

MEMS VOA

MEMS attenuators (MEMS VOAs) are based on a micro-electro-mechanical system (MEMS) technology. It is a micro-optic component designed for next generation, dynamically configurable optical networks. It is based on the Photonic Integrated Circuit (PIC) and electrostatic MEMS technology. The reflective mirror MEMS technology enables the creation of products with high attenuation levels and can be configured as bright or dark devices. When combined with the advanced packaging and manufacturing capabilities, this results in a new category of MEMS components that are designed to exceed specifications for performance, compactness, manufacturability and reliability. we provide a series of customized MEMS VOA products to meet different requirements on operating wavelength, attenuation type, drive voltage and fiber type.



Features

- Steel tube type small package
- Low insertion loss, low WDL/PDL
- Fast response
- High reliability and high stability
- Compliant Telcordia GR-1221

Applications

- Optical power control and equalization
- WDM wavelength division system
- EDFA Gain Control
- Instrumentation

Performance Specifications

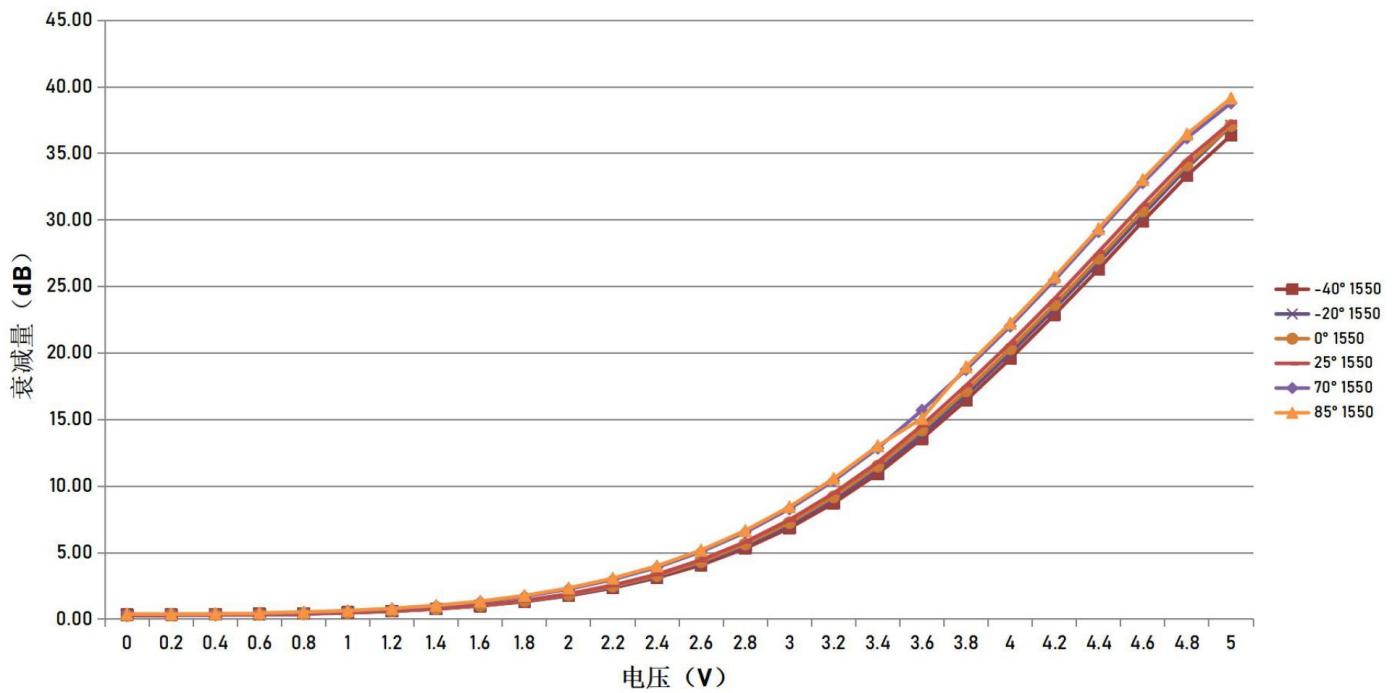
Parameter	Unit	Specification	Note
Wavelength Range(nm)	nm	O/C/L band or 1250~1650nm	
Attenuation Type	-	Bright or Dark	
Attenuation Range	dB	≥30	
Blocking State Attenuation	dB	≥40	Dark type
Insertion Loss	dB	≤0.6	Excluding Connectors
Attenuation Resolution	dB	Continuous	
Wavelength Dependent Loss	dB	≤0.3	@<0dB Att.
	dB	≤1.5	@<20dB Att.
Ripple	dB	≤0.05	Within 0.4nm window @20dB
Polarization Dependent Loss	dB	≤0.2	@<10dB Att.
	dB	≤0.5	@<20dB Att.
Temperature Dependent Loss	dB	≤0.2	@<0dB Att. compare with RT
	dB	≤1.0	@<20dB Att. compare with RT
Return Loss	dB	≥50	
PMD	ps	≤0.1	
Response Time	ms	≤3 (1 Typical)	10-90% Optical Power
Optical Power Handling	mW	500	
Driving Voltage(DC)	V	0~7	
Life	Cycle	≥1x10 ⁹	
Fiber Type	-	SMF-28	
Operating Temperature	°C	-5 to 70	
Storage Temperature Range	°C	-40 to 85	

