

etMEMS™ 1x1, 1x2 Fiberoptic Switch

(Protected by U.S. pending patents)

Product Description

The etMEMS™ Series 1x1, 1x2 Fiberoptic switch connects optical channels by redirecting incoming optical signals into selected output fibers. This is achieved using a proprietary etMEMS™ configuration and activated via an electrical control signal. It uniquely features rugged thermal activated micro-mirror, moving-in and -out optical paths instead of mirror rotation. This novel design significantly simplify the control electronics, offering unprecedented high stability and an unmatched low cost.

We offer the straight and reflective versions for the flexibility to connect fibers. In addition, we also offer the built-in driver type switches in both versions, which features a convenient user interface.

Performance Specifications

etMEMS™ 1x1, 1x2 Switch	Min	Typical	Max	Unit
Operation Wavelength	Single Band 1260-1360 or 1510-1610			nm
	Dual Band 1260-1360 and 1510-1610			
	Broad Band 1260-1620			
Insertion Loss ^[1]		0.6	1.0	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]. Excluding connectors.

[2]. Dual band and Broad band.

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

Features

- High Reliability
- Intrinsic tolerance to ESD

Applications

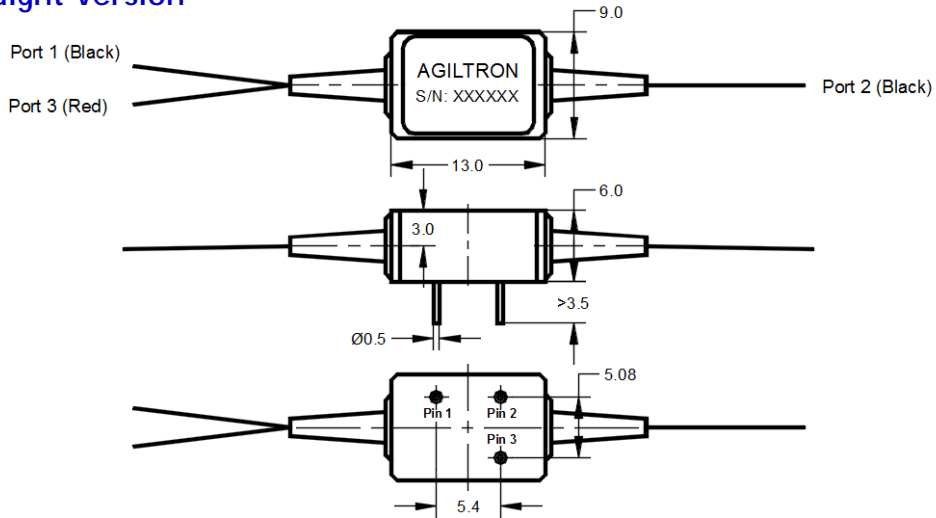
- Channel Routing
- Configurable Add/Drop
- System Monitoring
- Instrumentation



etMEMS™ 1x1, 1x2 Fiberoptic Switch

Mechanical Dimensions (Unit: mm)

Straight Version



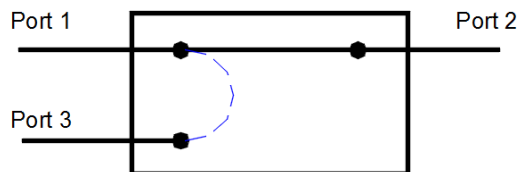
Electrical Driving Requirements

Optical Path			Pin 1	Pin 2	Pin 3
1X1 (Normally Open)	1X1 (Normally Close)	1X2			
Block	Port 1→2	Port 1→2	NC ^[1]	GND	H
Port 1→2	Block	Port 1→3			L

[1]. NC: No electronic connection.

Driving Voltage	Min	Typical	Max	Unit
H	3.3	3.5	4.5	V
L			0.8	V
Power Consumption		170		mW

Functional Diagram



MEMS 1x2 Switch (Straight version)

etMEMS™ 1x2 Fiberoptic Switch

Ordering Information

MEMS-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Type	Wavelength	Switch	Package	Fiber Type	Fiber Length	Connector			
1x1 N/O ^[1] =1O 1x1 N/C ^[2] =1C 1x2=12 2x1=21 Special=00	1060=1 C+L=2 1310=3 1410=4 1550=5 1310 & 1550=9 B=1260~1620 Special=0	Non-Latching=2 Special=0	Straight=3 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		

[1]. N/O: MEMS 1x2 Non-Latching Switch Normally open.

[2]. N/C: MEMS 1x2 Non-Latching Switch Normally close.