

etMEMS™ Variable Optical Attenuator

(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, simple construction, easy direct drive, and excellent optical performance. The MM series VOA is compliant with the Telcordia 1209 and 1221 reliability standards. The etMEMS™ 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

etMEMS™ Series 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
Polarization Dependent Loss	@10dB	0.15	0.3	dB
	@20dB	0.25	0.5	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		
Polarization Mode Dispersion		0.01	0.05	ps
Return Loss	45			dB
Repeatability			0.1	dB
Response Time		3	6	ms
Driving Voltage ³		4.5	5.2 ⁴	V
Device Resistance		100		ohm
Power Consumption ³		80	130	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 SMF28 or equivalent			
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 IL, PDL, WDL & TDL
- Low Power Consumption

Applications

- Power Control
- Power Regulate
- Channel Balance
- Instrumentation

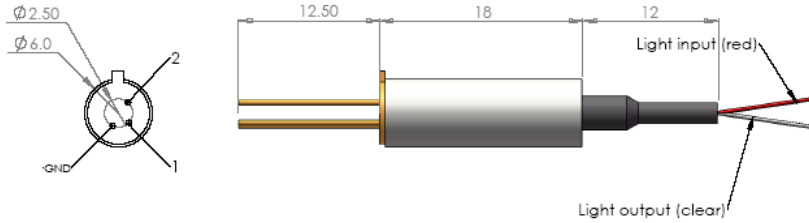


Revision: 04-22-15

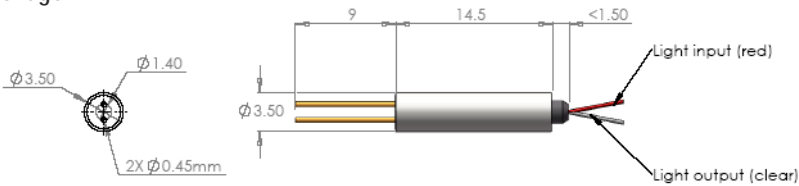
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Mechanical Footprint Dimensions (mm)

Standard Package



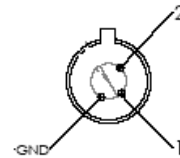
Mini Package



Electrical Driving Instruction

NOTES

- Pin1 and Pin2 are for control voltage without polarity.
- GND connect to the case. It can be cut.
- Do not apply more than 5.2V.



Ordering Information

TMOA-	Type	Wavelength	Off State	Package	Fiber	Fiber Length	Connector	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Drive Voltage 5V=11 3.5V=22 Special=00	1310=3 1550 = 5 S+C+L=2 1260-1620= 8 Special = 0	Transparent=1 Opaque = 2	Φ6.0mm=1 Φ3.5mm=2 Special=0	SMF-28 = 1 Special = 0	Bare fiber=1 900um loose tube=3 Special = 0	0.25m= 1 0.5m = 2 1.0m= 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

