

MEMS BIOMEDICAL 1xN OPTICAL SWITCH

DiCon's MEMS Biomedical 1xN Optical Switch allows one input fiber to connect to one of N output fibers. These can be used to either select from one of many input sources, or to select an output fiber from one of many. Based on DiCon's industry proven MEMS technology, DiCon uses proprietary techniques to optimize the performance of traditional telecommunications fiber optic switches for biomedical use.



FEATURES

- Proven MEMS Technology
- Lifetime > 1 Billion Switch Cycles
- Optimized for Biomedical Usage
- Available in any size from 1x2 to 1x16

APPLICATIONS

- Biomedical Research or OEM Usage
- Diffuse Optical Tomography
- Oximetry
- Source or Target Selection



MEMS BIOMEDICAL 1XN OPTICAL SWITCH

OPTICAL SPECIFICATIONS^{1,2}

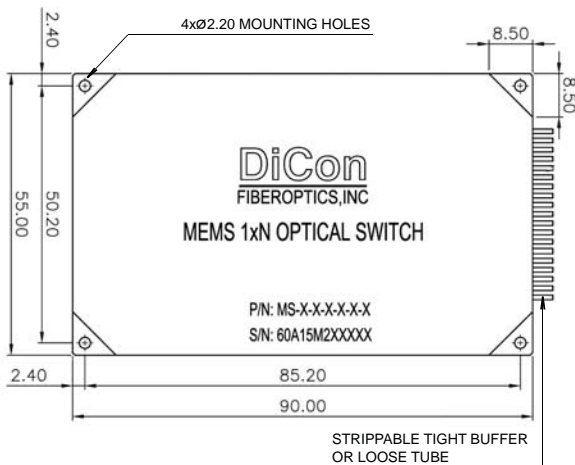
PARAMETER		RATING
Insertion Loss ³	1x4, 1x8	1.9 dB max.
	1x12, 1x16	3.0 dB max.
Crosstalk ⁴	50 um	-25 dB max.
	62.5 um	-20 dB max.
Back Reflection		-20 dB max.
Switching Time		30 ms max.
TDL		0.4 dB max.
Repeatability ⁵		0.04 dB max.
Durability		10 ⁹ cycles min.
Optical Power		500 mW max.
Operating Temp		-5 to 70°C
Storage Temp		-40 to 85°C
Fiber Type		Multi-mode, Bare Fiber

- Specifications are without connectors.
- Aligned for broadband use. With parking state for Biomedical usage.
- IL is measured at 850 nm, 23°C.
- Power off isolation is same as crosstalk.
- Repeatability is defined after 100 cycles.

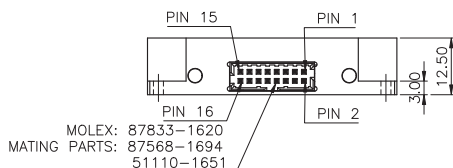
MECHANICAL DIMENSIONS

(Units: mm)

Top View



Left Side View



ORDERING INFORMATION

MS2 - □ - □ - □ - □ - □ - □

Product Code

MS2 MEMS Switch

Switch Configuration

1xN 1xN, Specify N≤16

Control Interface

I2C I²C
RS2 RS232
TTL TTL

Wavelength Range

7 680 - 850 nm
Other wavelengths available upon special request

Fiber and Jacket Type

50/LT 50um core, loose tube
62/LT 62.5um core, loose tube

Connector Type

FC/SPC FC/SPC
FC/APC FC/APC
N NONE
Also Available: SC, SC/UPC, SCI/APC, ST, ST/UPC, 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 ² C, RS232 or TTL
Vcc	I ² C, RS232	12 VDC
Voltage	TTL	5 VDC
Power	I ² C, RS232	700 mW max.
Consumption	TTL	1.5 W max.
Connector Type		Molex 87833-1620