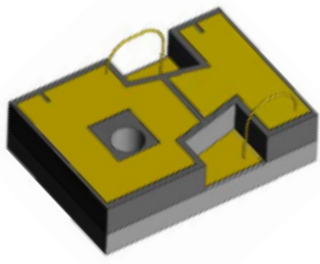


0.5mm Movement Free Space etMEMS™ Attenuator Chip/Sub-mount



(Protected by US patent 10752492B2)



The **etMEMS™** 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 **etMEMS™** series of FS-VOA is designed to block a collimated light beam completely $\leq 400\mu\text{m}$ 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 for integration into laser systems. The different movement FS-VOA chip up to $700\mu\text{m}$ 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



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 05/08/26

0.5mm Movement Free Space etMEMS™ Attenuator Chip/Sub-mount

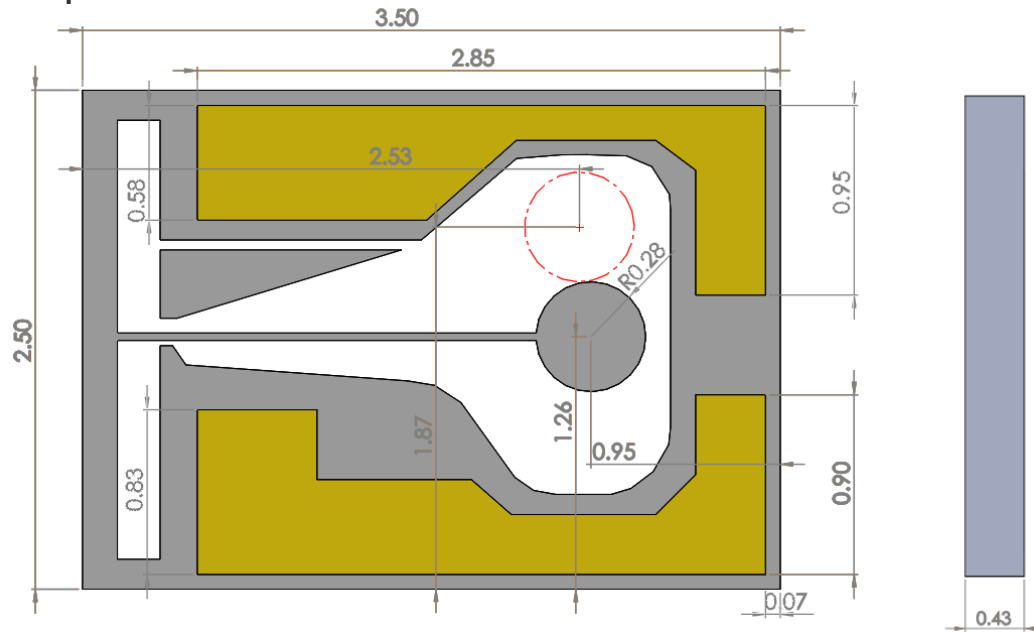


(Protected by US patent 10752492B2)

