

Small Form-Factor Pluggable (SFP) MEMS Variable Optical Attenuator

(patents pending)

Product Description

Agiltron's MEMS Series VOA is based on a proprietary micro-electro-mechanical mechanism featuring compact design, simple construction, easy direct drive, and excellent optical performance. The SFP VOA integrates a single channel VOA and tap power monitor into MSA compliant compact SFP form factor and provides I²C communication interface for easy system integration.

The device has a built-in firmware that linearizing the attenuation to the control signal. The power tap provides a digital warning when the output optical signal level below certain level. Either normally-open or normally-closed configurations are available



Performance Specifications

Parameter	Min	Typical	Max	Unit
Wavelength	1310±50 / 1480±50 / 1550±50			nm
Insertion Loss ¹		1	1.5	dB
Attenuation Range	Bright	25	30	dB
	Dark	40		dB
Polarization Dependent Loss	@10dB	0.15	0.3	dB
	@20dB	0.3	0.5	dB
Wavelength Dependent Loss	@10dB	0.3	0.5	dB
	@20dB	0.7	1.2	dB
Attenuation Resolution			0.1	dB
Polarization Mode Dispersion		0.01	0.05	ps
Return Loss	40			dB
Response Time		5	10	ms
Power consumption ²		140	200	mW
Optical Power Handling		300	500	mW
Operating Temperature	-5		75	°C
Storage Temperature	-40		85	°C
Package Dimension		SFP		mm

Notes:

1. Include both input and output connectors
2. For full dynamic range.

Features

- SFP Compact Form
- Hot Pluggable
- Duplex LC Connector
- Optical Power Monitoring
- I²C Communication Interface
- Low Power Consumption

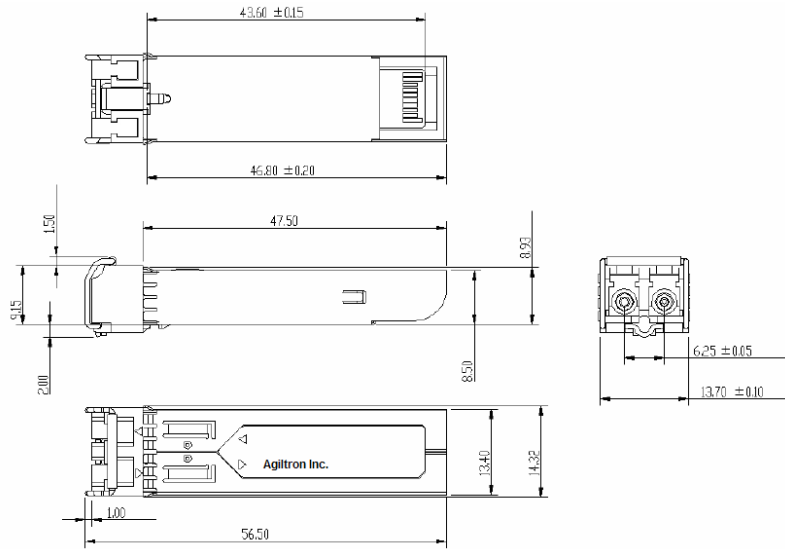
Applications

- Power Control
- Power Regulate
- Instrumentation



Small Form-Factor Pluggable (SFP) MEMS Variable Optical Attenuator

Mechanical Footprint Dimensions (mm)



Electrical Pin Assignment

The electrical pad layout is defined as below per the MSA agreement

20	GND
19	N/C
18	N/C
17	GND
16	3.3V Power
15	3.3V Power
14	GND
13	N/C
12	N/C
11	GND

Top of Board (label Side)

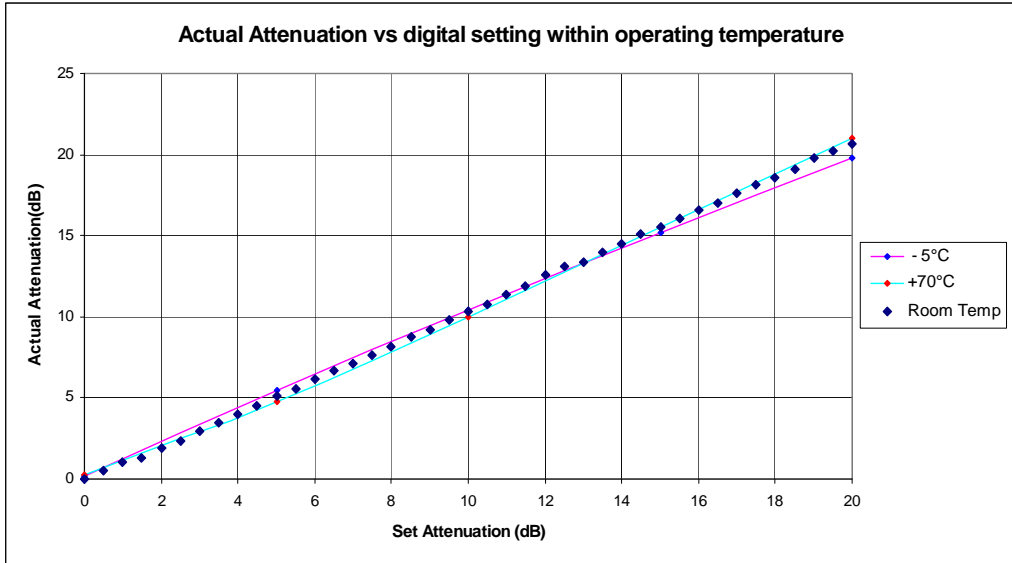
1	GND
2	Fault Alarm
3	Optical Shutter Mode
4	Serial Data
5	Serial Clock
6	GND
7	N/C
8	Loss of Output Power Alarm
9	GND
10	GND

Bottom of Board (as viewed thru top of the board)



Small Form-Factor Pluggable (SFP) MEMS Variable Optical Attenuator

Typical Performance Chart



Ordering Information

SFOA-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Type	Wavelength	Off State	Mode	Fiber			Connector
	Standard=11	1310=3 1550 = 5 C+L=2 1310&1550= 8 Special = 0	Transparent=1 Opaque = 2	Single Mode=1	SMF-28 =1 Special = 0			LC/PC = 1 Special = 0

