MEMS MULTI-MODE 1XN OPTICAL ARRAY SWITCH

DiCon's MEMS Multi-mode 1xN Optical Array Switch provides channel selection between sets of single input fibers and sets of N output fibers. The module allows up to five MEMS switch components to be co-packaged with the option of switching synchronously. At the core of each switch component is DiCon's proprietary MEMS chip; an electrostatically driven mirror implemented using single-crystalline silicon and a stiction-free design. The mirror is capable of rotating on two axes, allowing the input light to be redirected back to any desired output in a 2D space. The array switch is bi-directional and can be used as a Nx1 selector switch.

FEATURES

- Proven MEMS Durability and Reliability
- Compact Form Factor
- Fast Switching Time
- Optional Synchronous Switching

APPLICATIONS

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

DiCon FIBEROPTICS

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MEMS MULTI-MODE 1XN OPTICAL ARRAY SWITCH

OPTICAL SPECIFICATIONS[1]

PARAMETER		RATING
Insertion Loss[2,3]	2 ≤ N ≤ 4	1.0 dB max.
	5 ≤ N ≤ 8	1.2 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		0.40 dB max.
Repeatability[5]		0.02 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

1. Specifications are without connectors.
2. IL is measured at specific wavelength, 23°C.
3. IL is for single-band. Dual-band adds 0.3 dB.
4. Power off isolation is same as crosstalk.
5. Repeatability is defined after 100 cycles.

ORDERING INFORMATION

MS2 - M/1xN - ☐ - ☐ - ☐ - ☐ - ☐

Product Code

MS2	MEMS Switch

Switch Configuration

M/1xN	M 1xN Array Switch (Specify M≤5, N≤8 for 50um or N≤4 for 62.5um; such that M+M*N≤36)

Control Interface

I2C	I²C
RS2	RS232
TTL	TTL

Wavelength Range

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

Fiber and Jacket Type

50/BF	50um core, bare fiber
62/BF	62.5um core, bare fiber
50/LT	50um core, loose tube
62/LT	62.5um core, loose tube

Connector Type

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

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

Pigtail Length

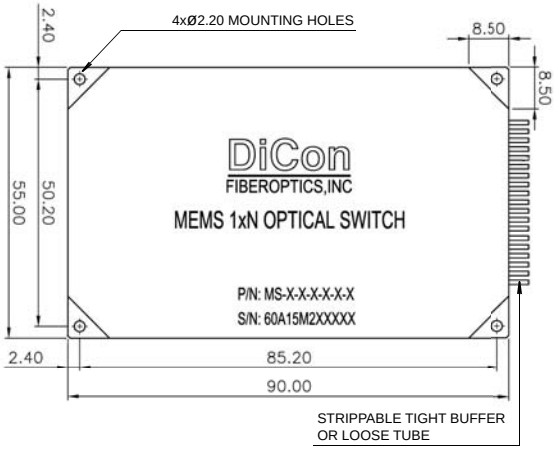
1	1 Meter
X	Specify X Meters

Tolerance is +/- 10 cm

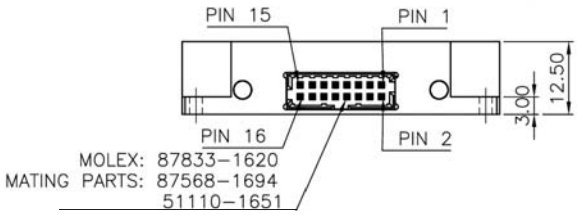
MECHANICAL DIMENSIONS

(Units: mm)

Top View



Side View



ELECTRICAL SPECIFICATIONS

PARAMETER		RATING
Latching Type		non-latching
Control Type		I²C, RS232 or TTL
Vcc Voltage	I²C, RS232	12 VDC
	TTL	5 VDC
Power Consumption	I²C, RS232	700 mW max.
	TTL	1.5 W max.
Connector Type		Molex 87833-1620

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