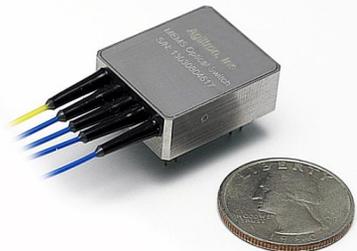**PHOTONWARES**

etMEMS™ 1x3, 1x4 Multimode Fiberoptic Switch

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

Product Description

The etMEMS™ Series 1x3,1x4 MM 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 movements instead of rotation, and latches to preserve the selected optical path after the drive signal has been removed.

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
- Latching
- Intrinsic tolerance to ESD

Applications

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

Performance Specifications

etMEMS™ 1x3, 1x4 MM Switch	Min	Typical	Max	Unit
Operation Wavelength	Single Band 850, 1310, 1550			nm
	Dual Band 850 and 1310			
Insertion Loss [1]		0.7	1.2 [2]	dB
Wavelength Dependent Loss		0.15	0.3 [2]	dB
Return Loss [1]	35			dB
Cross Talk [1]	35			dB
Switching Time		20		ms
Repeatability			±0.05	dB
Durability	10^9			Cycle
Repetition Rate			10	Hz
Switching Type		Latching		
Operating Temperature	-5		70	ºC
Storage Temperature	-40		85	ºC
Optical Power Handling (CW)		300	500	mW
Fiber Type		MM50/125, MM62.5/125 [3]		

[1]. Excluding connectors.
[2]. Dual band.
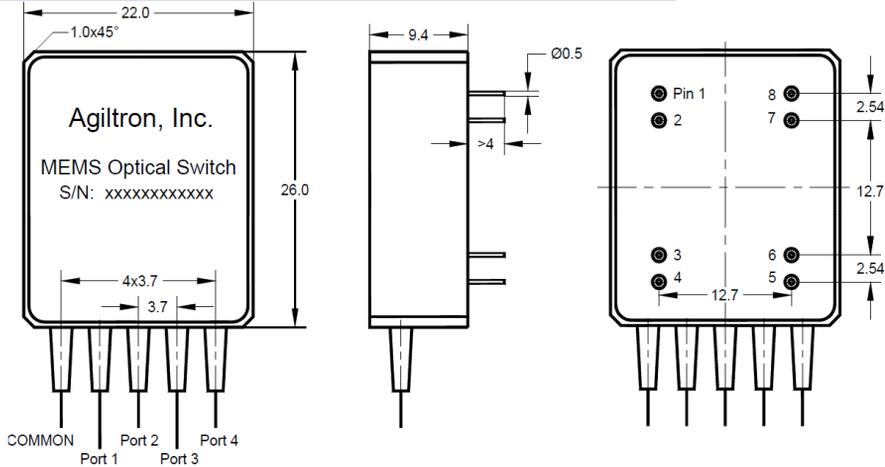[3]. Please contact us for other MM fiber type.

etMEMS™ 1x3,1x4
Multimode Fiberoptic Switch

Mechanical Dimensions (Unit: mm)

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

Electrical Driving Requirements

Optical Path	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
Comm↔Port 1	**DP***	**NC**	NC	NC	NC	NC	GND	
Comm↔Port 2	NC	DP	**DP**	**NC**	NC	NC		
Comm↔Port 3	NC	DP	NC	DP	**DP**	**NC**		
Comm↔Port 4	NC	DP	NC	DP	NC	DP		

* DP: Driving Pulse Voltage.

Driving Pulse	Min	Typical	Max	Unit
Pulse voltage	9	9.3	9.5 [3]	V
Pulse width	12	12.5	13 [3]	ms
Peak current		290		mA

[3]. Attention! Outside this range could damage the device.
[4]. Please contact us for the built-in driver version.

Ordering Information

MEMM[1]-	☐☐	☐	1	☐	☐	☐	☐	☐
	Type	Wavelength	Switch	Package	Fiber Type		Fiber Length	Connector
	1x3=13 1x4=14 Special=00	1060=1 1310=3 1550=5 850=8 850/1310=A Special=0	Latching=1	With Built-in Driver=1 W/O Built-in Driver=2 Special=0	MM50/125=5 MM62.5/125=6 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]. **MEMM**: **ME**MS 1x3, 1x4 **M**ulti**M**ode Switch.