

etMEMS™ 1x8 Series Non-Latching Fiber Optic Switch

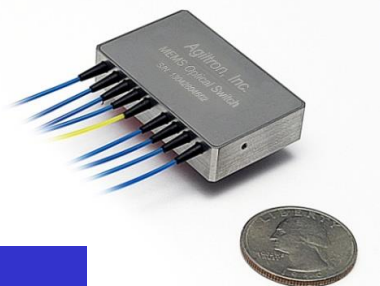
(Bidirectional, Single mode, PM)

(Protected by U.S. pending patents)

Product Description

The etMEMS™ 1x8 Series Non-Latching Fiber Optic 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 movement instead of rotation.

This novel design significantly reduces packaging requirement, and simplifies the driving electronics, offering unprecedented high stability as well as an unmatched low cost.



Performance Specifications

etMEMS™ Series 1x8 Switch	Min	Typical	Max	Unit
Operation Wavelength	Single Band: 1260-1360 or 1510-1610			nm
	Dual Band: 1310±40 and 1550±40			
	Broad Band: 1260-1620			
Insertion Loss [1]		0.7	1.2 (1.4 [2])	dB
Wavelength Dependent Loss		0.2	0.3 [2]	dB
Polarization Dependent Loss (SM)			0.1	dB
Extinction Ratio (PM)	18	25		
Return Loss [1]	50			dB
Cross Talk [1]	50			dB
Switching Time		20		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
Fiber Type	(Single Mode Switch)	SMF-28 fiber or equivalent		
	(PM Switch)	Panda 250 fiber or equivalent		

[1]. Excluding connectors.

[2]. Dual band and Broad band.

Features

- High reliability
- Intrinsic tolerance to ESD

Applications

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



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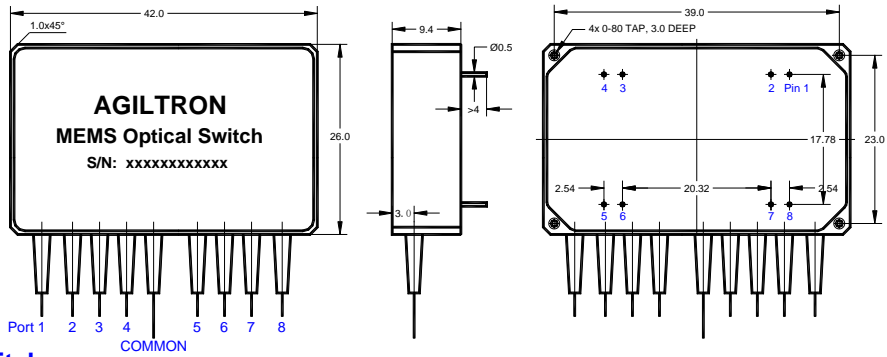
etMEMS™ 1x8 Series

Non-Latching Fiber Optic Switch

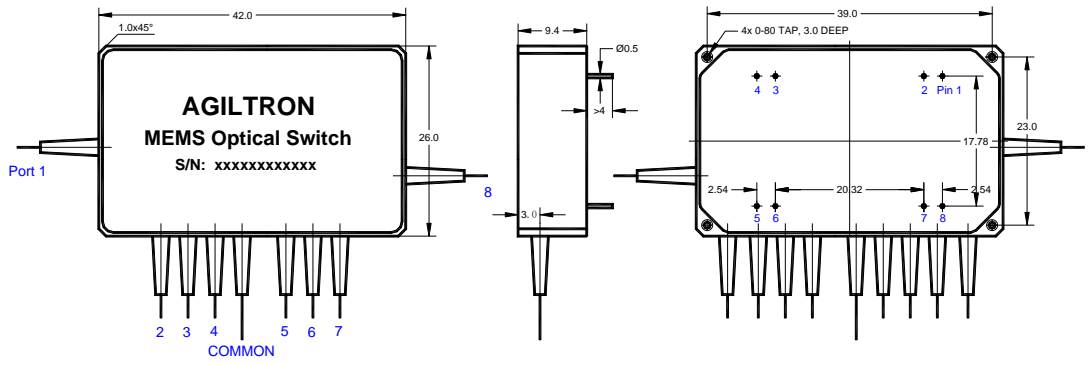
(Bidirectional, Single mode, PM)

