



## **Multimode FIBER OPTIC 1x4 SWITCH**

### **OVERVIEW**

The 1x4 switch is a very fast opto-mechanical switch working over the spectrum from 700 nm to 1700 nm. The component is designed for optical switching in multimode fiber systems and is available in 2x1, 2x2, 1x4 and 1x8 variants. The highly reliable switching mechanism uses integrated micromirrors and features fast switching time below 5 ms and below 1.5 dB insertion loss.

The miniature package withstands rugged environments and is well suited for direct mounting on printed circuit boards. The switch submodules are qualified according to Telcordia GR 1221.

### **FEATURES**

- Reliable
- 0.7 – 1.7 um range
- 1.0 dB insertion loss
- 4 ms response time
- 50 dB crosstalk
- non-latching

### **APPLICATIONS**

- Test and Measurement
- Sensor Switching
- Wavelength provisioning

#### **ORDERING INFORMATION**

SW1x4-50N (50 um core fiber)  
SW1x4-62N (62.5 um core fiber)

#### **Contact:**

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## DESCRIPTION

The non-latching 1x4 switch modules are fast and reliable switches designed for multimode fiber instrumentation and communication equipment. The device is based on the latest silicon MEMS technology and uses micro-mechanical mirrors to redirect the light. The absence of fatigue and wear-out allows to achieve a constant switching quality even after billions of actuation cycles. The switch features fast switching below 5 ms and high crosstalk attenuation above 45 dB. Repeatability is better than 0.001 dB. The switch is powered by a 5 V supply voltage. A 5 V TTL or CMOS drive signal is used to control the switching state.

### TECHNICAL SPECIFICATIONS

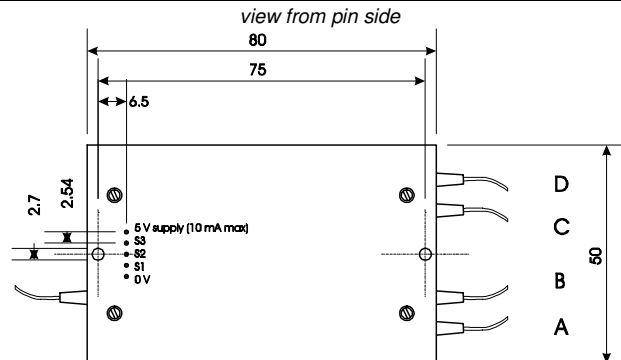
	Unit	Min	Typ	Max
<b>Switch</b>				
Wavelength Range	nm	700		1700
Insertion Loss	dB		1.0	1.5
Crosstalk	dB		55	45
Backreflection	dB		45	35
Polarisation Dependent Loss	dB			0.15
Repeatability	dB			0.001
Switching Time	ms		2	20
Switching Voltage	V			5
Fiber Pigtail	μm		50/125/900	
			62.5/125/900	
Durability	cycles		no wear out	
<b>Package</b>				
Power Consumption	mW		10	50
Operation Temperature	°C	0		70
Storage Temperature	°C	-40		85
Size (L x W x H)	mm		80 x 50 x 9.5	

### ELECTRICAL SPECIFICATIONS

Supply: 4.5 - 5.5 V, 10 mA max  
S1 – S3: CMOS or TTL levels, 0 mA

#### Optical Port Selection

S1	S2	S3	Port
0V	0V	x	A
5V	x	5V	B
5V	x	0V	C
0V	5V	x	D



### ORDERING INFORMATION

SW1x4-62N (62.5 μm graded index fiber)  
SW1x4-50N (50 μm graded index fiber)

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