

# MEMS 1xN OPTICAL SWITCH

DiCon's MEMS 1xN Optical Switch is a compact, single mode, fiber optic switch configurable for port counts up to 1x48. It utilizes DiCon's proprietary MEMS technology to achieve reliable optical performance and excellent durability; DiCon's optical switches have been shown to last for over 1 billion switch cycles and are qualified to Telcordia GR-1221 environmental standards.



## FEATURES

- Reliable Optical Performance
- Excellent Durability
- Compact Form Factor
- Low Power Consumption

## APPLICATIONS

- Optical Communications
- Fiber Optic Sensing
- Bio-medical Instrumentation
- RF Distribution over Fiber



# MEMS 1XN OPTICAL SWITCH

## OPTICAL SPECIFICATIONS<sup>1,2</sup>

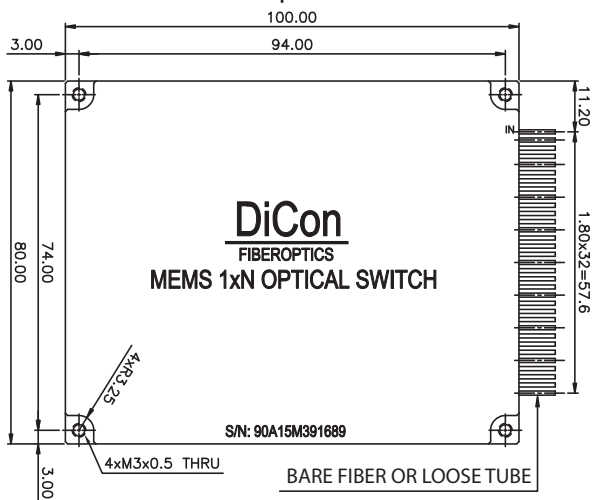
PARAMETER		RATING
Insertion Loss <sup>3,4</sup>	25≤N≤32	1.5 dB max.
	33≤N≤48	1.9 dB max.
Crosstalk		-50 dB max.
Back Reflection		-50 dB max.
Switching Time		30 ms max.
TDL		0.40 dB max.
WDL <sup>5</sup>	25≤N≤32	0.30 dB max.
	33≤N≤48	0.40 dB max.
PDL <sup>6</sup>		0.10 dB max.
Repeatability <sup>7</sup>		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

- Specifications are without connectors.
- Specifications only guaranteed in defined switch states.
- IL is measured at CWL, 23°C.
- IL is for single-band. Dual-band adds 0.2 dB.
- WDL is measured in a +/- 20nm range at 23°C.
- PDL is for single-band. Dual-band adds 0.05 dB.
- Repeatability is defined after 100 cycles.

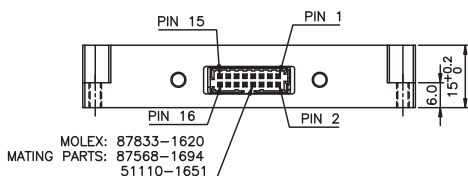
## MECHANICAL DIMENSIONS

(Units: mm)

Top View



Left Side View



## ORDERING INFORMATION

MS3 - □ - □ - □ - □ - □ - □

### Product Code

MS3 MEMS Switch

### Switch Configuration

1xN 1xN, Specify N≤48

### Control Interface

I2C I<sup>2</sup>C  
RS2 RS232  
TTL TTL

### 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

### Fiber and Jacket Type

9/BF Corning SMF-28, Bare fiber  
9/LT Corning SMF-28, Loose-tube

Or other equivalent 9 μm Singlemode

### Connector Type

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

Also Available: SC, SC/U/PC, SC/APC, ST, ST/U/PC, LC

### Pigtail Length

1 1 Meter  
X Specify X Meters

Tolerance is +/- 0.05 m

## ELECTRICAL SPECIFICATIONS

PARAMETER		RATING
Latching Type		non-latching
Control Type		I <sup>2</sup> C, RS232 or TTL
Vcc Voltage	I <sup>2</sup> C, RS232	12 VDC
	TTL	5 VDC
Power Consumption	I <sup>2</sup> C, RS232	700 mW max.
	TTL	1.5 W max.
Connector Type		Molex 87833-1620