

VARIABLE OPTICAL ATTENUATOR

Miniaturized Sized SM and PM Variable Optical Attenuators (VOA)

PRODUCT DATASHEET

G&H VOAs offer high precision and stability over a wide attenuation range, with low excess loss in a compact size.

Miniaturized type manual variable optical attenuators (MVOA) are available in single-mode (SM) and polarization-maintaining (PM) fibers in the wavelengths 780, 850, 980, 1064, 1310, 1480, 1550, 1560, 1950 and 2000 nm.

Operation by manually moving a blocking element into the optical path.

G&H's VOA is used for the power adjustment in optical modules, systems and test platforms. The MVOA operates by precisely adjusting the power to any desired level through a controlled movement of the blocking element.

Available in 250 μm bare fiber or 900 μm jacket with connector options such as ST, FC, SC, LC and FC/APC.



Key Features

- Wide attenuation range
- High precision
- High stability
- Low excess loss
- Compact size and high reliability

Applications

- Optical coherence tomography (OCT) modules
- Optical test and measurement systems
- Amplifier power control and equalization
- Communication system and optical sensors



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Contact us 

PRODUCT CODE: MVOA

Datasheet revision no. 1.1

As part of our policy of continuous product improvement, we reserve the right to change specifications at any time.

January 2020

Page 1

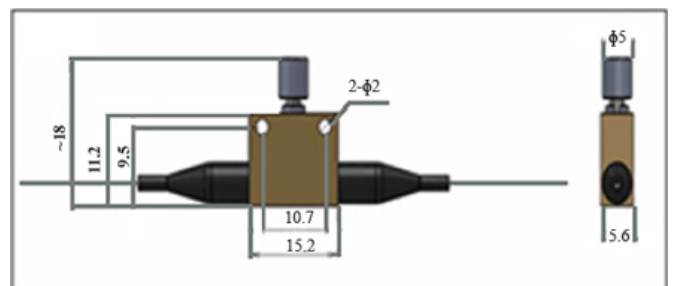
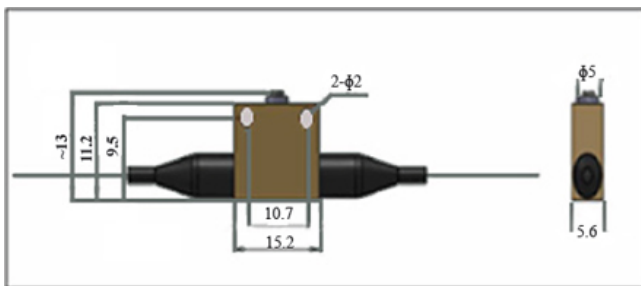
Optical Specifications Without Connectors

Parameter	Values					
Fiber category	S=Single-mode, P=Polarization-maintaining (panda)					M = Multi- mode
Fiber type (fiber code)	HI780 (06) PM780 (89)	HI-1060 (27) PM980 (84)	SMF-28 (03) PM1310 (86)	SMF-28 (03) PM1550 (86)	SM1950 (68) PM1950 (69)	50/125 μ m (11) 62.5/125 μ m (12)
Wavelength	780 \pm 10 nm 850 \pm 10 nm 900 \pm 10 nm	980 \pm 20 nm 1064 \pm 20 nm	1310 \pm 50 nm 1310&1560 \pm 50 nm	1480 \pm 30 nm 1560 \pm 50 nm	1950 \pm 50 nm 2000 \pm 50 nm	850 \pm 40 nm 1310 \pm 40 nm
EL/IL (without connectors)	\leq 1.3 dB	\leq 1.0 dB	\leq 0.6 dB	\leq 0.7 dB	\leq 0.8 dB	\leq 0.8 dB
EL/IL (with connectors)	\leq 2.4 dB	\leq 1.6 dB	\leq 0.9 dB	\leq 1 dB	\leq 1.3 dB	\leq 1.3 dB
PDL (SM only)	\leq 0.05 dB					\leq 0.15 dB
PER (PM only)	\geq 20 dB (without connectors) \geq 18 dB (with connectors)					N/A
Return loss	\geq 55 dB (without connectors) \geq 50 dB (with connectors)					\geq 25 dB (without connectors) \geq 20 dB (with connectors)
Attenuation range	\geq 30 dB					
Resolution at 10 dB attenuation	0.1 dB (typical)					
Power handling	\leq 300 mW					
Operating temperature	0 - +70°C					
Storage temperature	-40 - +85°C					

1 EL/IL (with connectors) is the total loss with one connector mating loss included at the input. The output is assumed to be directly connected to the detector.

Mechanical Drawings

For screwdriver and knob adjustment types



MINIATURIZED SIZED SM AND PM VARIABLE OPTICAL ATTENUATORS (VOA)

Order code	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫
MVOA	-			-				-		-		
①	Fiber type	SM (single mode)			MM (multi-mode)			PM (polarization-maintaining)				
	Code	S			M			P				
②③	Fiber code	Corning HI-780 (SM)	Corning HI-1060 (SM)	Corning SMF-28 (SM)	Nufern SM1950 (SM)	50/125 μ m (MM)	62.5/125 μ m (MM)					
	Code	06	27	03	69	11	12					
②③	Fiber continued	PM780 Panda	PM980 Panda	PM1310 Panda	PM1550 Panda	Nufern PM1950 Panda						
	Code	89	84	86	88	69						
④⑤ ⑥⑦	Wavelength	780 \pm 10 nm	850 \pm 10 nm (SM and PM), or 850 \pm 40 nm (MM)	900 \pm 10 nm	980 \pm 20 nm	1064 \pm 20 nm						
	Code	0780	0850	0900	0980	1064						
④⑤ ⑥⑦	Wavelength continued	1310 \pm 50 nm (SM/PM), or 1310 \pm 40 nm (MM)	1480 \pm 30 nm	1560 \pm 50 nm	1310 \pm 50 nm and 1310 \pm 50 nm	1950 \pm 50 nm	2000 \pm 50 nm					
	Code	1310	1480	1560	3156	1950	2000					
⑧	Fiber jacket/buffer type	250 μ m bare fiber				900 μ m jacket						
	Code	A				B						
⑨	Screw tubing type	Tuning the attenuation with a screwdriver				Tuning with a knob						
	Code	1				2						
⑩⑪	Lead length	1 m		1.5 m		etc						
	Code	10		15		etc						
⑫	Connector Style	None	ST	FC	SC	LC	FC/APC					
	Code	0	2	3	4	5	6					

Specifications are based on non-connectorized products. For connectorized specifications, please contact sales for details. Custom optical and mechanical configurations are available upon request.



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Contact us 

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