Mini *et*MEMS VOA with Input Power Monitor

(Directional and Unidirectional)

(patent pending)

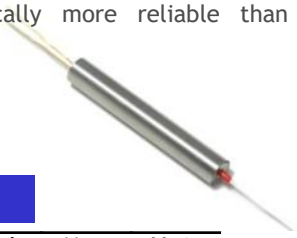
Features

- Integrated
- Low Loss Device
- Custom Tap Ratios Available
- Compact Design

Product Description

The mini MEMS Variable Optical Attenuator Integrated with Input Optical Power Monitor is a hybrid fiber optical device that integrates a thin-film tap of flat spectral response and a high sensitivity PIN photodiode for power monitoring applications with a MEMS VOA. The Power Monitor minimizes component assembly costs and module footprint. The thermal MEMS VOA has little temperature dependence and drift. It is intrinsically more reliable than electrostatic MEMS VOAs.

The Power Monitor has low insertion loss and low dark current with high temperature stability over a wide wavelength range from 1260nm to 1620nm band.



Performance Specifications

*et*MEMS™ TVOA	Min	Typical	Max	Unit
Wavelength	1260		1620	nm
Insertion Loss[1]		0.6	0.8	dB
Polarization Dependent Loss[2]		0.15	0.4	dB
Wavelength Dependence Loss[3],[4]			0.3	dB
Temperature Dependence Loss[3]		0.05	0.2	dB
Attenuation Range		25	35	dB
Attenuation Resolution		Continuous		
Polarization Mode Dispersion[2]	0.005	0.01	0.05	ps
Return Loss	45			dB
Response Time			5	ms
TAP ratio	1	3	5	%
Tap Response @ 1550nm	8	20	40	mA/W
Wavelength Dependence Response		0.02	0.03	dB/nm
Polarization Dependence Response[2]	0.02	0.10	0.25	dB
Temperature Dependence Response			0.01	dB/°C
Dark Current at 5V bias @ 23°C			1	nA
3dB Bandwidth (cutoff frequency)		10		MHz
Capacitance			6	pF
Power Consumption		130	180	mW
Operating Temperature	-5		75	°C
Storage Temperature	-40		85	°C
Reliability	Telcordia 1209 and 1221			
Fiber Type	Corning SMF28			
Package Dimension	Φ3.5 X 15 or Φ3.5 X 23[5]			mm

Notes:

1. Without connector and in room temperature. If the tap ratio higher than 3%, the insertion loss will increase.
2. At attenuation equal or less than 20dB
3. At 0dB attenuation and in whole temperature range
4. Within 30nm Bandwidth
5. For the power monitor with the directivity which is defined as the responsivity contrast between the light from input or output.

Applications

- Channel Monitoring
- Power Monitoring in Optical Interface Modules
- Gain Monitoring for Amplifier
- DWDM System Monitoring

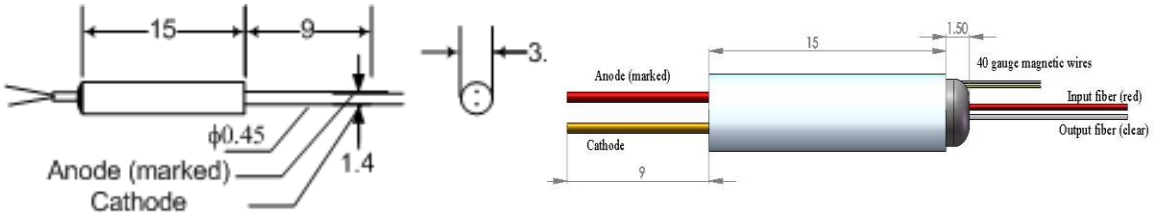
RoHS Compliant

15 Presidential Way, Woburn, MA 01801 Tel: (781) 935-1200 Fax: (781) 935-2040
www.agiltron.com

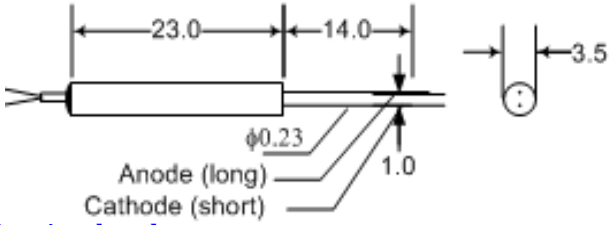
Revision: 070-02
3-08-17

Mini Integrated Power Monitor

Mechanical Footprint Dimensions (Unit:mm)



None directivity package



Directional package

Electrical Configuration

- VOA control through two three layers coated 40 Gauge magnetic wires.
- The maximum control voltage is 5.2 V, higher than this value may cause device damage.
- Detector current is connected through its anode (marked) and Cathode.
- The maximum revise voltage for detector is 20 V.
- ESD protection is imperative. Use of grounding straps, antistatic mats, and other ESD protective equipment is recommended when handling or testing this device.

Ordering Information

MOAP-	☐☐	☐	☐	☐	☐	☐	☐	☐
	Tap ratio	Wavelength	VOA Off State	Directivity	Fiber		Fiber Length	Connector
	1%=01 3%=03 5%=05 Special=0	1310=3 1550=5 C+L=2 1310/1550=8 1260-1620=9 Special=0	Transparent=1 Opaque=2	N0=1 Yes=2	SMF-28=1 PM1550=2 Customized=2	Bare fiber=1 900um loose 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 ST/PC=6 LC/PC=7 LC/APC=8 Special=0

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