

Compatible MEMS Reflective Fiber Optical Variable Attenuator

(Protected by US Patent 10752492B2)

Product Description

The Compatible MEMS Series Fiber Optical Variable Attenuator is constructed using our standard VOA core having a circular end shape and pins that are compatible with VOAs made by other manufactures for ease replacement. It uses a patented high reliability thermal activated micro-mirror, moving-in and -out optical paths, uniquely featuring large extinction ratio, high stability over wide temperature range, and exceptionally long life cycle. Unlike electrostatic MEMSs, the thermal MEMS has no drift issues and is insensitive to moisture, vacuum environment, and ESD, 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	SM, PM	50		dB
	Multimode	35		
Attenuation	SM, PM	55		dB
	Multimode	50		
Response Time		5	10	ms
Repetition Rate			20	Hz
Durability		10 ¹²		Cycle
Power Consumption (at maximum)			170	mW
Operating Temperature ^[5]		-5	70	°C
Storage Temperature		-40	85	°C
Optical Power Handling		300	500	mW
Package Dimension		10L x 6.6W x 4.6H		mm
Fiber Type ^[4]	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.

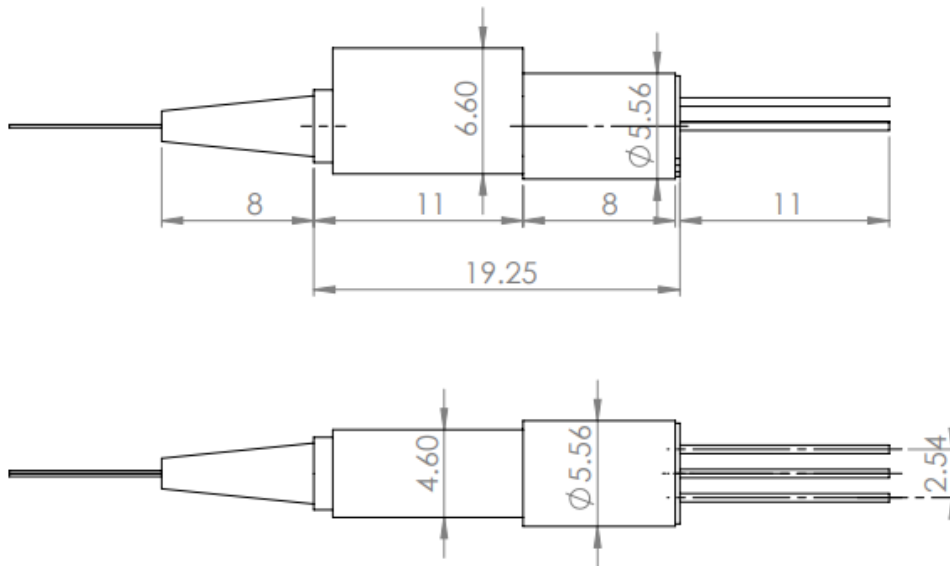
[4]. Lower temperature version is available, please call us.



Features

- High Reliability
- Direct DC drive
- Ultra Small
- ESD Insensitive

Mechanical Dimension (unit: mm)



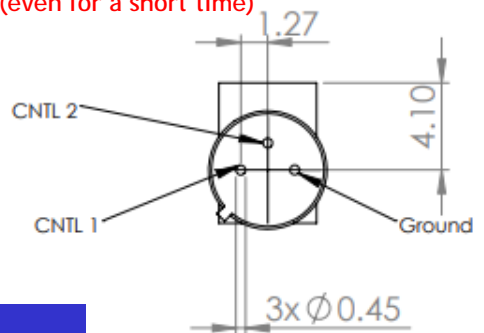
*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Electrical Driving Requirements

