

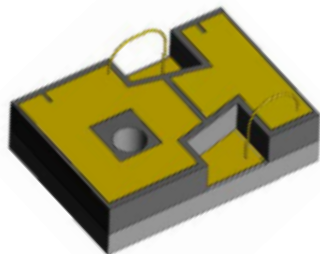
0.3mm Motion etMEMS™ Free Space Attenuator Chip



(Protected by US patents pending)

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The etMEMS™ series of free space variable optical attenuator (FS-VOA) is based on a proprietary patent pending micro-electro-mechanical mechanism featuring exceptionally compact size with large shutter movement, simple construction, and direct drive. The etMEMS™ series of FS-VOA is designed to completely block a collimated light beam $\leq 300\mu\text{m}$ in diameter and be operated in air without the need for hermetic seal and is fully compliant with the Telcordia 1209 and 1221 reliability standards. The device is ideally suited to be integrated into laser and coherent detection systems.

The different movement FS-VOA chip up to $700\mu\text{m}$ is available, please contact us.

Features

- Compact
- High Reliability
- Low IL, PDL, WDL & TDL
- Intrinsic tolerance to ESD

Specifications

Parameter	Min	Typical	Max	Unit
Attenuation Resolution		Continuous		
Shutter Movement		300		μm
Response Time		20	60	ms
Optical Power Handling		400		mW
Driving Voltage ^[1]		3.3	4	V
Device Resistance		60 ^[2]	95	Ohm
Power Consumption		190	210	mW
Resonant Frequency	1500			Hz
Operating Temperature	-5		75	°C
Storage Temperature	-40		85	°C
Reliability	Telcordia 1209 and 1221			
Package Dimension	See drawing below			

Note:

- [1]. For full dynamic range.
- [2]. At voltage 3.5V.

Applications

- Power Control
- Power Regulate
- Channel Balance
- Instrumentation

Legal notices: All product information is believed to be accurate and is subject to change without notice. Information contained herein shall legally bind Agiltron only if it is specifically incorporated into the terms and conditions of a sales agreement. Some specific combinations of options may not be available. The user assumes all risks and liability whatsoever in connection with the use of a product or its application.

