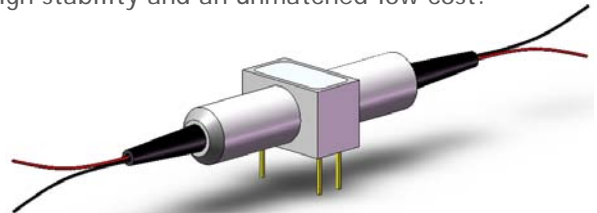


etMEMS™ Mini 1x1, 1x2, 2x2 Fiberoptic Switch

(Protected by U.S. patent 8,203,775 and other patents pending)

Product Description

The etMEMS™ mini 1x1, 1x2, 2x2 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 movement instead of rotation, and latches to preserve the selected optical path after the drive signal and the power have been removed. This novel design significantly simplify the control electronics, offering unprecedented high stability and an unmatched low cost.



Performance Specifications

etMEMS™ 1x1, 1x2, 2x2 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		5		ms
Repeatability			±0.05	dB
Repetition Rate			20	Hz
Durability	10 ⁹			Cycle
Switching Type		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 version.

Features

- High Reliability
- Latching
- Intrinsic tolerance to ESD

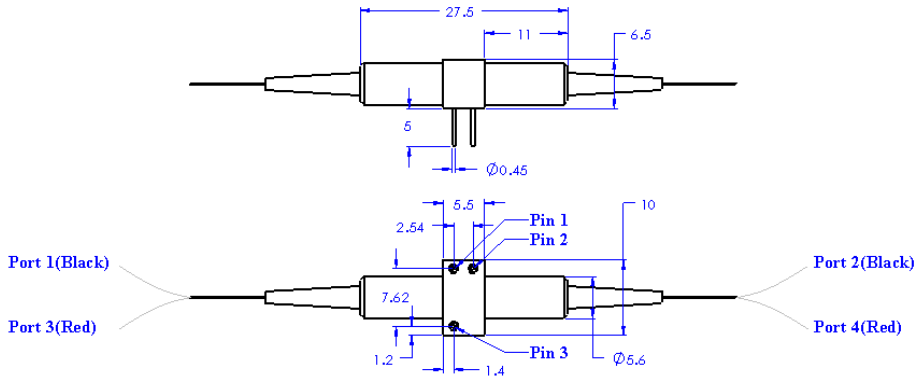
Applications

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



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Mechanical Dimensions (Unit: mm)



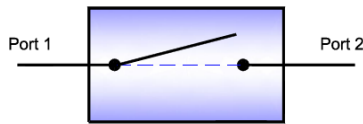
Electrical Driving Requirements

Optical Path			Pin 1	Pin 2	Pin 3
1x1	1x2	2x2			
Port 1↔2	Port 1↔2	Port 1↔2, Port 4↔3	Driving pulse	NC	GND
Block	Port 1↔2	Port 1↔3, Port 4↔2	NC	Driving pulse	

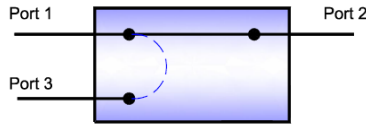
Driving Pulse	Min	Typical	Max	Unit
Pulse voltage	9	9.3	9.5 [4]	V
Pulse width	12	12.5	13 [4]	ms
Peak Current		290		mA

[4]. **Attention!** Outside this range could damage the device.

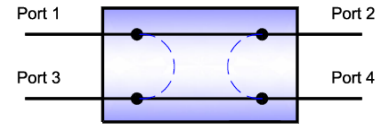
Functional Diagram



MEMS Mini 1x1 Switch



MEMS Mini 1x2 Switch



MEMS Mini 2x2 Switch

Ordering Information

MEMS-	Type	Wavelength	Switch	Package	Fiber Type	Fiber Length	Connector	
	1x1=11 1x2=12 2x2=22 Special=00	1060=1 C+L=2 1310=3 1410=4 1550=5 1310 & 1550=9 1260-1620=B Special=0	Latching = 1	Mini = 9	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