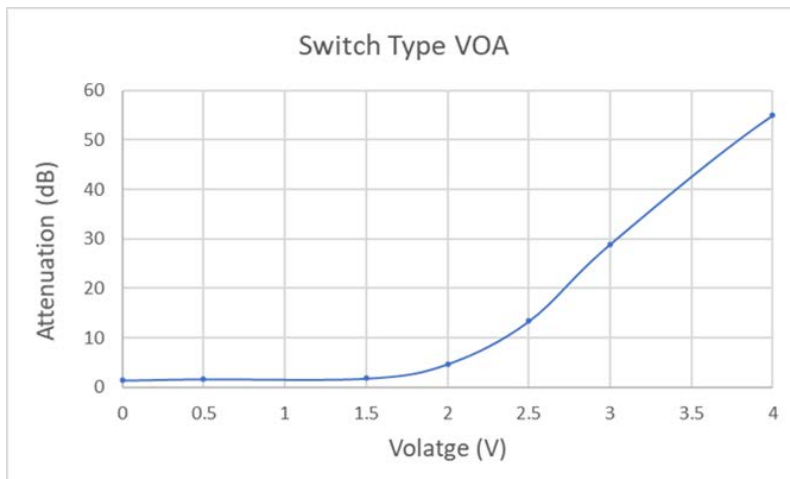
Resistance load device, no polarity, insensitive to ESD.

Warning: Damaged if applying voltage over the maximum (even for a short time)

- Ground = NC
- Pin 1 = 0V
- Pin 2 = 4.5V (maximum)

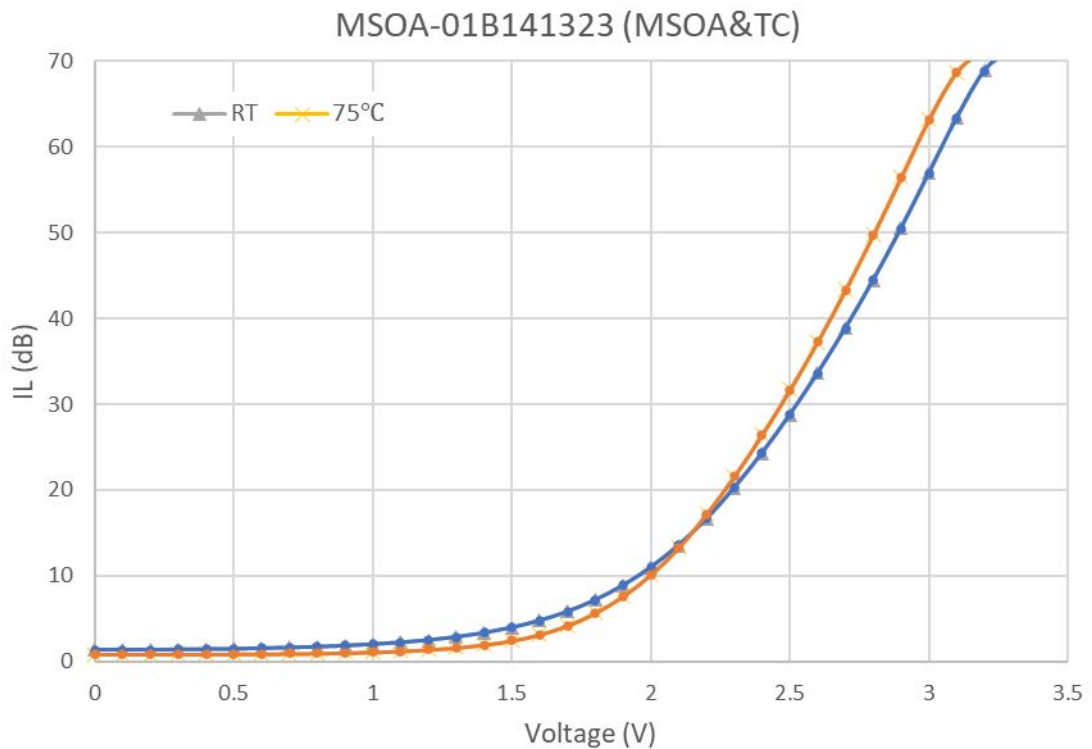


Response Curve



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Typical Compensated Temperature Dependence



Ordering Information

MSOA-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	<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 Dual Channel=2	Compatible with Dicon=5 Special=0	SMF-28=1 Panda 250 PM 250=B MM 50/125=5 MM 62.5/125=6 Special=0	Bare fiber=1 900 μm 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 LC=7 Special=0