

Shutter Variable Optical Attenuator (Dark Type)

Description

Broadex Technologies offers a MEMS-based VOA with a shutter type mechanism that is extremely compact and easy to integrate into any optical network. This thermally actuated VOA is available in both bright and dark configurations and features very low insertion loss and polarization dependent loss along with high dynamic range and high off-state extinction. The hermetically sealed packaging is highly insensitive to shock and vibration and is ESD safe up to 500V. Broadex Technologies Shutter MEMS VOA is ideal for receiver protection or transponder power control, and it is also widely used in EDFAs for power equalization of all channels in multi-channel systems.

Features

- Compact size
- Low insertion loss, low PDL
- Low wavelength dependence loss
- Fast response time
- Hermetically sealed MEMS chip
- Insensitive to shock and vibration
- Low power consumption



Applications

- Optical network power management
- Gain-tilt control in EDFA
- Receiver protection
- Channel on/off switching
- Mux and Demux module, OADM node

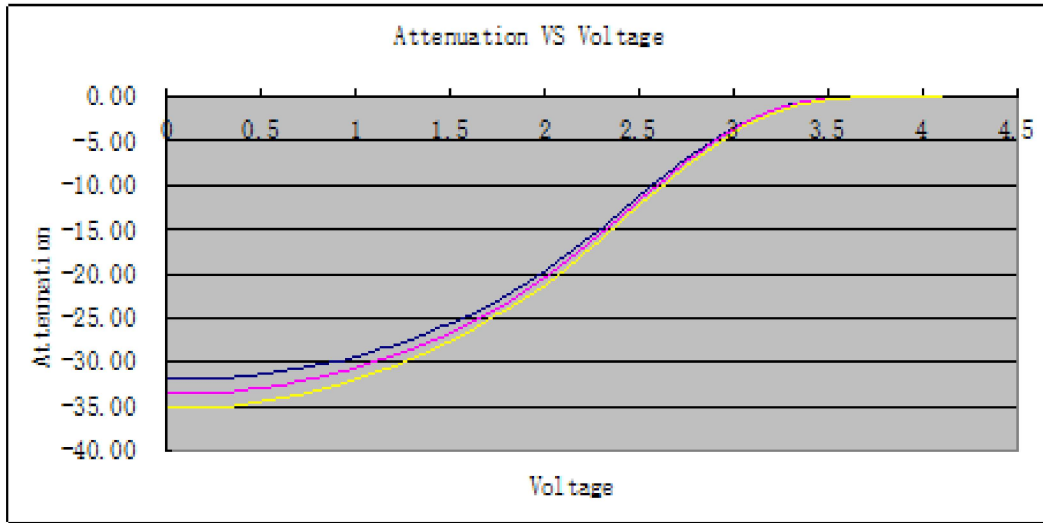
Specifications

Parameters	Min	Typical	Max	Units
Operating Wavelength Range	1528~1568 or 1568~1615			nm
Insertion Loss ¹		0.6	0.8	dB
Attenuation Range	25			dB
Polarization Dependent Loss	0~10dB		0.2	dB
	10~20dB		0.3	dB
Temperature Dependence of Attenuation ²	0dB		±0.2	dB
	0~10dB		±1.0	dB
	10~20dB		±1.2	dB
Wavelength Dependence of Attenuation ³	0dB		0.1	dB
	0~10dB	0.2	0.25	dB
	10~15dB	0.3	0.35	dB
	15~20dB	0.4	0.45	dB
Resolution		0.1		dB
Repeatability		0.1		dB
Return Loss	45			dB
Attenuation Dark ⁴	30			dB
Response Time			20	ms
Optical Power capability			23	dBm
Drive Voltage		4	5	V
Power Consumption			150	mW
Operating Temperature Range	-5		75	°C
Storage Temperature Range	-40		85	°C
Package Dimension	12.7 x 6.5 x 25.4			mm
Fiber Length	1000			mm
Fiber Type	ITU-T G.652.D Compliant fiber, the output fiber marked red			

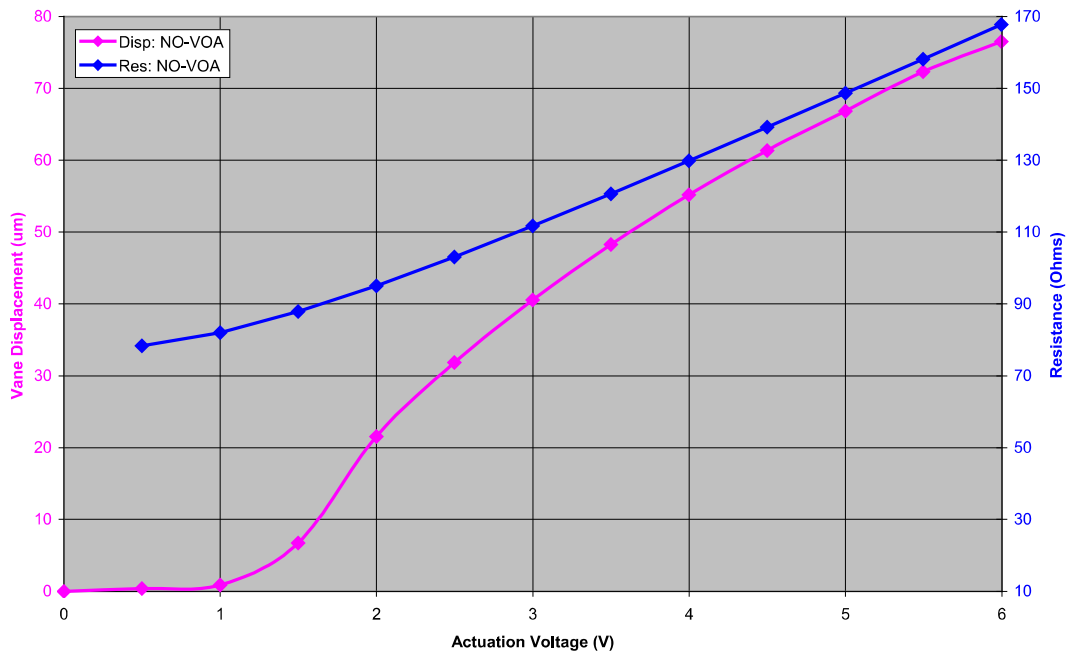
Notes:

