

# MEMS Dual Variable Optical Attenuator (VOA)

## Product Description

The MM Series Dual-VOA is based on a proprietary micro-electro-mechanical mechanism featuring ultra-high reliability, compact design, fiber to fiber directly coupling technology, simple construction, easy drive, and excellent optical performance. The MM series Dual-VOA is fully compliant with the Telcordia 1209 and 1221 reliability standards. The MM series Dual-VOA is available in either normally-transparent or normally-dark configurations. The VOA is driven with an electrical current or voltage signal; and the attenuation can be continuously adjusted with the applied signal. The MM series can be repackaged with pin-pin compatibility to most VOAs on the market. Standard package contains one or two VOAs in dimensions of 23.2mmx10.1mmx9.0mm.

## Performance Specifications

MM Series Dual-VOA	Min	Typical	Max	Unit
Wavelength	1260		1620	nm
Insertion Loss <sup>1</sup>		0.5	0.8	dB
Temperature Dependent Loss @20dB	-1.8		1.8	dB
Polarization Dependent Loss	@10dB	0.15	0.3	dB
	@20dB	0.25	0.7	dB
Wavelength Dependent Loss <sup>2</sup>	@10dB	0.2	0.5	dB
	@20dB	0.5	1	dB
Attenuation Range	30			dB
Return Loss	40			dB
Repeatability			0.1	dB
Response Time		3	6	ms
Power Consumption		15	30	mW
Operating Temperature	-5		75	oC
Storage Temperature	-40		75	oC
Reliability	Telcordia 1209 and 1221			
Fiber Type	Corning SMF28 or equivalent			
Package Dimension <sup>3</sup>	23.2(L)x10.1(W)x5.9 (H)			mm

Notes:

1. Without connector;
2. Within 30nm bandwidth
3. Standard package and other dimensions or layouts are also available on request

## Features

- Broad band
- Low Cost
- High Reliability
- Low IL, PDL, WDL & TDL
- Direct Current Drive
- Low Power Consumption

## Applications

- Power Control
- Power Regulate
- Channel Balance
- Instrumentation

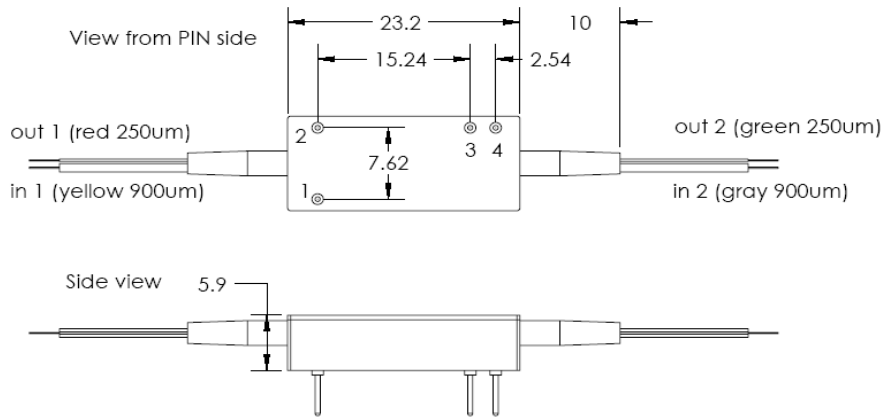


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## Electrical Configurations

Parameter	Typical	Maximum	Unit
Control Voltage	0-5	5.5	V

## Mechanical Footprint Dimensions (mm)



- Contact Pin: length: 4+/-0.5mm  
 Diameter: 0.45mm  
 Centering: 0.2mm  
 1: 5V supply, 30mA max  
 2: Ground  
 3: 0-5V control of VOA1  
 4: 0-5V control of VOA2

## Ordering Information

DMOA -	Type	Wavelength	Off State	Package Type	Fiber Type	Fiber Length	Connector Type	
□ □ □ □ □ □ □ □	1 channel=10 2 channel=20 Special=00	1260-1620=1 950-1080=2 740-850 =3 Special =0	Normally on = 1 Normally off = 2	Standard = 1 Special=0	SMF 28=1 HI1060=2 HI780=3 Customized =4	0.25 μm Bare fiber=1 0.4 μm bare fiber=2 900um tube=3 Customized=4	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

