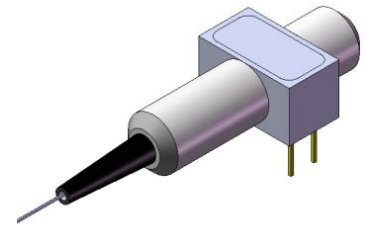


MEMS 1x2 Mini Fiberoptic Switch

(Protected by U.S. pending patents)

Product Description

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



Performance Specifications

MEMS Mini 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		5	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]. DW: Dual band and Broad band.

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

Features

- High Reliability
- Intrinsic tolerance to ESD

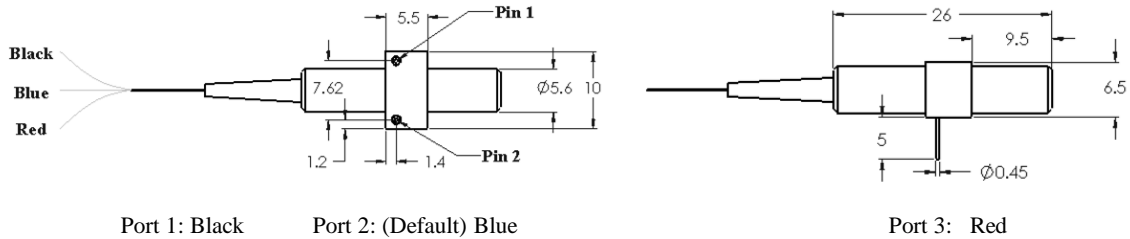
Applications

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



MEMS 1x2 Fiberoptic Switch

Mechanical Dimensions (Unit: mm)



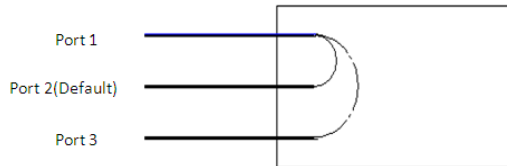
Electrical Driving Requirements

Optical Path		Pin 1	Pin 2
1x1	1x2		
Port 1↔2	Port 1↔2	L	0
Block	Port 1↔3	H	

Driving voltage	Min	Typical	Max	Unit
H	3.3	3.5	4	V
L		0	0.8	V

Power Consumption	Min	Typical	Max	Unit
H			170	mW
L		0		mW

Functional Diagram



Ordering Information

MERS*-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2	9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Type	Wavelength	Switch	Package	Fiber Type	Fiber Length	Connector				
1x1=11 1x2=12 2x1=21 Special=00	1260-1620=B 1060=1 C+L=2 1310=3 1410=4 1550=5 1310 & 1550=9 Special=0	Non-latching=2	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			

*MERS: MEMS Reflective Switch



MEMS 1x1, 1x2, ..., Dual 2x2 Fiber Optical Switch

(*SM & MM: 1x1, 1x2, 2x2, Dual 1x1, Dual 1x2, Dual 2x2, Quad 1x1. *PM: 1x1, 1x2)

10⁹ Switching Cycle Test

We have tested MEMS 1x2 switch at the resonant frequency ~300Hz for more than 40 days, as shown in the attachment, which corresponding over 10⁹ switching cycles. The measurements show little changes in Insertion loss, Cross Talk, Return loss ect, all parameters are within our specs.