Rev 02/08/25

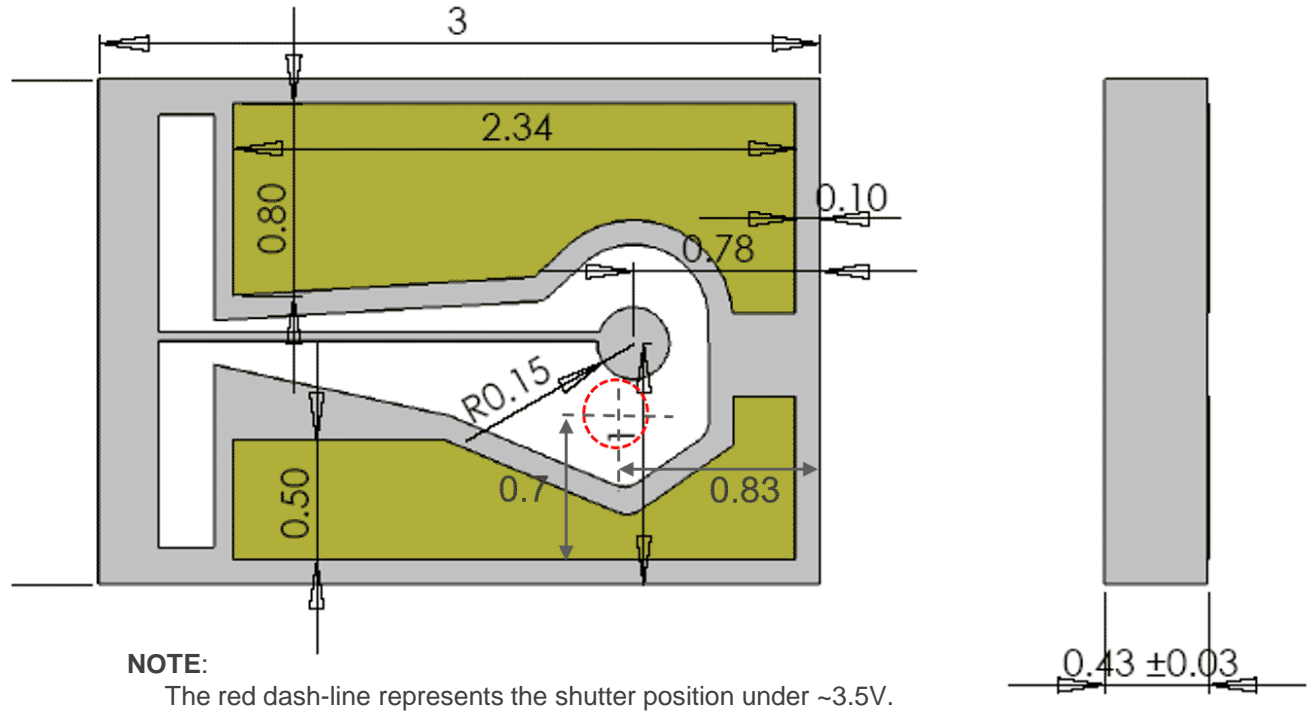
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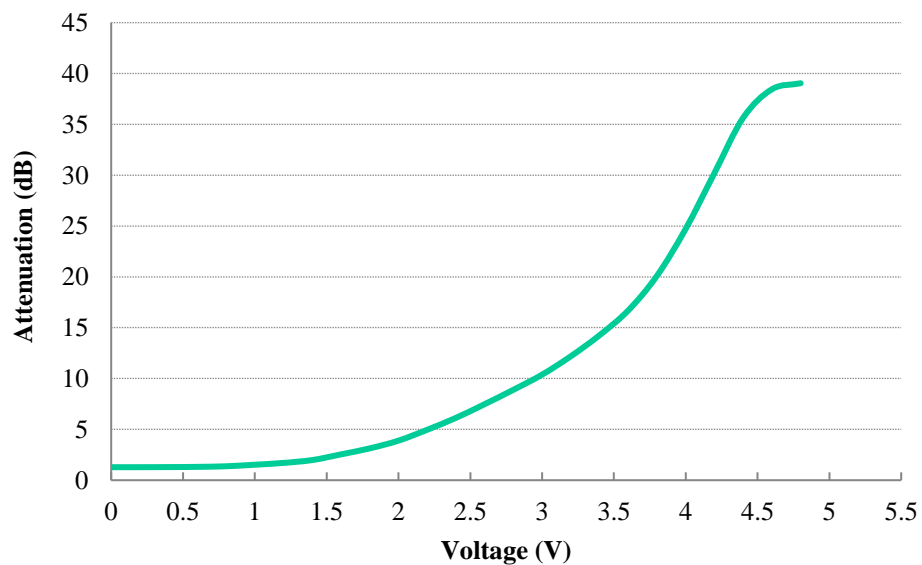
Mechanical Footprint Dimensions (mm)



NOTE:
The red dash-line represents the shutter position under ~3.5V.

*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

VOA Performance



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Electronic Driving Instruction

NOTES:

- Electrode pads on front surface are for control voltage without polarity.
- Do not apply more than 5V.

Ordering Information

P/N: FSVOA-30111010C (Standard)

	30	1	<input type="checkbox"/>	1	0	<input type="checkbox"/>	0	C
Prefix	Shutter size	Wavelength	VOA Type	Shutter Surface	Package Configuration	Chip Design	Electric Connection	
FSVOA-	∅300μm ^[1] = 30	Broadband = 1	Standard = 1 Special = 0	Gold coated = 1	Standard = 1 No hold-chip = 0	Standard = 1 Special = 0	No PIN = 0	Bare chip = C

[1]. The different shutter size is available, please check other size FS-VOA chip data sheet.

[2]. The different orientation or customization might be available, please contact us.

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Typical Insertion Loss vs Wavelength (1240-1630nm)

1x2 MEMS Switch

