

## MEMS Optical Switch

Fiberer's MEMS Optical Switches are based on integrated silicon MEMS technology and is available in 1x1, 1x2 and 2x2 mems optical switch. 1x4, 1x8, 4x4 mems optical switch architectures, Inside the switch package both the CMOS/TTL compatible driver. The plastic package is one of the smallest in the industry. It is optimized for low cost production while maintaining highest reliability comparable to a solid-state device. The component is designed to meet Telcordia 1221 quality standards.

### Features

- Reliable
- 0.5 dB insertion loss
- 0.5 ms response time
- Low PDL
- 60 dB crosstalk
- Miniature size
- Latching

### Applications

- Protection Switching
- Reconfiguration
- WDM
- Optical Subsystems
- Array integration



### Spec and Parameter - Single Mode

Parameter	Value
Wavelength range	1240~1640
Insertion loss	< 0.9 typ. 0.4dB
Return loss	>=50 dB typ. 55dB
Polarization dependent loss	<0.07 typ. 0.03 dB
Cross talk	>= 60dB typ. 75 dB
Repeatabilit	<=0.002dB
Switch speed	<1ms typ. 0.5ms
Durabilit	>1billion
Operating power (optical)	>300mW
Operation temperature	0~70
Storage temperature	-40~70
Size (L x W x H)	23.2 x 10.1 x 5.9mm

### Spec and Parameter - Multimode

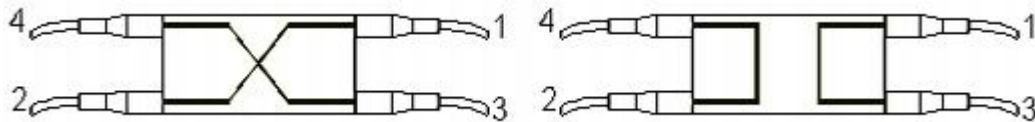
Parameter	Value
Wavelength range	600~1700nm
Insertion loss	typ.0.5dB,max 1.2dB
Return loss	Typ.45dB, Min 35dB
Polarization dependent loss	typ.0.03dB,max 0.1dB

Cross talk	Typ.60dB, Max 40dB
Repeatabilit	<=0.002dB
Switch speed	<5ms, max 10ms
Durabilit	>1billion
Operating power (optical)	>300mW
Operation temperature	0~70 C
Storage temperature	-40~70
Size (L x W x H)	23.2 x 10.1 x 5.9mm

**Integrated Driver**

Operating Voltage	5+/-0.25 VDC
Current Consumption	Typ.1mA, Max 10mA
Logic Level Low	<0.3VDC
Logic Level High	>3VDC
Selection Pulse Width	10ms

**Pictures**



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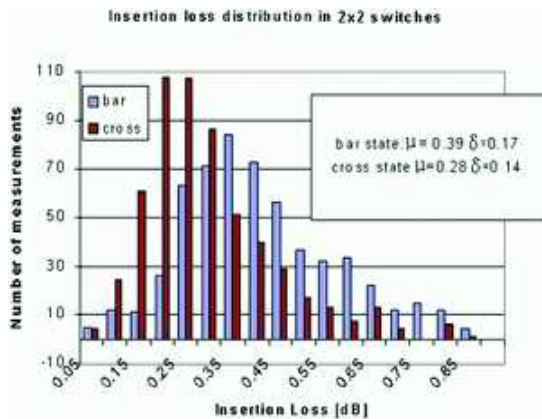