Mechanical Dimensions (Unit: mm)

Single mode Switch



PM Switch



Driving Requirements

Optical Path	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
COMM↔Port 1	L	L	L	L	L	L	L	GND
COMM↔Port 2	H	L	L	L	L	L	L	
COMM↔Port 3	L	H	L	L	L	L	L	
COMM↔Port 4	L	L	H	L	L	L	L	
COMM↔Port 5	L	L	L	H	H	L	L	
COMM↔Port 6	L	L	L	H	L	H	L	
COMM↔Port 7	L	L	L	H	L	L	H	
COMM↔Port 8	L	L	L	H	L	L	L	

Driving Voltage		Min	Typical	Max	Unit
H	H1 version	3.5	3.6	4	VDC
	H2 version	4	4.5	5	VDC
L				0.8	VDC
Power Consumption			170 [1]		mW



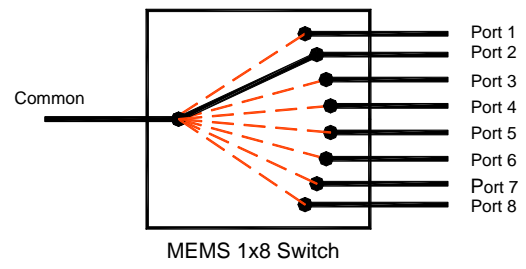
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Driving Requirements

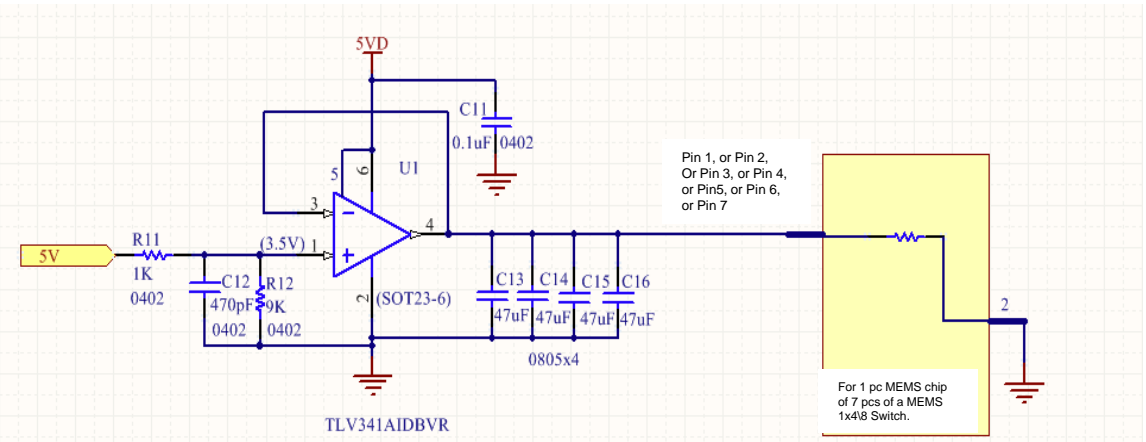


Ordering Information

Type	Wavelength	Switch	Version	Fiber Type	Fiber Length	Connector	
MEMS ^[1] MEPM ^[2]	1x8=18 8x1=81 Special=00 1060=1 C+L=2 1310=3 1410=4 1550=5 1310 & 1550=9 1260~1620=B Special=0	Non-Latching=2	H1 = 1 H2 = 2 Special=0	SMF-28=1 PM 400=A PM 250=B Special=0	Bare fiber=1 900um loose 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]. MEMS: MEMS 1x8 Single Mode Switch.
 [2]. MEPM: MEMS 1x8 PM Switch.

Recommendation Control Circuit



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