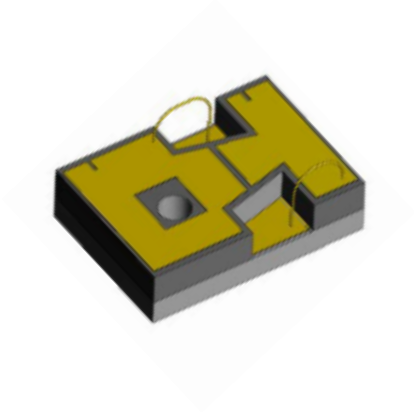
0.5mm Movement Free Space *et*MEMS™ Attenuator Chip/Sub-mount

(Protected by US patent 10752492B2)

DATASHEET

BUY NOW



The ***et*MEMS™** series of free space variable optic 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 easy direct drive. The ***et*MEMS™** series of FS-VOA is designed to block a collimated light beam completely <= 400μm in diameter and be operated in the air without the need for a hermetic seal and is fully compliant with the Telcordia 1209 and 1221 reliability standards. The device is ideally suited to be integrated into laser systems. The different movement FS-VOA chip up to 700μm is available.

Features

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

Specifications

Parameter	Min	Typical	Max	Unit
Attenuation Resolution		Continuous		
Shutter Movement		500		μm
Response Time		20	40	ms
Optical Power Handling		500		mW
Driving Voltage[1]		3.6	4.0	V
Device Resistance		90 [2]	120	Ohm
Power Consumption		210	250	mW
Resonant Frequency	200			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 3.6V.

Applications

- Power Control
- Power Regulate
- Channel Balance
- Instrumentation

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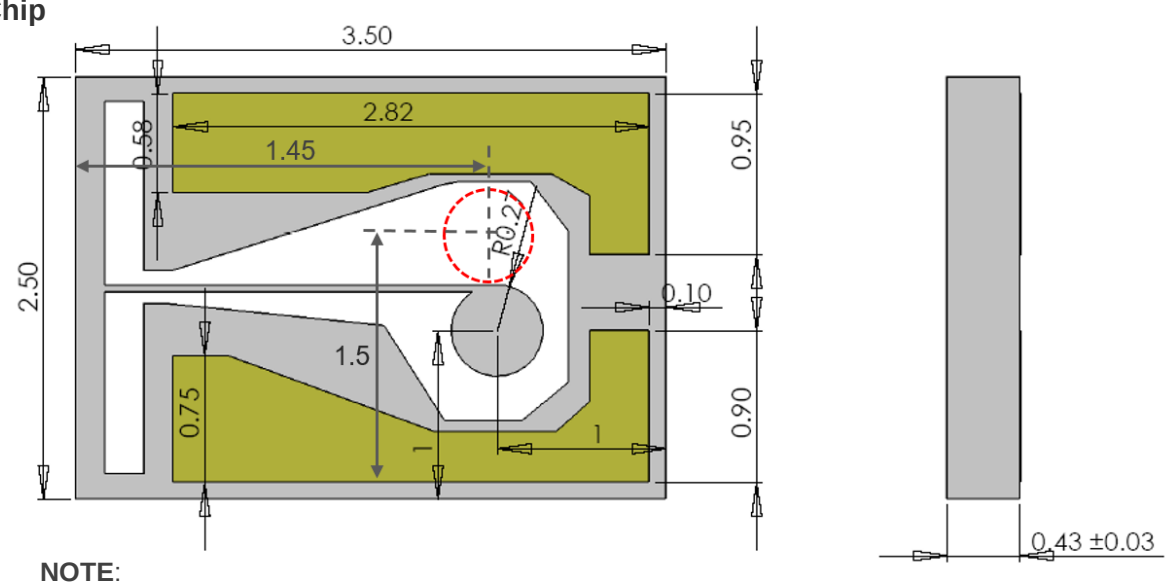
Mechanical Footprint Dimensions (mm)

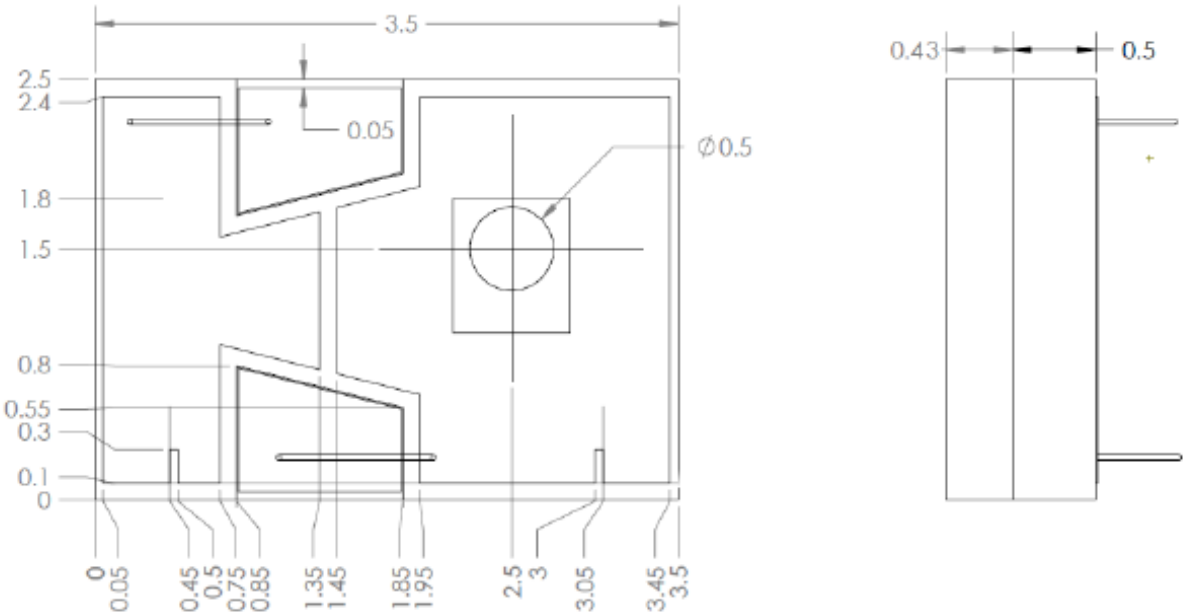
Bare Chip



NOTE:

