

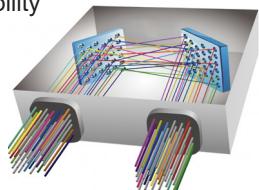
## MEMS 16X16 OPTICAL MATRIX SWITCH MODULE

### SX1 Model, Single Mode Fiber, Performance Grade



**MEMS Optical Matrix Switch Module** is built with DiCon's proprietary MEMS technology. Each module contains 2 sets of MEMS mirrors for making 1-to-1 connections between input and output ports. The MEMS mirrors are held in position using precisely calibrated voltages and require no feedback control. This unique quality enables the switch to maintain stable connections and allows the device to function when there is no light in the fiber. This innovative platform has an outstanding track record and delivers best-in-class optical performance

- Proven MEMS technology
- Lifetime  $> 10^9$  switch cycles
- No dithering or active alignment artifacts
- Switches and holds dark fiber connections
- Low insertion loss with excellent stability
- Compact and lightweight
- Asymmetric MxN available



#### About DiCon

- Headquartered in California since 1986
- US based in-house MEMS fab
- Over 3 million MEMS mirrors produced since 1999
- Manufactures TAA compliant products

#### ORDERING INFORMATION

**SX1 - P□ - 9 - □ - □ - T - □ - N - □**

Grade

**P** Performance

Switch Configuration

**16x16** 16x16  
**MxN**  $M \leq 16, N \leq 16$

Fiber Type

**9** 9/125  $\mu\text{m}$  SMF

*\*Other fiber options available upon request*

Test Wavelength

**O** 1310 nm  
**E** 1410 nm  
**S** 1495 nm  
**C** 1550 nm  
**L** 1590 nm  
**U** 1650 nm

*\*Use "/" to add multiple wavelengths. E.g., O/C or O/C/L*

Fiber Jacket

**T** 900  $\mu\text{m}$  Tight Buffer

*\*Other fiber options available upon request*

Connector Type

**N** None  
**FC** FC/UPC  
**FC/APC** FC/APC  
**LC** LC/UPC  
**LC/APC** LC/APC  
**SC** SC/UPC  
**SC/APC** SC/APC

*\*Other connector types available upon request*

Connector Key Orientation

**N** None

Pigtail Length

**1** 1 Meter  
**X** Specify X Meters

*\*Tolerance is +/- 0.05 m*

# MEMS 16X16 OPTICAL MATRIX SWITCH MODULE

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## OPTICAL SPECIFICATIONS<sup>1</sup>

Operating Wavelength	1260 to 1675 nm
Insertion Loss <sup>2</sup>	< 0.8 dB
Loss Repeatability <sup>3</sup>	+/- 0.01 dB
Connection Stability <sup>4,5</sup>	+/- 0.01 dB
Connection Stability (Short Term) <sup>6</sup>	+/- 0.005 dB
PDL <sup>5</sup>	< 0.1 dB
WDL <sup>5,7</sup>	< 0.3 dB
Crosstalk	< -70 dB
Back Reflection	< -50 dB
Optical Transition Time <sup>5,8</sup>	< 25 ms
Switch Lifetime	> 1 Billion Cycles
Input Power Range	Dark to +27 dBm

1. Measured separately for each Test Wavelength at room temperature

2. Measured with 3-jumper method or equivalent. See TIA/EIA 526-7

3. Over 100 cycles

4. 1 Hz sampling rate for 15 min

5. Met by design, not measured

6. 10 KHz sampling rate for 10 sec

7. Test Wavelength  $\pm 20$  nm

8. Optical transition time for all ports switching concurrently, not including command processing overhead

## ELECTRICAL SPECIFICATIONS

Module Power Consumption	3.8 W max. Operating 6.5 W max. Start Up
Supply Voltage	12V DC
Module Interface	16-Pin Samtec
Module Control	USB, RS232, I <sup>2</sup> C

## ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	0 to 50°C, < 85% RH
Storage Temperature	-40 to 70°C, < 40% RH

## MECHANICAL SPECIFICATIONS

Module Size	142 mm x 88 mm x 22.2 mm
Module Weight (with fibers)	0.42 kg

Dimensions in mm

