

Fiber Optical Variable Attenuator 2D MEMS



(850nm, 1260-1630nm, 500mW)

DATASHEET

BUY NOW



The VOAM Series of MEMS Fiber Optical Variable Attenuator is constructed using an electrostatic rotating mirror hermetically sealed with nitrogen, featuring high repeatability, low power consumption, and low cost. A voltage between 0-5 V on the drive pin sets the optical attenuation. When power is removed, the VOA returns to its default state. The device's electrical character is capacitive without polarity. It can be mounted directly on printed circuit boards. The VOAMs are bidirectional. The component is compliant with RoHS requirements and Telcordia standards GR1221 qualified.

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

Features

- High Repeatability
- Low Power
- Small

Specifications

Parameter		Min	Typical	Max	Unit
Operation Wavelength	Single Mode	1250		1650	nm
	Multimode	810-890	1260-1360	1500-1600	
Insertion Loss ^{[1], [2]}			0.5	1.0	dB
PDL (SM)				0.3	dB
Repeatability (0-30, @15dB)			0.1	0.2	dB
Wavelength Dependent Loss (@20dB)				0.63	dB
Extinction Ratio	PM fiber	18		30 ^[3]	dB
Repeatability (@10dB, 0-60 °C)	Uncompensated		0.3	0.5	dB
	Compensated		0.1	0.2	
Return Loss	SM, PM	50			dB
	MM	35			
Attenuation	SM, PM	40			dB
	MM	30			
Driving Voltage	SM, PM	0		7	V
	MM	0		9	
Response Time			2	10	ms
Repetition Rate			50	100	Hz
Durability			10 ¹²		Cycle
Power Consumption (at maximum)				0.2	mW
ESD				500	V
Operating Temperature ^[4]		-10		70	°C
Storage Temperature		-40		85	°C
Optical Power Handling			300	500	mW
Package Dimension			Ø 5.5 × 26		mm
			Ø 3.5 × 15		

Note:

- [1]. Excluding connectors. Each connector adds 0.3dB
- [2]. Multimode IL measured @ Light Source CPR < 14dB
- [3]. 30dB PER is available with special order
- [4]. Lower temperature version is available, please call us

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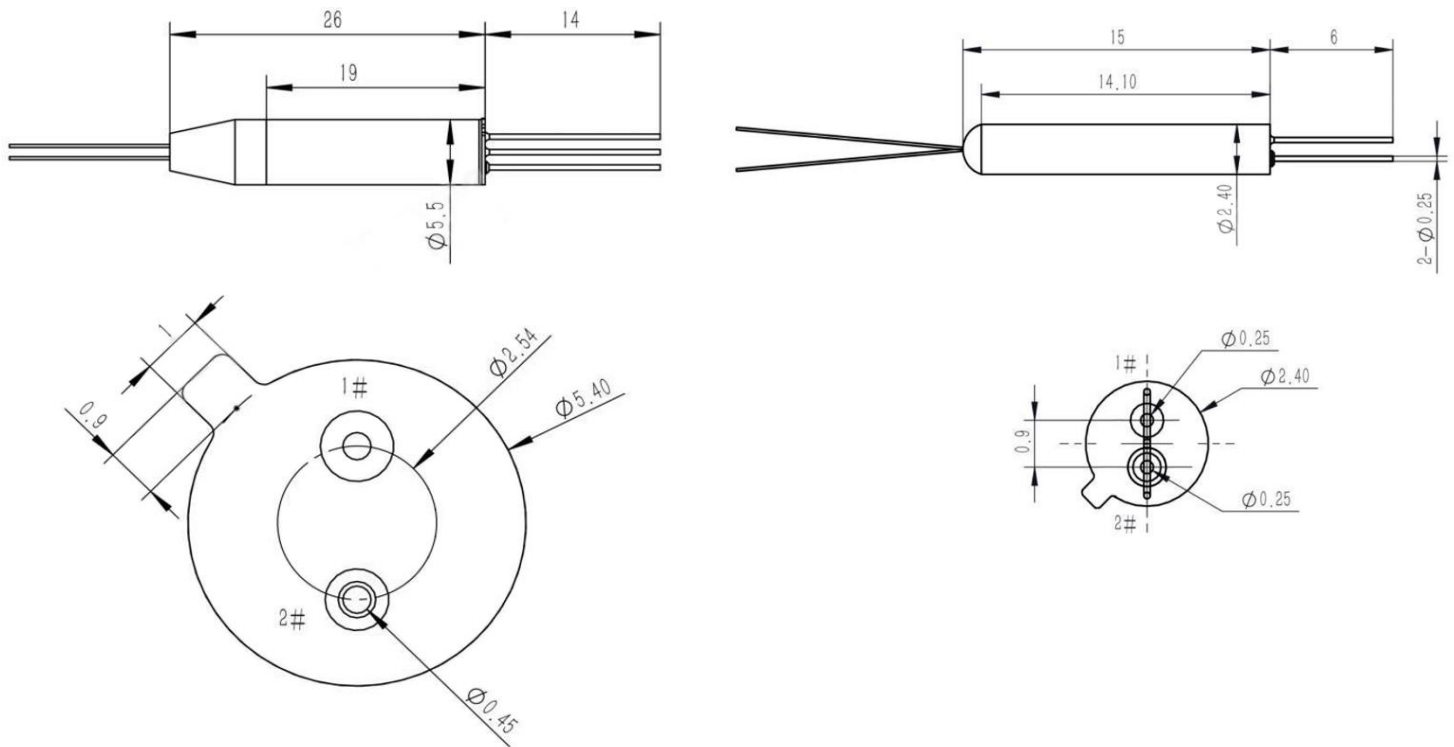
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Mechanical Dimensions (mm)