- The red dash-line represents the shutter's position under ~4.0V.

Chip on Sub-mount: Standard package with ϕ500um aperture (No Pin, normal bright configuration)



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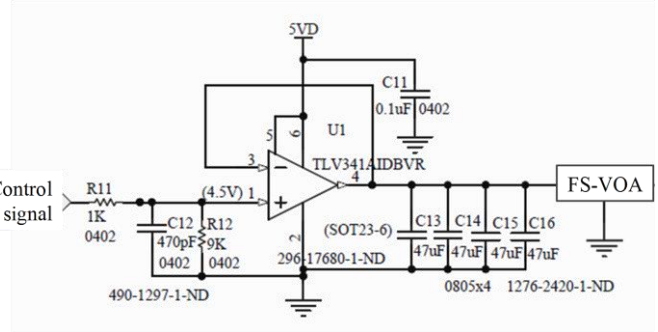
Electronic Driving Instruction

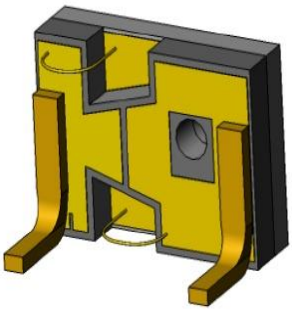
NOTES:

- Resistive without polarity
- Applying >4.5V will burn the chip
- Two pads are for applying a voltage
- Reference driving circuit on the right

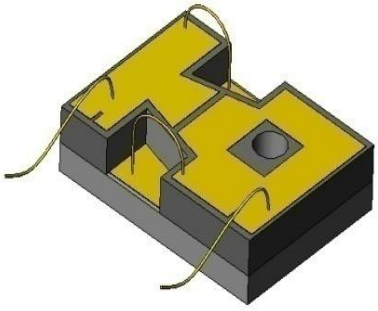


Electronic Pin Option for sub-mount

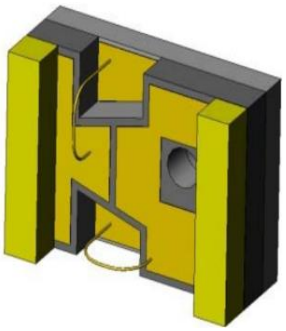
L-pins



Flying Wires



Mounting Shorts



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Ordering Information

	5 0	1	☐	1	☐	☐	☐	☐
Prefix	**Shutter size**	**Wavelength**	**VOA Type**	**Shutter Surface**	**Chip Package**	**Chip Design**	**Electric connection [2]**	**Package**
FSVOA-	Ø500um = 50 [1]	Broadband = 1	Standard = 1 Special = 0	Gold = 1	Bare = 2	Standard = 1 Special = 0	No PIN = 0 L Pin = 1 Flying Wires = 2 Mounting shorts = 3	Bare chip = C Sub-mount = 1

[1]. Different shutter size is available, please check another size FS-VOA chip datasheet.
[2]. PIN selection is only applicable to the chip on sub-mount

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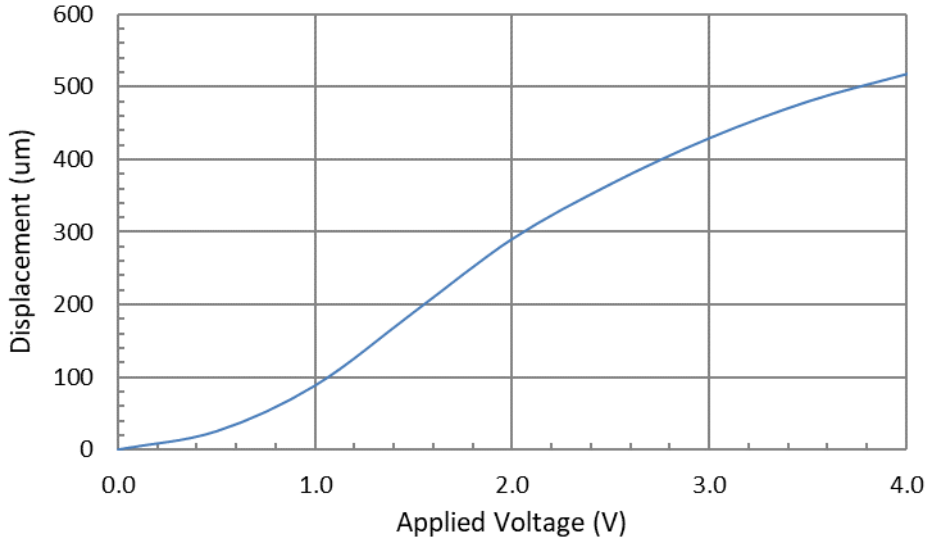
Shutter Performance (Typical)



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