1. Above specifications are for device without connector. All parameters are tested at room temperature.

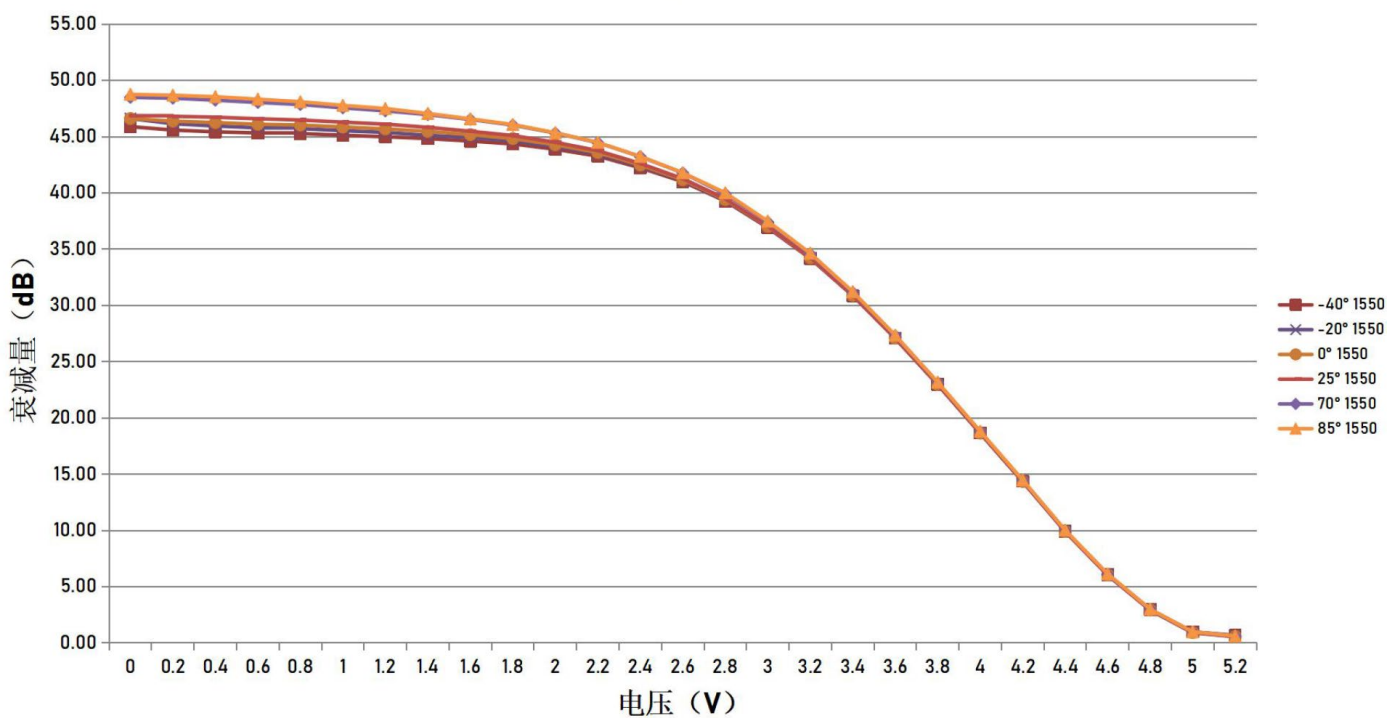
2. For devices with connectors, IL will be 0.3dB higher, RL will be 5dB lower.