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

Electrical Driving Requirements

- 1) Capacitive load device, no polarity.
- 2) The maximum rating voltage is 100V

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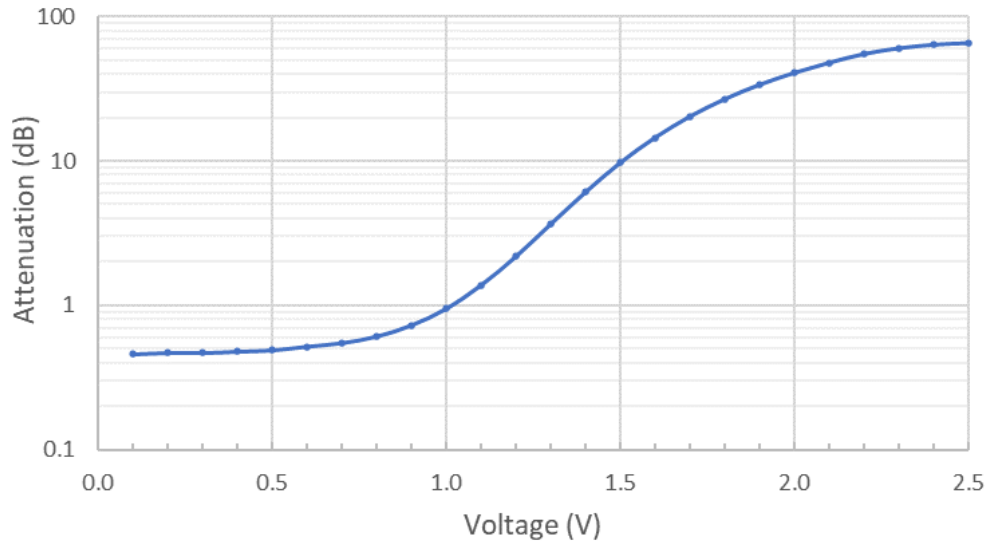


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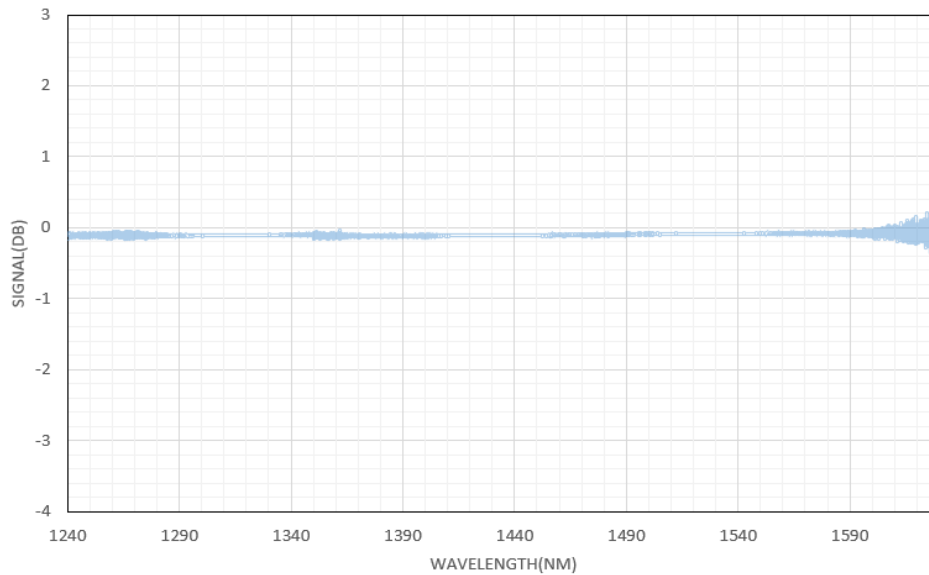
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Typical Attenuation vs. Voltage

Attenuation vs Voltage (No resistor)



Typical Insertion Loss vs Wavelength (1240-1630nm)



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Ordering Information

Prefix	Non-Power State	Wavelength	Package	Type	Compensation	Fiber Type	Fiber Cover	Fiber Length	Connector
VOAM-	Transparent =T Opaque =0	1260-1620 = B 1310 = 3 1550 = 5 850 = 8 850/1310 = A Special = 0	∅ 5.5mm = 5 ∅ 3.5mm = 3	Standard = 1 Special = 0	Non = 1 Yes = 2	SMF-28 = 1 PM 1500 = B MM 50/125 = 5 MM 62.5/125 = 6 Special = 0	Bare fiber = 1 0.9mm tube = 3 Special = 0	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

NOTE:

“transparent” means no attenuation without applying a controlling voltage, the “opaque” means the highest attenuation without applying a controlling voltage.