

MEMS Straight Fiber Optical Variable Attenuator - Large Crosstalk >70dB

(Protected by US Patent 10752492B2)

Product Description

The MEMS Straight Series Fiber Optical Variable Attenuator uses a patented thermal activated micro-mirror, moving-in and -out optical paths, uniquely featuring large extinction ratio, high stability over wide temperature range, and very long life cycle. The thermal MEMS is insensitive to moisture and ESD without drift issues, providing a high reliability platform for over 25 years continuous operation. The MEMS Straight Series VOAs are configured in single and dual channels (activated at the same time). The VOAs are bidirectional and are Telcordia standards GR1221 qualified.

Agiltron provides customized design and modular assemblies to meet control and integration applications.



Performance Specifications

MEMS Straight Series VOA	Min	Typical	Max	Unit
Operation Wavelength	Single Mode	1260~1610		nm
	Multimode	810-890, 1260-1360, 1500-1600		
Insertion Loss ^{[1], [2]}		0.6	1.0 / 1.2 ^[3]	dB
PDL (Single mode)			0.1	dB
Extinction Ratio	PM fiber	18		dB
Return Loss		50		dB
Attenuation		70	85	dB
Response Time		3	7	ms
Repetition Rate			20	Hz
Durability		10 ¹³		Cycle
Power Consumption (at maximum)			170	mW
Operating Temperature ^[5]		-5	70	°C
Storage Temperature		-40	85	°C
Optical Power Handling			300	mW
Package Dimension		10L x 6.6W x 4.6H		mm
Fiber Type	Single Mode	SMF-28 or equivalent		
	PM	Panda 250 PM or equivalent		
	Multimode	MM 50/125, MM 62.5/125 or equivalent		

[1]. Excluding connectors.

[2]. Multimode IL measured @ Light Source CPR < 14dB.

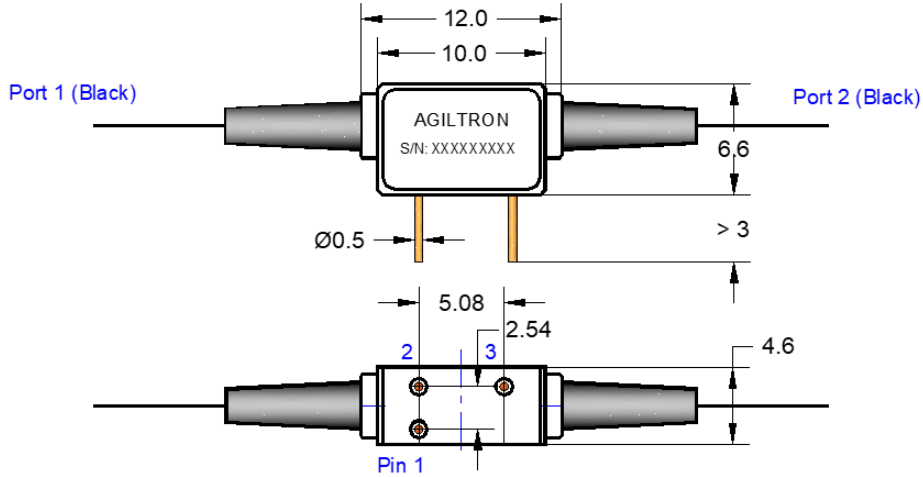
[3]. Dual band.

[4]. Lower temperature version is available, please call us.



MEMS Straight Fiber Optical Variable Attenuator

Mechanical Dimension (unit: mm)

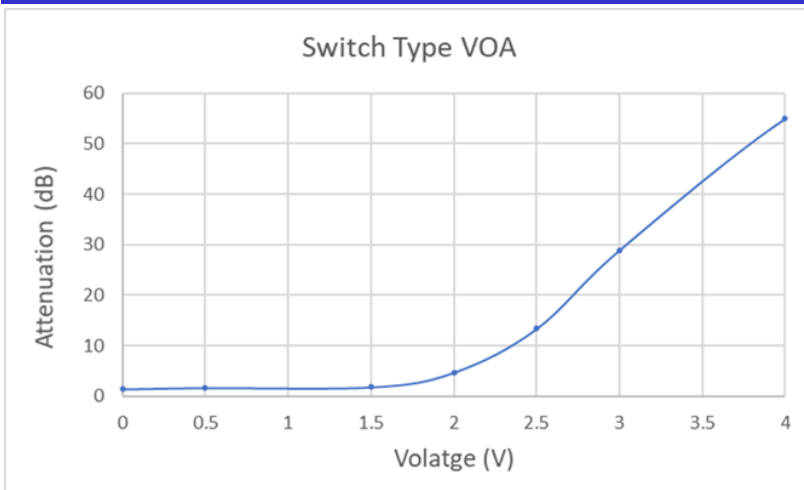


*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Electrical Driving Requirements