1. Over entire operating temperature range and valid for the entire life span
2. Relative to 23 ± 3 °C, under constant drive voltage
3. Over the wavelength range and attenuation range
4. The minimum attenuation when power off

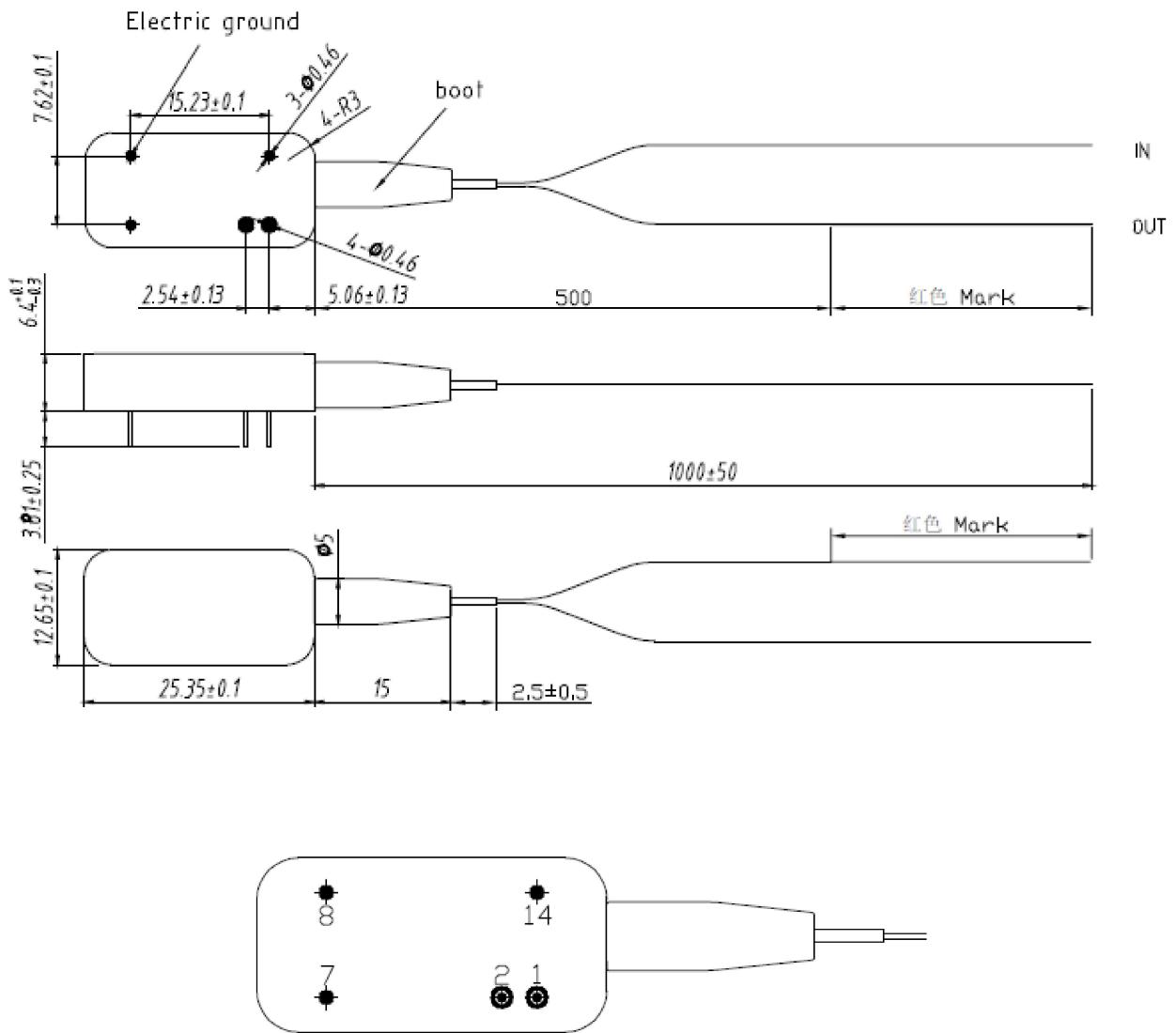
Typical Attenuation Plot



Resistance & Position versus Power



Mechanical Drawing



Pin Number	Description	Comment
1	Common	Connected to stabilized negative or positive supply
2	Voltage (positive)	Connected to stabilized negative or positive supply
7	N/C	Supporting PIN
8	N/C	Supporting PIN
14	N/C	Supporting PIN

Packaging



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