

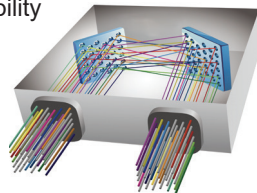
# MEMS 24X24 OPTICAL MATRIX SWITCH MODULE

## SX2 Model, PM Fiber, Standard 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<sup>9</sup> 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

SX2 - T□ - □ - □ - □ - □ - □ - □ - □

### Grade

**T** Standard

### Switch Configuration

**24x24** 24x24  
**MxN** M≤24, N≤24

### Fiber Type

**PM13** Corning PM 1310 Fiber  
**PM15** Corning PM 1550 Fiber  
*\*Other fiber options available upon request*

### Test Wavelength

**O** 1310 nm  
**C** 1550 nm  
**L** 1590 nm  
*\*Use "/" to add multiple wavelengths. E.g., O/C or O/C/L*

### Fiber Jacket

**L** 900 μm Loose Tube Fiber  
**B** 250 μm Bare Fiber  
*\*Other fiber options available upon request*

### Connector Type

**N** None  
**FC** FC/UPC  
**FC/APC** FC/APC  
*\*Other connector types available upon request*

### Connector Key Orientation

**N** None  
**S** Slow Axis  
**F** Fast Axis

### Pigtail Length

**1** 1 Meter  
**X** Specify X Meters  
*\*Tolerance is +/- 0.1 m*

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

|  |                    |
|--|--------------------|
| Operating Wavelength                             | 1260 to 1675 nm    |
| Insertion Loss <sup>2</sup>                      | < 1.0 dB           |
| Loss Repeatability <sup>3</sup>                  | +/- 0.03 dB        |
| Connection Stability <sup>4,5</sup>              | +/- 0.03 dB        |
| Polarization Extinction Ratio (PER) <sup>6</sup> | > 18 dB            |
| WDL <sup>5,7</sup>                               | < 0.3 dB           |
| Crosstalk <sup>5</sup>                           | < -60 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 23°C
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. PER with connectors is 18 dB typical, 16 dB minimum
7. WDL is defined within Test Wavelength  $\pm 20$  nm
8. Optical transition time for all ports switching concurrently, not including command processing overhead

### ELECTRICAL SPECIFICATIONS

|                          |   |
|--------------------------|---|
| Module Power Consumption | 5.6 W max. Operating<br>8.6 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                 | 158 mm x 128 mm x 33.7 mm |
| Module Weight (with fibers) | 0.87 kg                   |

Dimensions in mm