1. Resistance load device, no polarity, insensitive to ESD.
2. Recommend to add 70ohm resistor in series on PIN 3 to smooth the attenuation slope
3. **Warning: Damaged if applying voltage over the maximum (even for a short time)**
4. Pin 1 = NC, Pin 2 = 0V, Pin 3 =4.5V (maximum)

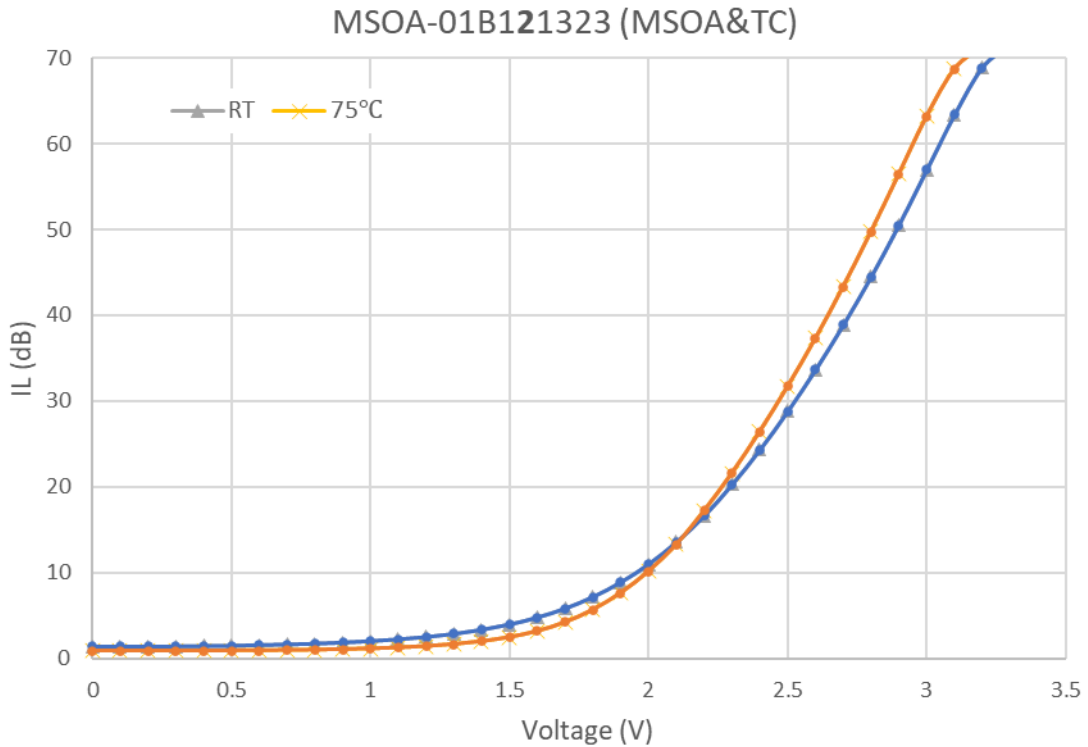
Response Curve*



Note: Measured with adding a 70ohm resistor on PIN3 of MSOA.

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Typical Compensated Temperature Dependence



Note: Measured with adding a resistor on PIN3 of MSOA.

Ordering Information

MSOA-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Non-Power State	Wavelength	Channel	Package	Fiber Type	Fiber Length	Connector			
	Transparent=01 Opaque =02	1260~1620=B 1060=1 1310=3 1550=5 850 =8 1310/1550=9 850/1310=A Special=0	Single =1		SMF-28=1 PM 250 =B MM 50/125=5 MM 62.5/125=6 Special=0	0.25m=1 0.5m=2 1.0m=3 Special=0	Bare fiber=1 900 μm tube=3 Special=0	None=1 FC/PC=2 FC/APC=3 SC/PC=4 SC/APC=5 LC=7 Special=0		