

MEMSLatch™ 1x3, 1x4 Fiberoptic Switch

(Protected by U.S. patent 13/210,703 and pending patents)

Product Description

The MEMSLatch Series 1x3,1x4 Fiberoptic switch connects optical channels by redirecting incoming optical signals into selected output fibers. This is achieved using a patent pending MEMS configuration and activated via an electrical control signal. It uniquely features rugged thermal activated micro-mirror and latches to preserve the selected optical path after the drive signal has been removed. This novel design significantly reduces packaging requirement, offering unprecedented high stability as well as an unmatched low cost. It is conveniently driven by 5V.

Performance Specifications

MEMS Series 1x3, 1x4 Switch	Min	Typical	Max	Unit
Operation Wavelength	1260		1620	nm
Insertion Loss ^[1, 2]		0.6	1.0	dB
Wavelength Dependent Loss		0.2	0.3 (DW) ^[3]	dB
Polarization Dependent Loss			0.1	dB
Return Loss ^[1, 2]	50			dB
Cross Talk ^[1, 2]	50			dB
Repeatability			±0.05	
Durability	10 ⁹			Cycle
Switching Type		Latching		
Operating Temperature	-20		80	°C
Storage Temperature	-40		85	°C
Optical Power Handling		300	500	mW
Fiber Type		SMF-28		
Package Dimension		26.0L x 2.0W x 9.4H		mm

1. Within operating temperature and SOP.

2. Excluding connectors.

3. DW: Dual band and Broad band.

Applications

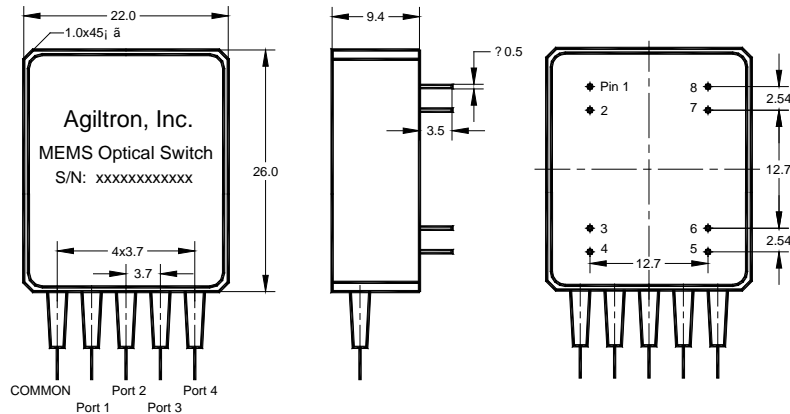
- Channel Blocking
- Configurable Add/Drop
- System Monitoring
- Instrumentation



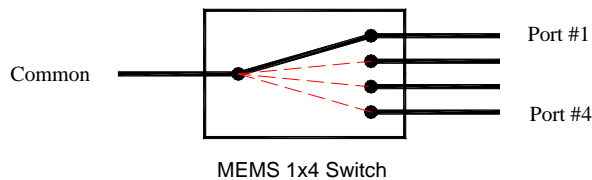
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Mechanical Dimensions (Unit: mm)



Functional Diagram and Electronic Control



Optical Path	Electrical Power		Control Input					
	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
Comm→Port 1	5 ± 0.5 (V)	GND	L	L	NC	SWE ^[3]	NC	NC
Comm→Port 2			H ^[1]	L		SWE		
Comm→Port 3			L ^[2]	H		SWE		
Comm→Port 4			H	H		SWE		

Notes: [1]. **H**: high level signal (5.5V > **H** > 3.5V, Pulse width > 25ms). [2]. **L**: low level signal (**L** < 0.8V). [3] If SWE = H, the switch is enabled to input control signal; If SWE = L, the switch is disabled to input control signal.

Ordering Information

MEMS-	Type	Wavelength	Switch	Package	Fiber Type	Fiber Length	Connector
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1x3=13 3x1=31 1x4=14 4x1=41 Special=00	1060=1 C+L=2 1310=3 1410=4 1550=5 650=6 780=7 850=8 1310 & 1550=9 Special=0	Latching Type=1 Special=0	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

