

Mini Shutter Variable Optical Attenuator (Bright 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

- **Absolute Maximum ratings**

Parameters	Unit	Spec		
		min	type	max
Storage Temperature	Degree	-40		85
Operating Temperature	Degree	-5		75
Storage Relative Humidity	%	5		95
Operating Relative Humidity	%	5		95
Power Consumption	mW	150		
ESD Level(HBM)	V	500		

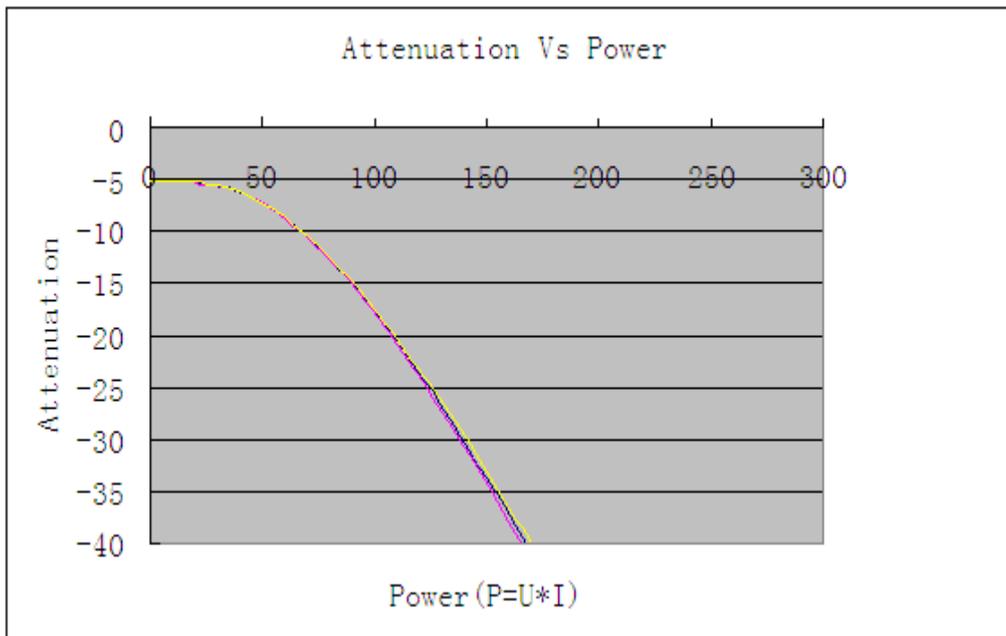
- **Function and performance requirements**

Parameters		Min	Typical	Max	Units
Operating Wavelength Range		1525~1570			nm
Insertion Loss @0V				0.8	dB
Attenuation		20			dB
Attenuation Range				25	dB
Polarization Dependent Loss	0~10dB			0.2	dB
	10~20dB			0.3	dB
Temperature Dependence of Attenuation	0dB			±0.2	dB
	0~10dB			±0.5	dB
	10~20dB			±0.7	dB
Wavelength Dependence of Attenuation	0dB~10			0.2	dB
	10~20dB			0.3	dB
	20~25dB			0.4	dB
Resolution			0.1		dB
Repeatability				0.1	dB
Return Loss		45			dB
Response Time				20	ms
Optical Power Capability				23	dBm
Drive Voltage			5	6	V
Power Consumption				150	mW
Operating Temperature Range		-5		75	°C
Storage Temperature Range		-40		85	°C
Package Dimension		17 x 8.5x 5.9			mm
Fiber Length		1000			mm
Fiber Type		ITU-T G.652.D Compliant, the output fiber marked red			
Connector Type(Default)		N/A			

