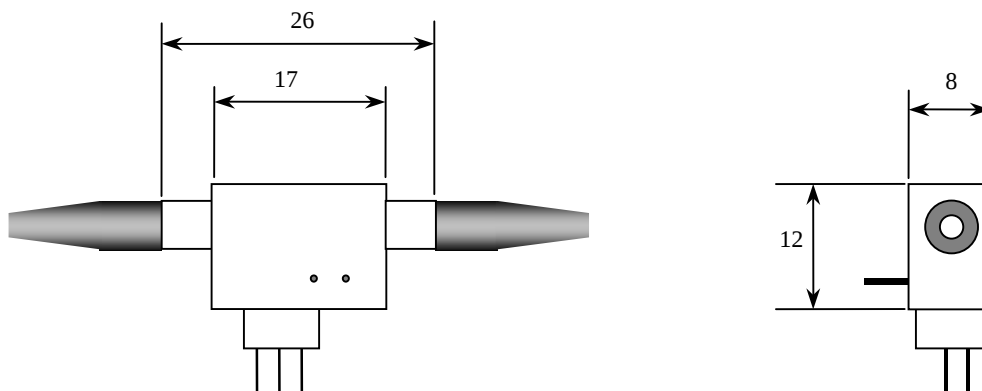
The PM-VOAs are designed to use in a closed control loop environment utilizing the output from the integral monitor tap for feedback. System performance combines the VOA characteristics above with those of the support circuitry. Configurations with either attenuation or output power control are possible. In both cases, the user electronically sets a desired value and the circuitry automatically adjusts the PM-VOA to maintain it. Contact BATI for complete design information. An evaluation kit containing a fully functional system based on output power control is available as a VOAP12.

System Attributes	Performance (VOAP12)
Response Time (Full Range) ¹	< 30 μ s
Attenuation Resolution	Continuous
Voltage Requirement	+5 VDC
Control Voltage ²	0 to 5 VDC
Power Consumption	0.5 W

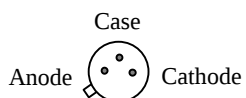
Notes:

1. Design dependent.
2. The 0-5V control, amplified by the drive electronics, controls the optical power/attenuation.

Mechanical Footprint of PM-VOA



Detector Pin Arrangement



Notes:

1. All dimensions are in mm with a tolerance of 0.05 mm.
2. Pin diameter is 0.46 mm (0.018 inch).

For More Information

For More information about Boston Applied Technologies' leadership in variable optical attenuation technology and other optical networking modules and components, visit our website at www.bostonati.com.

To obtain additional technical information or to place an order for this product, please contact us:

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