Liquid Crystal Based Variable Optical Attenuator

Specifications

Parameters			Unit	Normal-on		Normal-off	
				Grade P	Grade A	Grade P	Grade A
Operating Wavelength Range		-	nm	C-band , L-band or C- & L-band			
Attenuation Range		Min	dB	20 , 30 or 40		21 or 33	
Insertion Loss		Max	dB	1.0	1.2	1.1	1.3
Polarization Dependent Loss	@10dB	Max	dB	0.15	0.2	0.25	0.3
	@20dB	Max	dB	0.25	0.4	0.35	0.5
Wavelength Dependent Loss	@10dB	Max	dB	0.4 @ C-band or L-band			
Polarization Mode Dispersion		Max	ps	0.1			
Chromatic Dispersion		Max	ps/nm	0.2			
Return Loss		Min	dB	45			
Attenuation Resolution		Min	dB/mV	Continuous			
Maximum Optical Power		Min.	mW	300			
Response Rise Time		Max	ms	5			
Response Fall Time		Max	ms	35 (-5°C ~ 23°C), 15 (23°C ~ 70°C)			
Driving Voltage (without driver)		-	V	0 ~ 30 Peak to Peak, 10 KHz Square Wave			
Driving Voltage (with driver)		-	V	0 ~ 5 DC			
Operating Temperature		-	°C	-5 ~ 70			
Storage Temperature		-	°C	-40 ~ 85			
Fiber Pigtail		-	-	SMF-28, 250μm bare fiber or 900μm loose tube, 1.0±0.1m			
Dimensions		-	mm	ϕ7.2 × 23.5 without driver 36.3 × 12.7 × 11.5 with driver			

Note 1: Insertion loss and return loss don't include connectors.
Note 2: response time includes contributions from electrically driving circuits; measured between 10 % and 90 % of maximum attenuation.

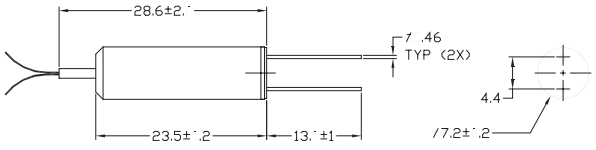
Features/Benefits

- Small footprint in a coaxial package
- Continuous tunning without moving parts
- Resistant to mechanical vibration
- Wide operating wavelength range
- Low PDL, WDL
- Slow tunning slope without backlash and historic
- Low cost

Applications

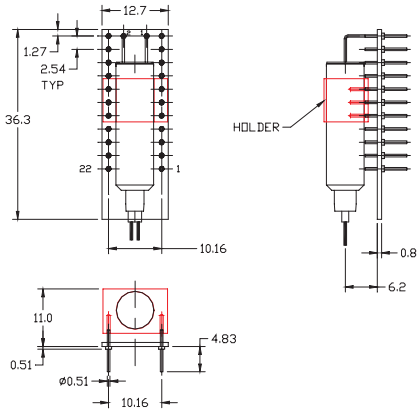
- Channel balancing in DWDM systems (pre-emphasis)
- Power equalization in optical add/drop modules and optical cross-connects
- Gain-tilt and power adjustment in EDFAs
- Receiver protection

VOA Dimensions



Unit: mm

VOA + Driver Assembly Diagram



Driver Characteristics

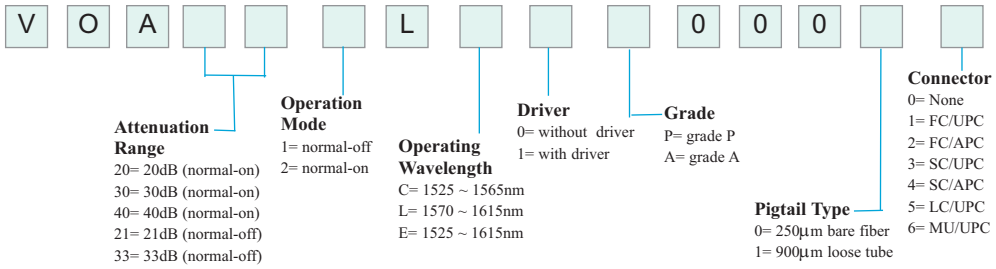
Parameter	Unit	Specification
Power Supply	V	+ 5
Power Consumption	mW	≤ 300
Driving Voltage	V	0 ~ 5
Dimension (excluding electric pin)	mm	36.3 × 12.7 × 1.3
Electric Pin Dimension	mm	ϕ0.51 × 4.83
Electric Pin Pitch	mm	2.54

Driver Pin Assignment

Pin	Function	Pin	Function
1	NC	12	VOA pin B (for off-board connection)*
2	GND	13	NC
3	NC	14	NC
4	NC	15	NC
5	NC	16	NC
6	NC	17	NC
7	Analog Input (0 to 5V)	18	NC
8	GND	19	NC
9	+5V Power Supply	20	NC
10	NC	21	GND
11	VOA Pin A (for off-board connection)*	22	NC

* Pin 11 and 12 can be used to test VOA. Otherwise, please let these two pins open and don't connect them to the ground.

Ordering Information



This product information is subject to change without notice.