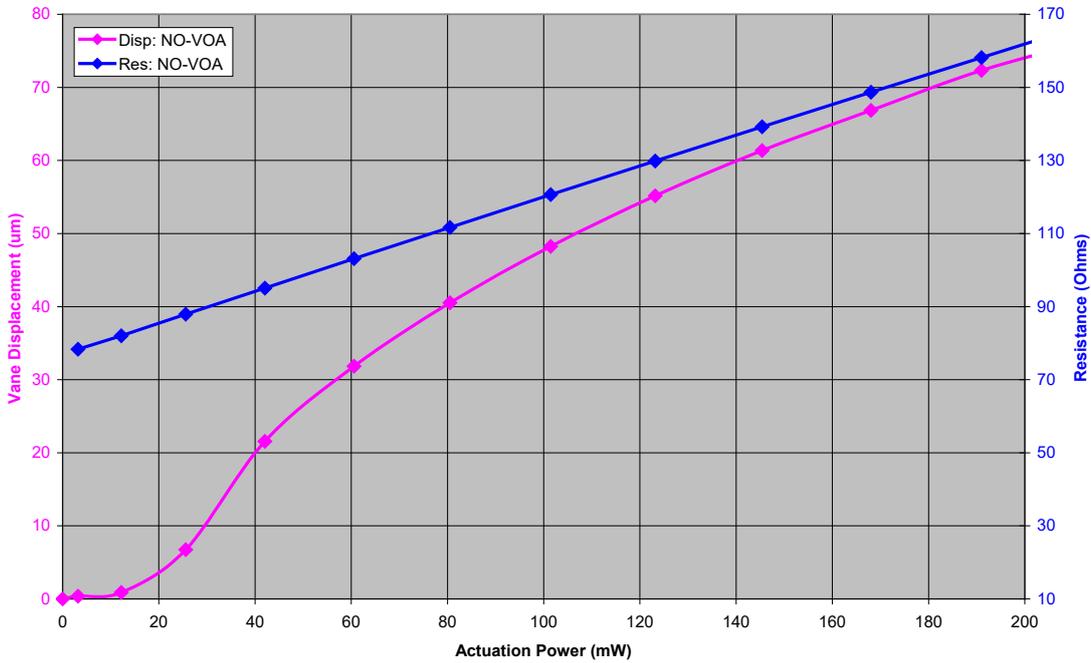
- **Design and Construction**

	Type	Unit
Package Dimension	17*8.3*6.1	mm
Connector	N/A	
Fiber type	G652 D fiber	
Fiber Length	100 or customized	cm
Fiber color	Input fiber color is white; Output fiber color is red	

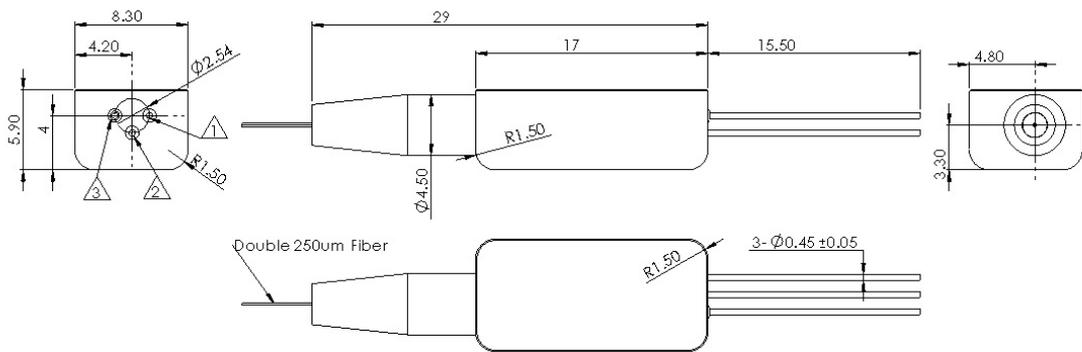
Typical Attenuation Plot



Resistance & Position versus Power



Mechanical Drawing



Pin Number	Description	Comment
1	drive	Connected to stabilized negative or positive supply
2	drive	Connected to stabilized negative or positive supply
3	N/C	Supporting PIN

Packaging:



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