

Straight MEMS Variable Optical Attenuator

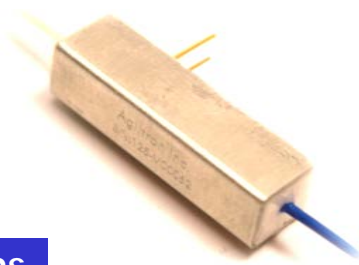
(SM, PM, High Power, All Wavelength)

(patents pending)

Product Description

The *etMEMS™* Straight Series variable attenuator (VOA) is based on proprietary MEMS in combination with fiber-fiber technology without using lens nor any coating. It offers many industrial leading performances: exceptionally large attenuation (65dB), high power handling, and compatible with all types of fiber, as well as low cost. The device features ceramic packaging providing excellent thermal stability.

The attenuation can be continuously adjusted by directly applying a low voltage. The silicon MEMS device is highly reliable with longevity. However, it can be damaged by applying a voltage over the threshold.



Performance Specifications

MM Series VOA	Min	Typical	Max	Unit
Operation Wavelength	350	1550	2000	nm
Insertion Loss ^[1]		0.8	1.2	dB
Polarization Dependent Loss ^[2]		0.15	0.4	dB
Wavelength Dependent Loss ^[3]		0.3		dB
Temperature Dependent Loss ^[4]		0.2		dB
Extinction Ratio ^[2]		25		dB
Attenuation Range			65	dB
Attenuation Resolution		Continuous		
Return Loss		55		dB
Response Time		10		ms
Driving Voltage			5.2 ^[5]	V
Optical Power Handling			150	mW
Operating Temperature	-10		75	°C
Storage Temperature	-40		85	°C
Fiber Type	See order information			
Package Dimension				mm

Notes:

1. Without connector and at room temperature
2. PDL for polarization independent version; ER for polarization maintaining version.
3. At attenuation of 20dB or less and central wavelength +/- 30 nm.
4. At 0 attenuation and at whole temperature range
5. Over this value will damage the device

Features

- Compact
- Broad-Band
- Low Cost
- High Reliability
- Low IL, PDL, WDL & TDL
- Low Power Consumption

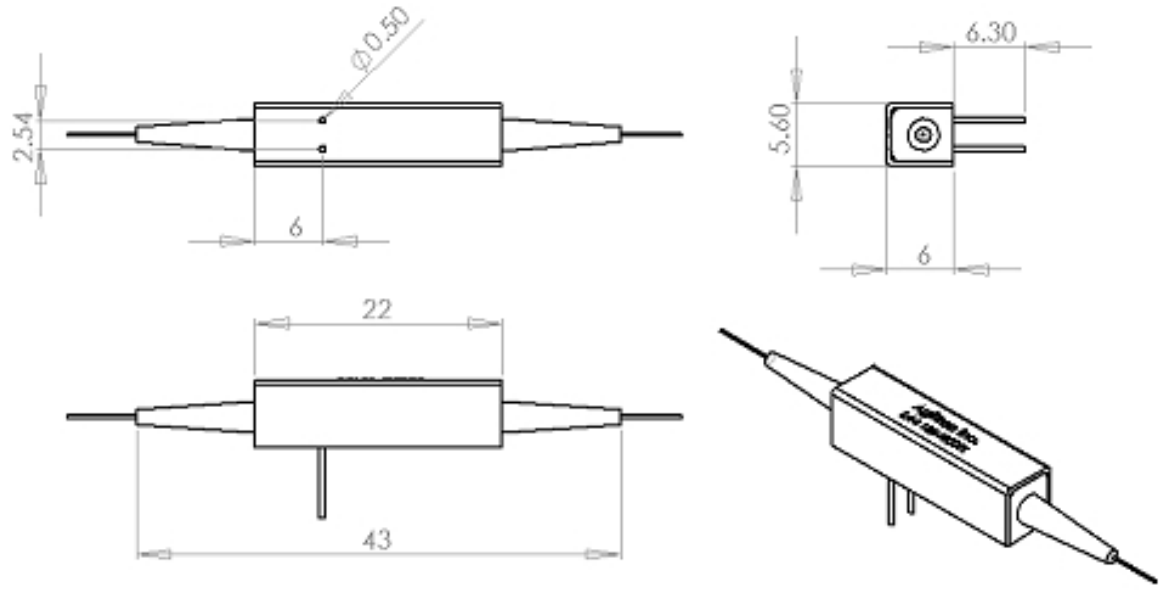
Applications

- Power Control
- Power Regulate
- Channel Balance
- Instrumentation



Straight Singlemode MEMS Variable Optical Attenuator (SSMA)

Mechanical Footprint Dimensions (mm)



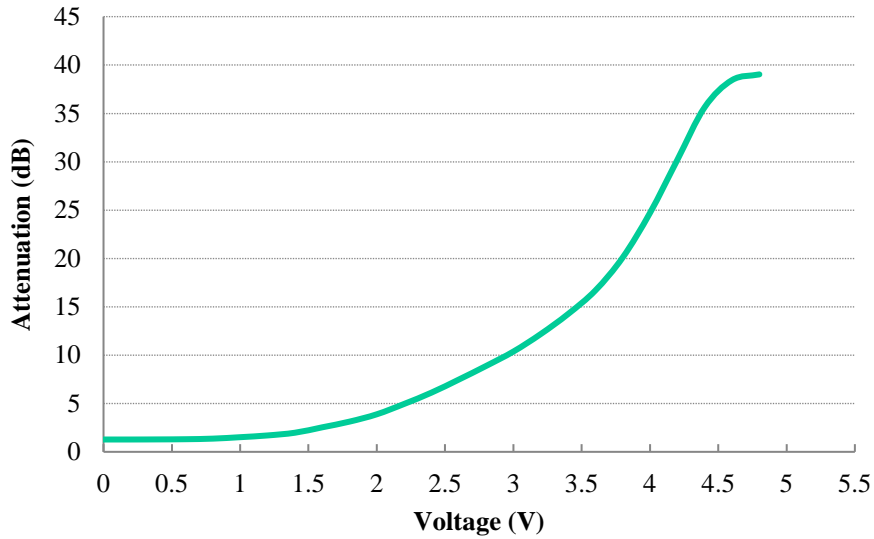
Electrical Driving Instruction

NOTES

- Pin1 and Pin 2 are for control voltage without polarity.
- Do not apply voltage more than 5.2V.

Straight Singlemode MEMS Variable Optical Attenuator (SSMA)

VOA Performance



Ordering Information

SSMA -	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Control Type	Wavelength	Off State	Type	Fiber Type	Fiber Length	Connector	
	Voltage control=11 Current Control=22	1060=6 1310=3 1550=5 2000=2 980=9 850=8 780=7 650=4 550=1 Special=0	Normally open =1 Normally opaque=2	SM=1 PM=0	SMF28e=1 PM1550=2 Hi1060=3 Hi780=4 PM980=9 PM850=7 PM630 =6 PM450= 5 Special=0	Bare fiber=1 900um tube=3 Special=0	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