DATASHEET

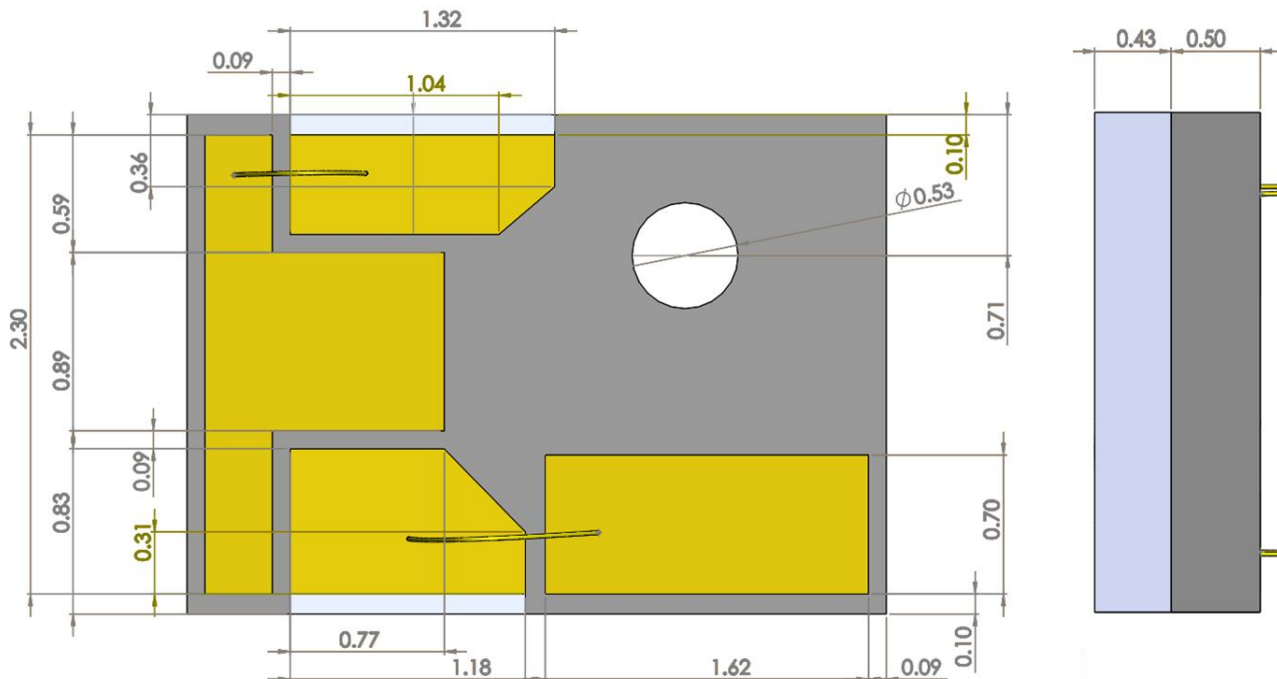
Mechanical Footprint Dimensions (mm)

Bare Chip



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

Chip on Sub-mount: Standard package with $\phi 500\mu\text{m}$ aperture (No Pin, normal bright configuration)



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

P +1 781-935-1200

E sales@agiltron.com

W www.agiltron.com

0.5mm Movement Free Space etMEMS™ Attenuator Chip/Sub-mount



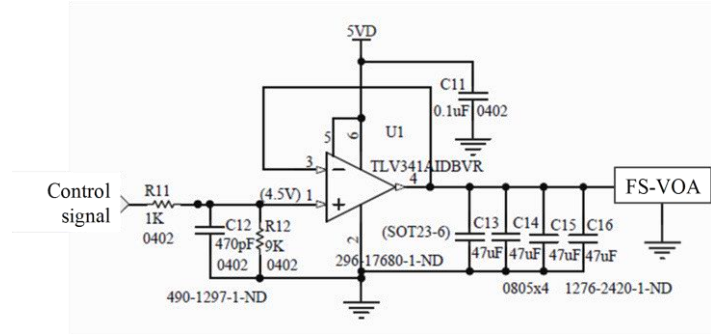
(Protected by US patent 10752492B2)

DATASHEET

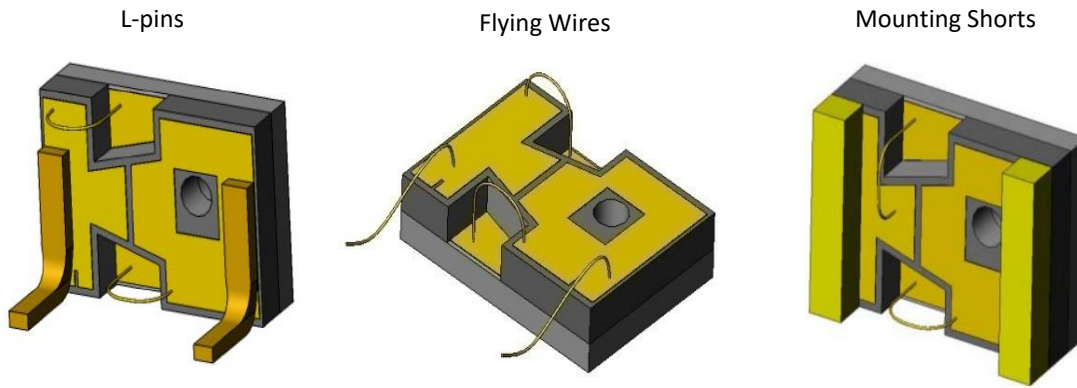
Electronic Driving Instruction

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



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

Ordering Information (Part Number)

Prefix	Shutter size	Wavelength	VOA Type	Shutter Surface	Chip Package	Chip Design	Electric connection ^[2]	Package
FSVOA-	∅500um = 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

0.5mm Movement Free Space etMEMS™ Attenuator Chip/Sub-mount



(Protected by US patent 10752492B2)

DATASHEET

Shutter Performance (Typical)

