

# MEMS 8X8 MATRIX SWITCH

DiCon's MEMS 8x8 is an integrated switch module based on DiCon's MEMS 1x8 Optical Switch components. Sixteen MEMS 1x8 switches, eight for inputs and the other eight for outputs, are interconnected to form a fully non-blocking, two stage, optical cross-connect. Under this matrix switch platform, different MEMS 1xN switches can be used to form customized MxN Switch Matrices.



## FEATURES

- Compact form-factor
- Low insertion loss with minimal crosstalk
- Fast switching time
- Low power consumption
- MEMS durability and reliability
- Available in other customized configurations

## APPLICATIONS

The MEMS 8x8 Matrix is used in an optical network to dynamically configure the system. Mounting to any network card is easily achieved with its small form factor and 1" thickness. For Test and Measurement applications, the matrix switch is a simplified alternative solution for fiber management and allows users to share resources.



# MEMS 8X8 MATRIX SWITCH

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

PARAMETER		RATING
Insertion Loss <sup>2</sup>	Single-Band	1.5 dB max.
	Dual-Band	1.7 dB max.
Crosstalk		-70 dB max.
Back Reflection		-50 dB max.
Switching Time		30 ms max.
TDL		0.4 dB max.
WDL <sup>3</sup>		0.3 dB max.
PDL		0.15 dB max.
Repeatability <sup>4</sup>		0.04 dB max.
Durability		10 <sup>9</sup> cycles min.
Optical Power		500 mW max.
Operating Temp		-5 to 70°C
Storage Temp		-40 to 85°C
Fiber Type		9/125 μm single mode

- Specifications are without connectors.
- IL is measured at CWL, 23°C.
- WDL is measured in a +/- 20nm range at 23°C.
- Repeatability is defined after 100 cycles.

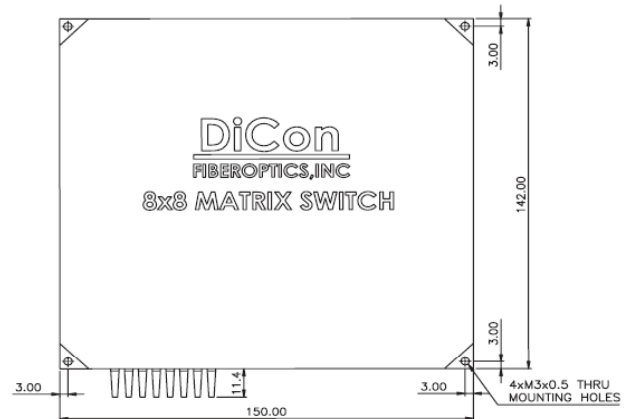
## ELECTRICAL SPECIFICATIONS

PARAMETER	RATING
Latching Type	non-latching
Control Type	I <sup>2</sup> C or RS232
Vcc Voltage	12 VDC
Power Consumption	700 mW max.
Connector Type	Molex 87833-1620

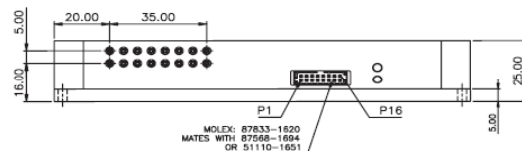
## MECHANICAL DIMENSIONS

(Units: mm)

Top View



Front View



## ORDERING INFORMATION

MX3 - □ - □ - □ - □ - □ - □

### Product Code

MX3 MEMS Matrix

### Switch Configuration

8x8 8x8 Non-Blocking  
MxN MxN Non-Blocking  
(Specify M, N < 8)

### Control Interface

I<sup>2</sup>C I<sup>2</sup>C  
RS2 RS232

### Wavelength Range

13 1290 - 1330 nm  
15 1530 - 1570 nm  
16 1570 - 1610 nm  
13/15 1290 - 1330 & 1530 - 1570 nm  
15/16 1530 - 1570 & 1570 - 1610 nm

### Pigtail Length

1 1 Meter  
X Specify X Meters  
Tolerance is +/- 0.05 m

### Connector Type

FC/SPC FC/SPC  
FC/APC FC/APC  
N NONE

Also Available: SC, SC/UPC, SC/APC, ST, ST/UPC, LC

### Fiber and Jacket Type

9/TB Corning SMF-28, Tight Buffer  
9/LT Corning SMF-28, Loose-tube  
Or other equivalent 9μm Singlemode fiber