

BUY NOW

MEMS Octo Series Fiber Optic Switch

(Bidirectional, Octo 1x2, Octo Full 2x2)

(Protected by US Patent 10752492B2)

Product Description

The MEMS Octo Series 1x2, Full 2x2 Fiber Optic switch integrates 8 Full 2×2 switches in a single compact format. It is designed for 40G transceiver bypass application. The device 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 movement instead of rotation, and the novel design significantly simplify the control electronics, offering unprecedented high stability and an unmatched low cost.

We also offer the built-in driver version, which features a convenient user interface.



Performance Specifications

MEMS Octo Series Switch	Min	Typical	Max	Unit
Operation Wavelength	Single Mode	1260~1610		nm
	Multimode	810~890 and/or 1260/1360		
Insertion Loss ^{[1], [2]}		0.6	1.0 (1.2 ^[3])	dB
PDL (Single mode)			0.1	dB
Return Loss ^[1]	Single Mode	50		dB
	Multimode	35		
Cross Talk ^[1]	Single Mode	50		dB
	Multimode	35		
Switching Time		5	10	ms
Repeatability			±0.05	dB
Repetition Rate		10		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
Package Dimension		37.2L x 31W x 6.5H		mm
Fiber Type	Single Mode	SMF-28 or equivalent		
	Multimode	MM 50/125, MM 62.5/125 or equivalent		

[1]. Excluding connectors.

[2]. Multimode IL measure @ Light Source CPR<14 dB.

[3]. Dual band.

Features

- High Reliability
- Low Optical Distortions
- Intrinsic tolerance to ESD

Applications

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



Revised on 5/10/21
(Click here for latest revision)

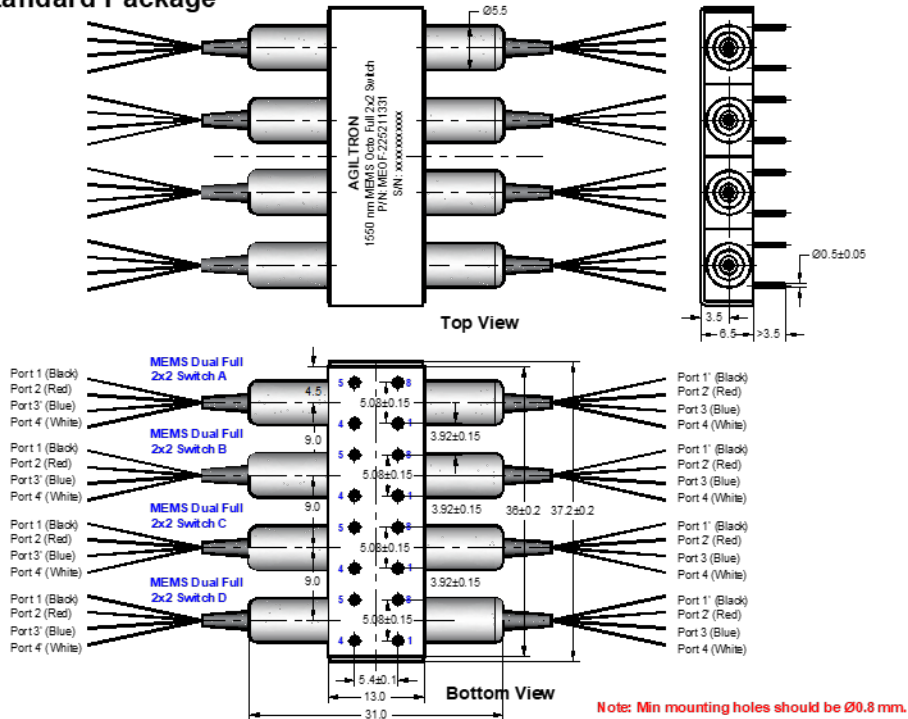
MEMS

Octo Series Fiber Optic Switch

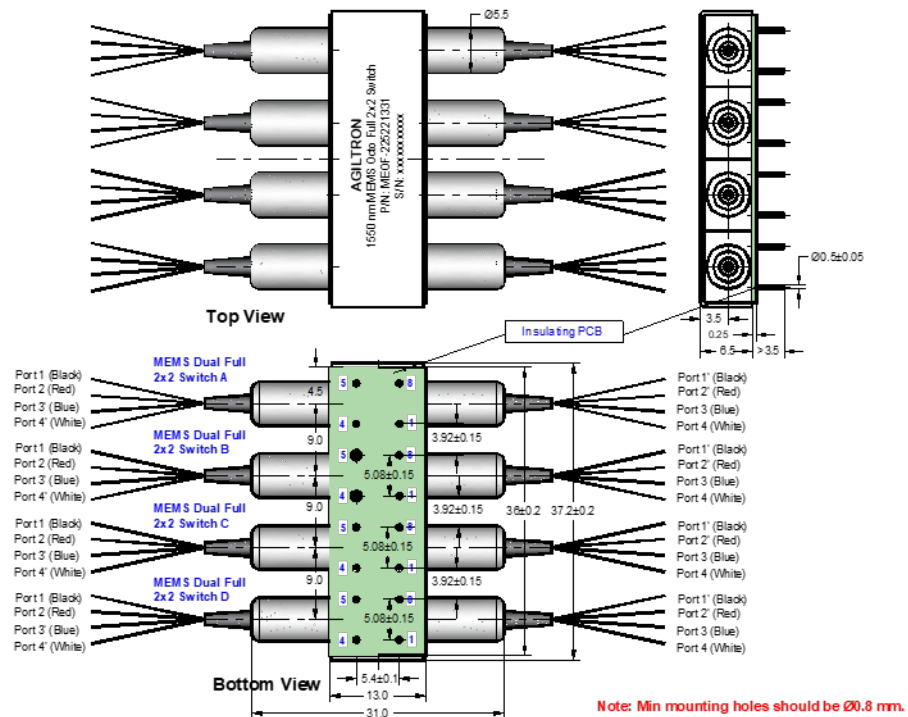
(Bidirectional, Octo 1x2, Octo Full 2x2)