Figure 1: Insertion loss distribution

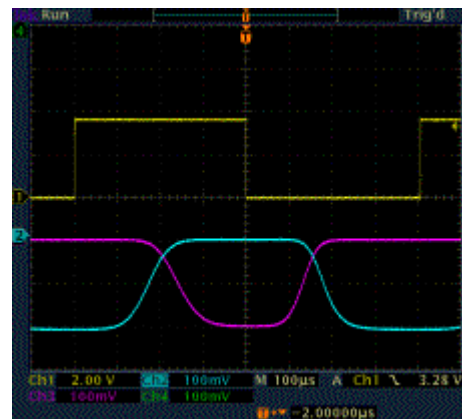


Figure 2: response time at 1.2 kHz cycling

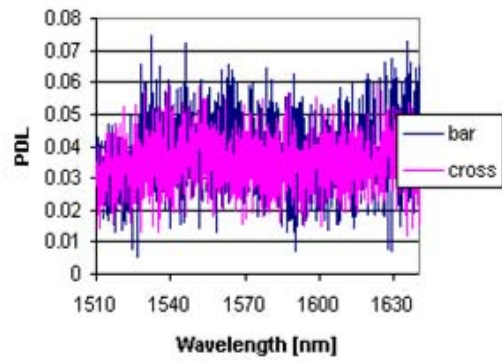
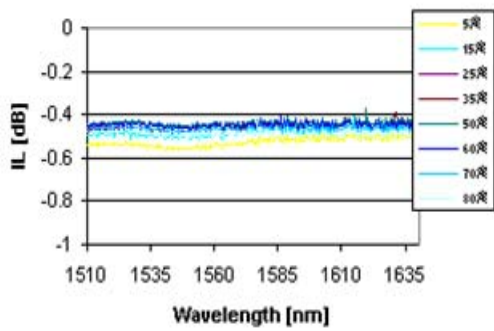
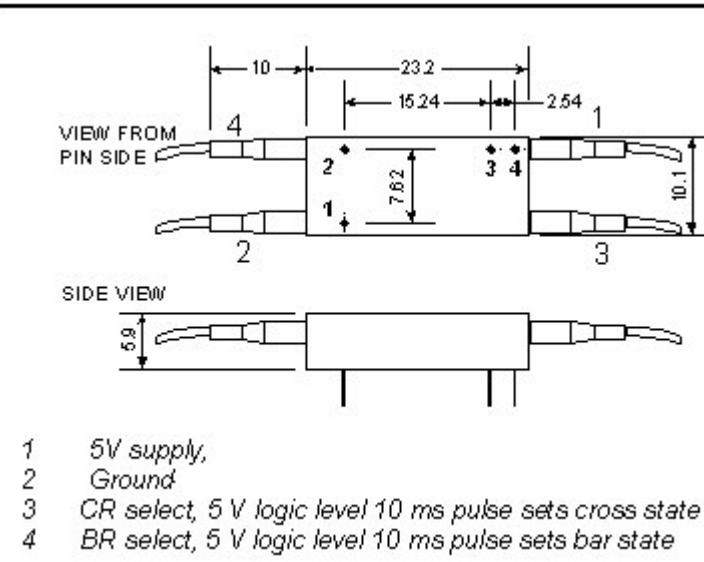
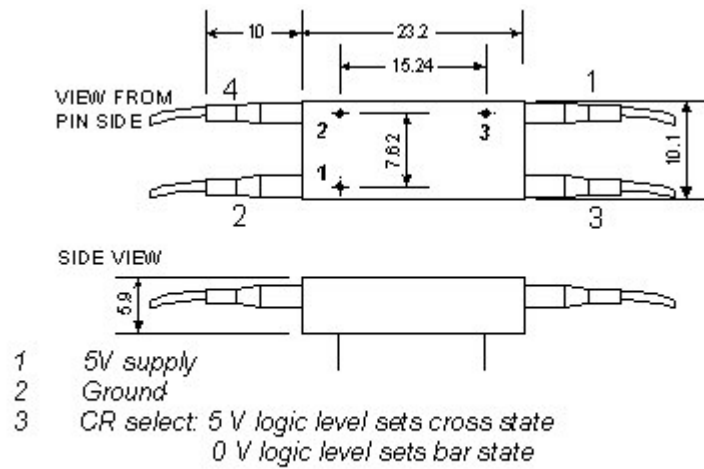
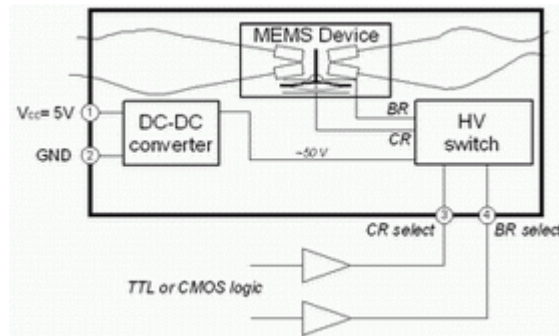


Figure 3: spectral response over temperature

Figure 4: PDL at different wavelengths

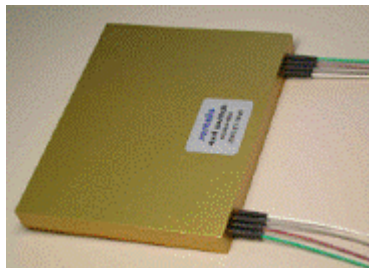




**Information of Order to offer**

MSW	Switch channel	Latching or Non-Latching	Fiber Type	Fiber Length	Connector
	11=1x1	L=Latching	S9=SMF 900um	1=1.0m	NE=None
	12=1x2	N=Non-Latching	M5=MMF 50/125/900um	2=2.0m	FA=FC/APC
	22=2x2		M6=MMF 62.5/125/900um		FC=FC/PC
					SA=SC/APC
					SC=SC/PC
					ST=ST/PC
					LA=LC/APC
					LC=LC/PC
					XX=others

**8x8 MEMs Optical Switch**



The Fiberer's 8x8 fiber optic switch is a very fast opto-mechanical switch array based on the MEMS technology. They are composed of an optical subsystem and an electrical driver interface. The switch is built by cascading 1x2 and 2x2 submodules which are qualified according to Telcordia GR 1221.