Attenuation curve

Bright VOA

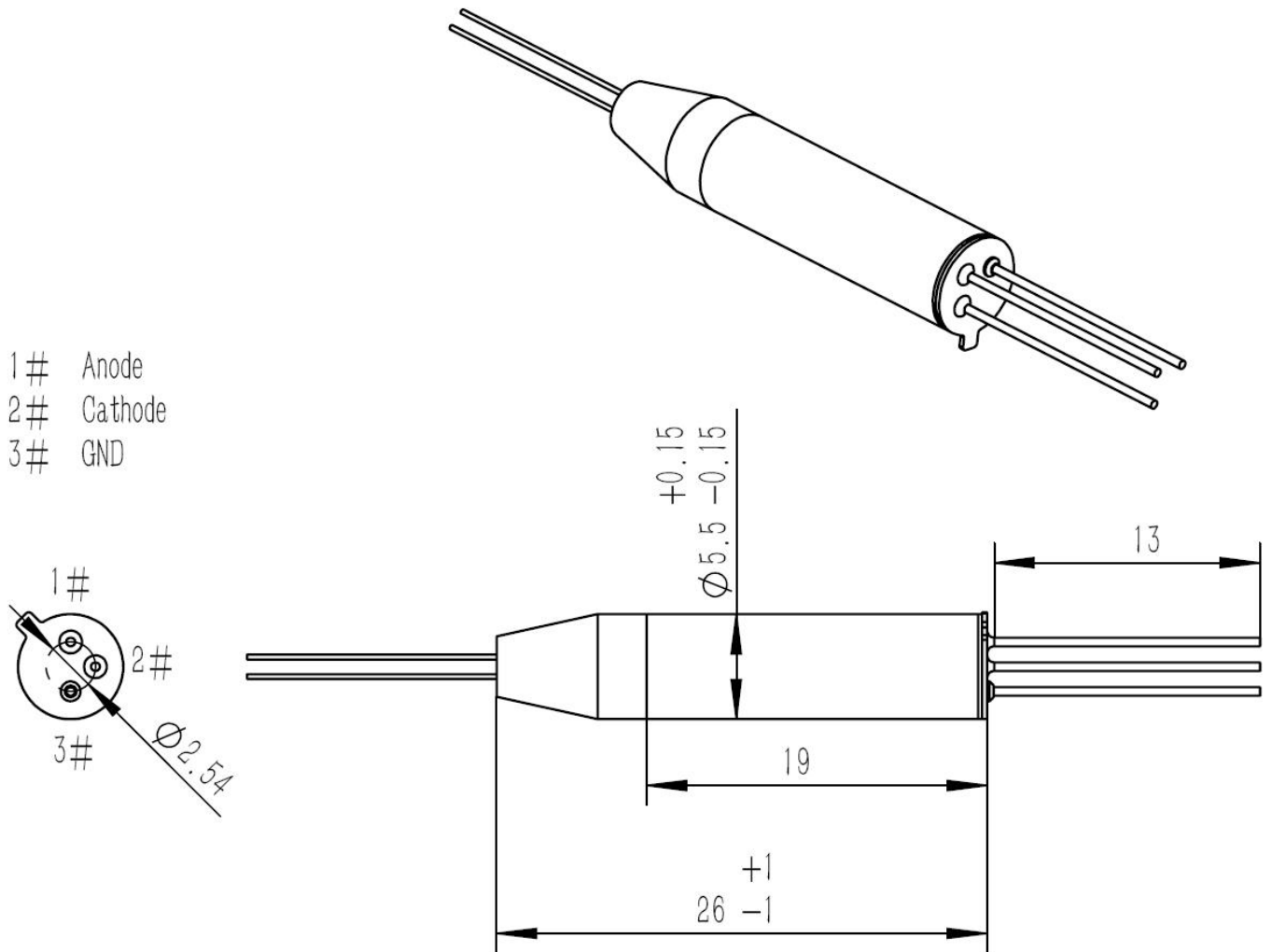


Dark VOA



MEMS VOA temperature attenuation curve: the abscissa is the voltage (V), and the vertical index is the attenuation value of the VOA (dB).

In the figure, the attenuation curves of VOA at -40°, -20°, 0°, 25°, 70°, and 85° are represented by different colors, respectively.

Package Dimensions

Order information P/N: MVOA-①-②-③-④-⑤-⑥-⑦

When you inquire, please provide the correct P/N number according to our ordering information and attach the appropriate description would be better.

①	②	③	④	⑤	⑥	⑦
Wavelength	Attenuation Type	Attenuation Range	Fiber Type	Pigtails Diameter	Fiber Length	Connector
C:C-band	B:Bright	25: >25dB	XXX(fiber code)	25:bare fiber	08:0.8m	00: None
L: L-band	D:Dark	30: >30dB		90:900μm	10:1.0m	FP: FC/PC
CL: C+L band		40: >40dB		tube	XX: Others	FA: FC/APC
XX: Others		X:Others				SA: SC/APC
						LA: LC/APC
						XX: Others

Part Number Example: MVOA-C-D-40-S28-90-10-FA

Description: 1550nm MEMS Variable Optical Attenuator, Dark Type, >40dB attenuation range, 1.0m SMF-28e Fiber with 0.9mm OD loose tube, and FC/APC connector.

Ordering Information for Custom Parts

If you need to customize other specifications, please provide detailed description for your requirement.