

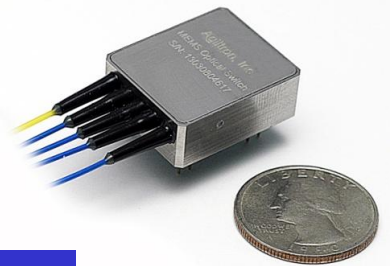
etMEMS™ 1x3, 1x4 Fiberoptic Switch

(Protected by U.S. pending patents)

Product Description

The etMEMS™ Series 1x3,1x4 Fiberoptic switch connects optical channels by redirecting incoming optical signals into selected output fibers. This is achieved using a patent pending etMEMS™ configuration and activated via an electrical control signal. It uniquely features rugged thermal activated micro-mirror movement instead of rotation.

This novel design significantly reduces packaging requirement and simplifies driving electronics, offering unprecedented high stability as well as an unmatched low cost.



Features

- High reliability
- Intrinsic tolerance to ESD

Performance Specifications

etMEMS™ Series 1x3, 1x4 Switch	Min	Typical	Max	Unit
Operation Wavelength	Single Band	1260-1360 or 1510-1620		nm
	Dual Band	1260-1360 and 1510-1620		
	Broad Band	1260-1620		
Insertion Loss ^[1]		0.6	1.2 ^[2]	dB
Wavelength Dependent Loss		0.2	0.3 ^[2]	dB
Polarization Dependent Loss			0.1	dB
Return Loss ^[1]	50			dB
Cross Talk ^[1]	50			dB
Switching Time		10		ms
Repeatability			±0.05	dB
Repetition Rate			20	Hz
Durability	10 ⁹			Cycle
Switching Type		Non-Latching		
Operating Temperature	-5		70	°C
Storage Temperature	-40		85	°C
Optical Power Handling		300	500	mW
Fiber Type		SMF-28 ^[3]		

[1]. Exclude connectors.

[2]. Dual Band and Broad Band.

[3]. Please contact us for other SM fiber type.

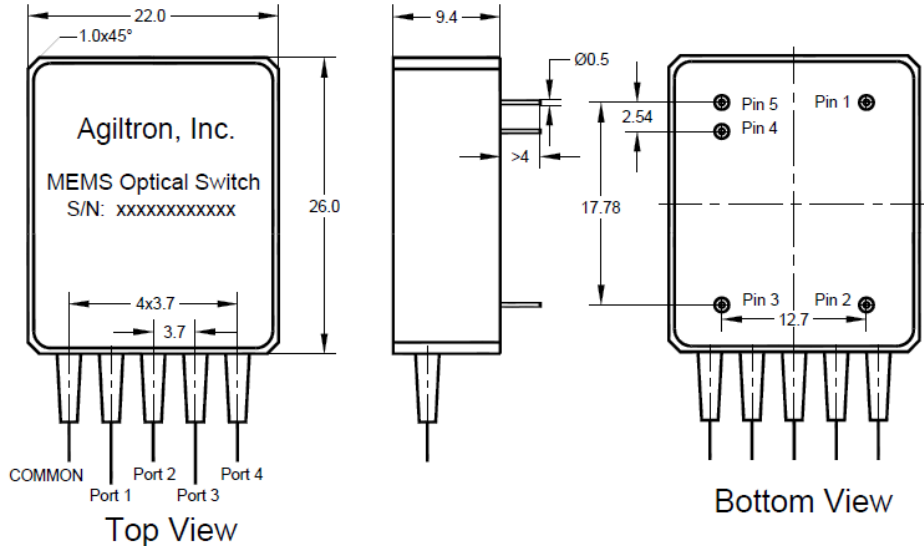
Applications

- Channel Blocking
- Configurable Add/Drop
- System Monitoring
- Instrumentation



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Mechanical Dimensions (Unit: mm)



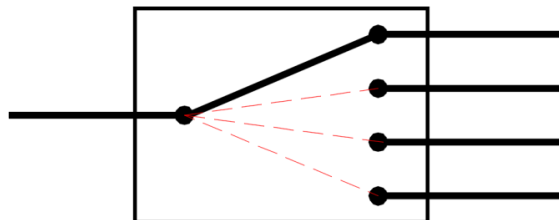
Electronic Control Requirements

Optical Path	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5
Common↔Port 1	H	L	L	NC ^[1]	GND
Common↔Port 2	L	H	L	NC	GND
Common↔Port 3	L	L	H	NC	GND
Common↔Port 4	L	L	L	NC	GND

[1] NC: No electrical connection.

Driving Voltage	Min	Typical	Max	Unit
H	4.0	4.5	5.0	V
L			0.8	V
Power Consumption (for each MEMS chip)		170		mW

Functional Diagram



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Ordering Information

MEMS-	Type	Wavelength	Switch	Package	Fiber Type	Fiber Length	Connector	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1x3=13 1x4=14 Special=00	1060=1 C+L=2 1310=3 1410=4 1550=5 650=6 780=7 850=8 1310/1550=9 1260~1620=B Special=0	Non-Latching=2	Standard=1 Special=0	SMF-28=1 Special=0	Bare fiber=1 900um tube=3 Special=0	0.25m=1 0.5m=2 1.0m=3 Special=0	None=1 FC/PC=2 FC/APC=3 SC/PC=4 SC/APC=5 ST/PC=6 LC=7 Duplex LC=8 Special=0

Recommend MEMS Non-Latching Switch Driver