Mechanical Dimensions (Unit: mm)

1. Standard Package



2. With Insulating PCB Pickge



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



MEMS

Octo Series Fiber Optic Switch

(Bidirectional, Octo 1x2, Octo Full 2x2)

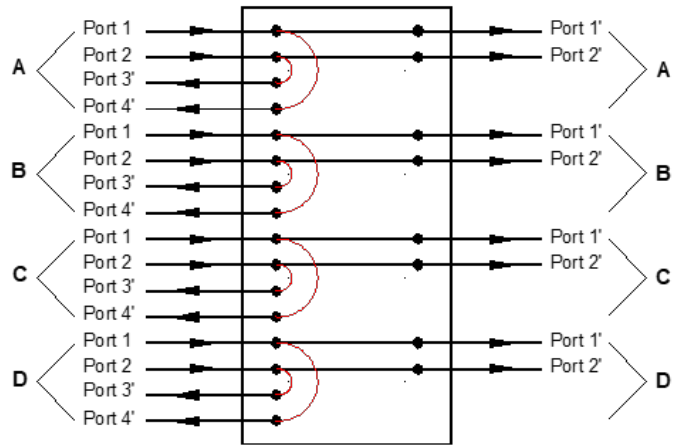
Electrical Driving Requirements

Status	Optical Path		Pin No.			
	Octo 1x2	Octo Full 2x2	Pin 1	Pin 8	Pin 4	Pin 5
Status I	Port 1→1' Port 2→2'	Port 1→1' Port 2→2' Port 3→3' Port 4→4'	+V	0	NC [1]	NC
Status II	Port 1→4' Port 2→3'	Port 1→4' Port 2→3' Port 3→2' Port 4→1'	0			

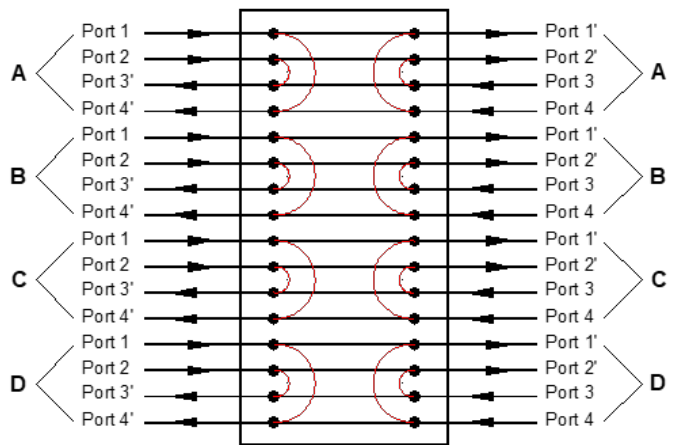
Driving Voltage	Min	Typical	Max	Unit
+V	3.8	4.0	4.5	VDC
Power Consumption		170 [2]		mW

[1]. NC: No electronic connection.
 [2]. For each MEMS Dual 1x2, or Dual Full 2x2 Switch.

Functional Diagram



MEMS Octo 1x2 Switch



MEMS Octo Full 2x2 Switch



MEMS

Octo Series Fiber Optic Switch

(Bidirectional, Octo 1x2, Octo Full 2x2)

Ordering Information

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Type	Wavelength	Switch	Package	Fiber Type	Fiber Length	Connector	
MEMO ^[1]	1x2=12	1260~1620=B	Non-Latching=2	Standard=1	SMF-28=1	Bare fiber=1	0.25m=1	None=1
MEOF ^[2]	2x2=22	1060=1		WIP ^[3] =2	MM 50/125=5	900um tube=3	0.5m=2	FC/PC=2
		1310=3		Special=0	MM 62.5/125=6	Special=0	1.0m=3	FC/APC=3
		1550=5			Special=0		Special=0	SC/PC=4
		780=7						SC/APC=5
		850=8						ST/PC=6
		1310/1550=9						LC=7
		850/1310=A						Duplex LC=8
		Special=0						Special=0

- [1]. **MEMO**: MEMS Octo 1x2 Switch.
- [2]. **MEOF**: MEMS Octo Full 2x2 Switch.
- [3]. **WIP**: With Insulating PCB.

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, etc., all parameters are within our specs.

