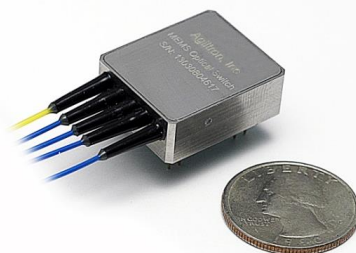# *et*MEMS™ 1x3, 1x4 Fiberoptic Switch

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

Product Description

The *et*MEMS™ Series 1x3,1x4 Fiberoptic switch connects optical channels by redirecting incoming optical signals into selected output fibers. This is achieved using a patent pending *et*MEMS™ 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

*et*MEMS™ Series 1x3, 1x4 Switch	Min	Typical	Max	Unit
Operation Wavelength		1310±30, 1550±30		nm
Insertion Loss [1]		0.7	1.0	dB
Wavelength Dependent Loss		0.15	0.25	dB
Polarization Dependent Loss			0.1	dB
Return Loss [1]	50			dB
Cross Talk [1]	50			dB
Switching Time		5		ms
Repeatability			±0.05	
Durability	10^9			Cycle
Repeatability Rate			10	Hz
Switching Type		Latching		
Operating Temperature	-5		70	°C
Storage Temperature	-40		85	°C
Optical Power Handling		300	500	mW
Fiber Type		SMF-28 [2]		

[1]. Excluding connectors.

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

*et*MEMS™ 1x3,1x4 Fiberoptic Switch

Mechanical Dimensions (Unit: mm)
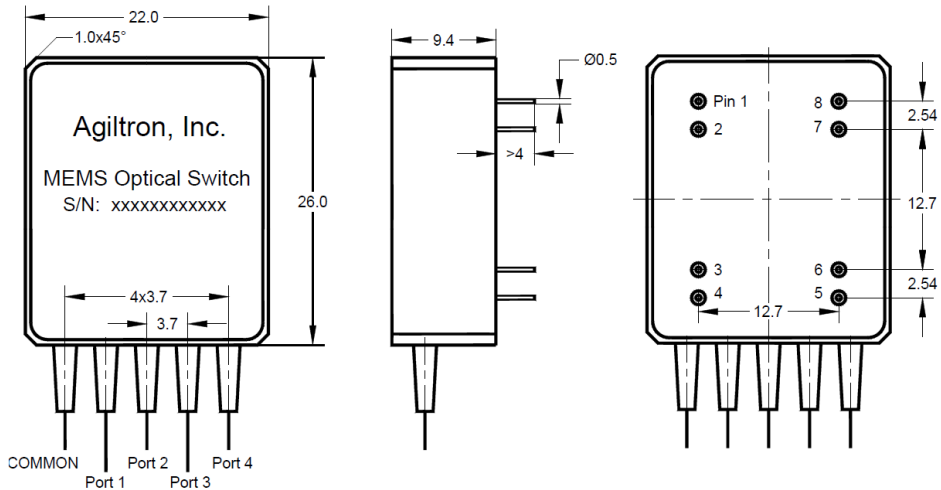
Electrical Driving Requirements

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		
Comm↔Port 2	NC	DP	**DP**	**NC**	NC	NC		GND
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

MEMS-	☐☐	☐	☐	☐	☐	☐	☐	☐
	Type	**Wavelength**	**Switch**	**Package**	**Fiber Type**		**Fiber Length**	**Connector**
	1x3=13 1x4=14 Special=00	1060=1 1310=3 1410=4 1550=5 Special=0	Latching type=1	Built-in driver version = 1 W/O built-in driver = 2 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

RoHS Compliant