

etMEMS™ Variable Optical Attenuator (Polarization Maintaining)

(US patent 8,666,218 and other patents pending)

Product Description

The etMEMS™ 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 etMEMS™ 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

etMEMS™ 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]			4.5	5.2 ^[4]	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			
		[4]. Over this value will damage the device			

Features

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

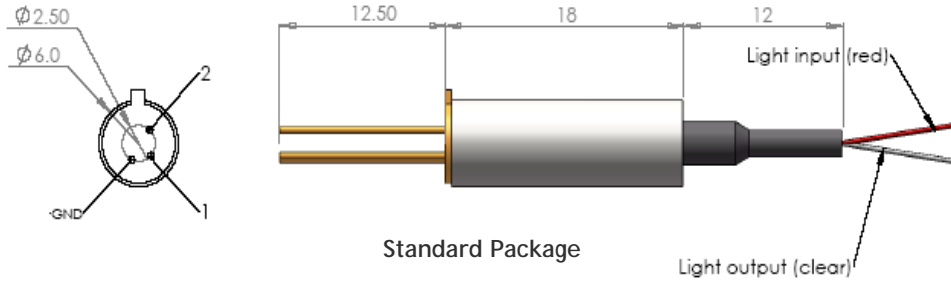
Applications

- Power Control
- Power Regulate
- Channel Balance
- Instrumentation



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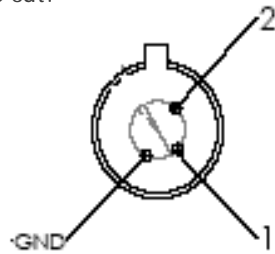
Mechanical Footprint Dimensions (mm)



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 5.2V.
- All Pin diameter = .45mm



Ordering Information

TMOA-	<input type="checkbox"/>	<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 1260-1620=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	



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Typical Performance Charts