**Features**

- High reliability
- Single mode or multi-mode
- 5 ms switching time
- miniature size
- Latching/non-latching

**Applications**

- Optical Reconfiguration
- Instrumentation
- Test and Measurement

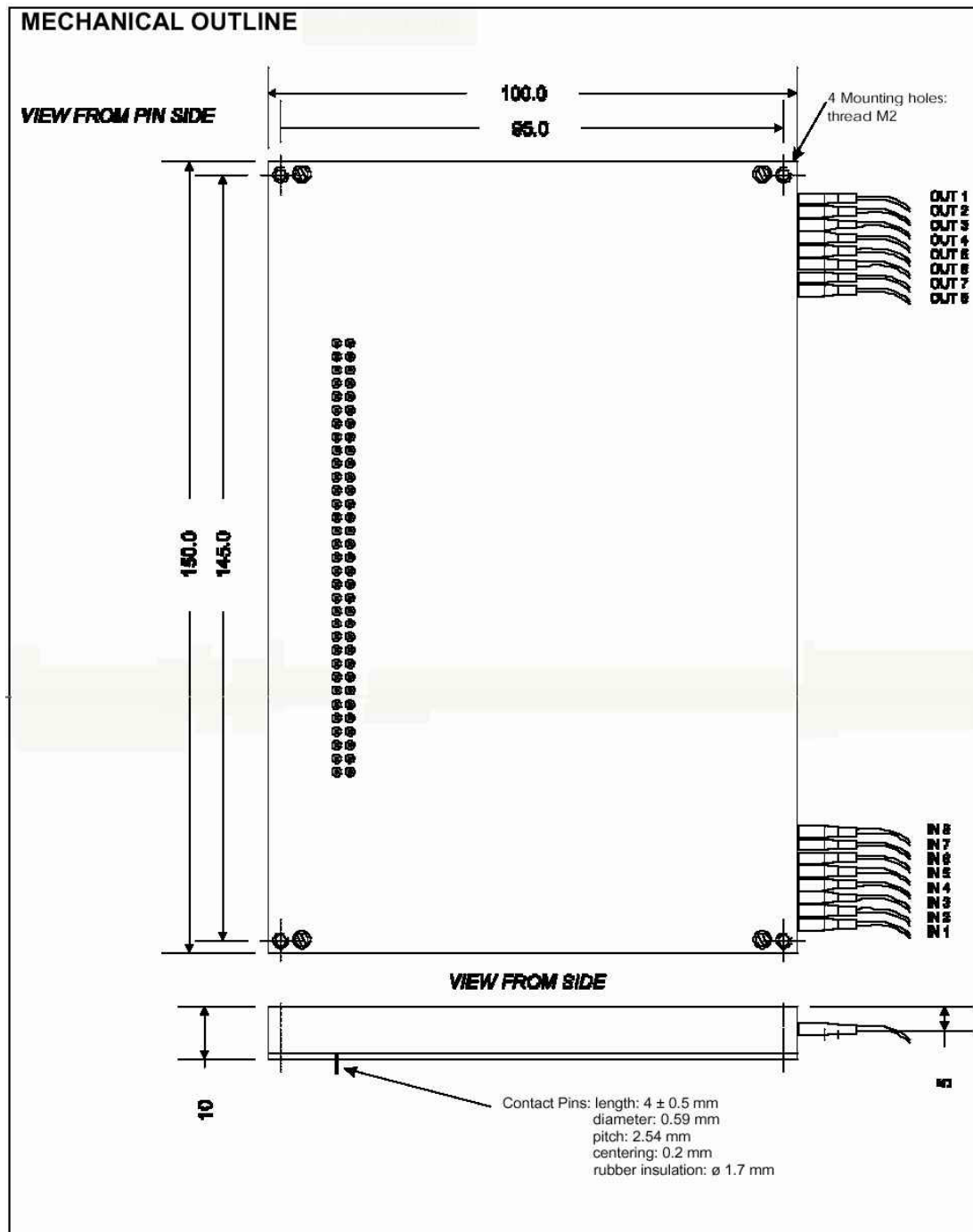
**Spec and Parameter**

Parameter	Value
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Wavelength range	1250~1640,600~1700(multi-mode)
Insertion loss	typ.2.5dB,max 3.5dB
Return loss	typ.45 dB,Min 35dB
Polarization dependent loss	typ.0.15dB,max 0.25dB
Cross talk	Typ.55dB, Min 50dB
Switch speed	Typ.2ms, max 5ms
Durabilit	>1billion
Fiber	9/125/900um, 62.5/125/900, 50/125/900
Operating Voltage	5 VDC
Power Consumption	typ 40mW
Operation temperature	0~70
Storage temperature	-40~85
Size (L x W x H)	150 x 100 x 10mm

**Pictures**



**Information of Order to Provide**

MSW	Switch channel	Latching or Non-Latching	Fiber Type	Fiber Length	Connector
	22=2x2	L=Latching	S9=SMF 900um	1=1.0m	NE=None
	44=4x4	N=Non-Latching	M5=MMF 50/125/900um	2=2.0m	FA=FC/APC
	88=8x8		M6=MMF 62.5/125/900um		FC=FC/PC
	1616=16x16				SA=SC/APC
					SC=SC/PC
					ST=ST/PC



Fiberer Global Tech Ltd

NO.1 Service NO.1 Quality

					LA=LC/APC LC=LC/PC XX=others
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