

# MEMS MULTI-MODE 1XN OPTICAL SWITCH

DiCon's Multi-Mode MEMS 1xN Optical Switch is an industry proven fiber optic switch with excellent durability and reliability. It allows channel selection between a single input fiber and N output fibers, and can be specified for any 1xN size from 1x2 up to 1x24. In addition, this optical switch is bi-directional and can be used in either a 1xN or Nx1 direction.



## FEATURES

- Proven MEMS Durability and Reliability
- Compact Form Factor
- Fast Switching Time
- GR-1221 Qualified Optical Component

## APPLICATIONS

- Secure Communications
- Bio-medical Instrumentation
- Fiber Sensing
- Video Distribution



# MEMS MULTI-MODE 1XN OPTICAL SWITCH

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

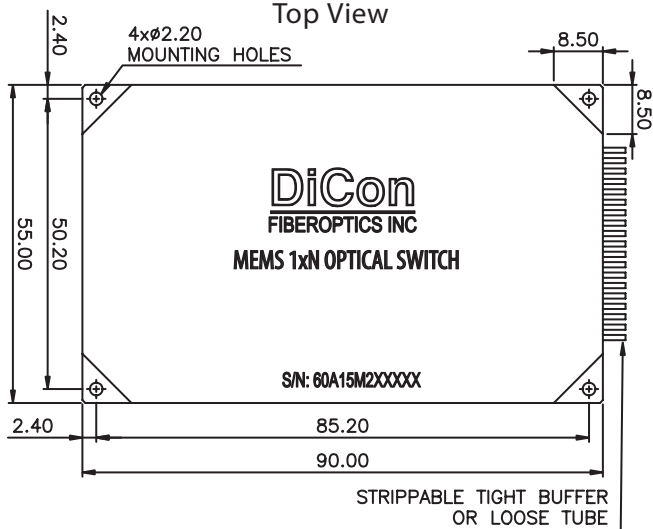
PARAMETER		RATING
Insertion Loss <sup>3,4</sup>	1x2, 1x4	1.0 dB max.
	1x8	1.4 dB max.
	1x12, 1x16	1.6 dB max.
	1x24	2.0 dB max.
Crosstalk <sup>5</sup>	50 $\mu$ m	-25 dB max.
	62.5 $\mu$ m	-20 dB max.
Back Reflection		-20 dB max.
Switching Time <sup>6</sup>		30 ms max.
TDL		0.4 dB max.
Repeatability <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
Fiber Type		Multi-mode, Bare Fiber

- Specifications are without connectors.
- Aligned transparent to channel 1.
- IL is measured at specified wavelength, 23°C  $\pm$  5°C.
- IL is for single-band. Dual-band add 0.4 dB.
- Optical off state isolation is the same as crosstalk.
- Faster switching time version (10 ms max) available as a special request
- Repeatability is defined within 100 cycles.

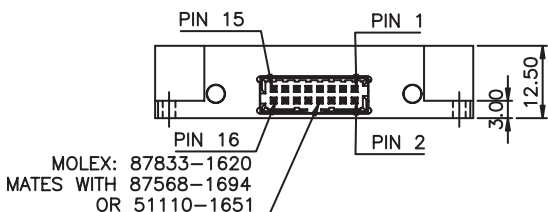
## MECHANICAL DIMENSIONS

(Units: mm)

Top View



Left Side View



## ORDERING INFORMATION

MS2 -  -  -  -  -  -

### Product Code

MS2 MEMS Switch

### Switch Configuration

1xN 1xN Switch

Specify N $\leq$ 24 for 50 $\mu$ m or N $\leq$ 16 for 62.5 $\mu$ m

### Control Interface

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

### Wavelength Range

8 850 nm only  
9 980 nm only  
8/13 850 & 1310 nm

Other wavelengths available upon special request

### Fiber and Jacket Type

50/BF 50 $\mu$ m core, bare fiber  
62/BF 62.5 $\mu$ m core, bare fiber  
50/TB 50 $\mu$ m core, tight buffer  
62/TB 62.5 $\mu$ m core, tight buffer  
50/LT 50 $\mu$ m core, loose tube  
62/LT 62.5 $\mu$ m core, loose tube

### Connector Type

FC FC/PC  
LC LC/PC  
SC SC/PC  
ST ST/PC  
N NONE

### 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	I <sup>2</sup> C, RS232	12 VDC
Voltage	TTL	5 VDC
I <sup>2</sup> C, RS232 Power Consumption	Start Up	3.6 W max.
	Operating	1.9 W max.
TTL Power Consumption	Start Up	1.5 W max.
	Operating	1.0 W max.
Connector Type		Molex 87833-1620