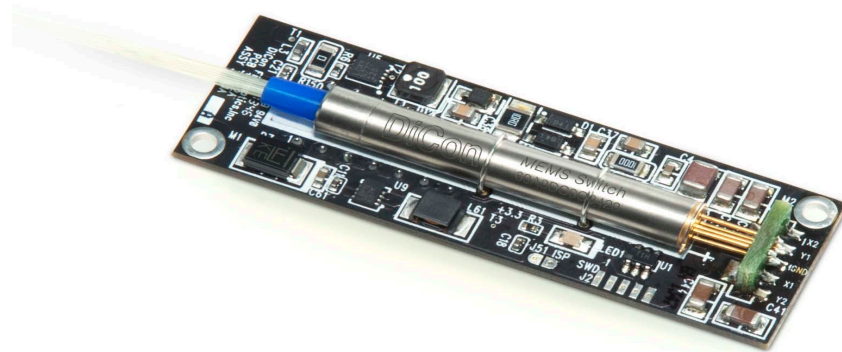# MEMS MULTI-MODE 1XN OPTICAL SWITCH

WITH MLC EXTERNAL PCB

DiCon's MEMS Multi-mode 1xN Switch provides channel selection between a single input fiber and N output fibers. At the core of the switch 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 plane. The 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
- TTL Parallel or I²C Serial Control Interface
- Qualified to GR-1221

APPLICATIONS

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

DiCon
F I B E R O P T I C S
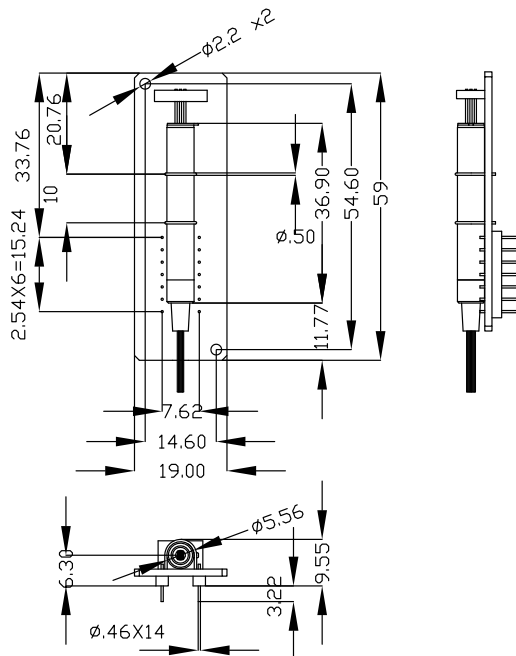
MEMS MULTI-MODE 1XN OPTICAL SWITCH

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OPTICAL SPECIFICATIONS[1]

PARAMETER		RATING
Insertion Loss w/ LED [2,3]		1.4 dB max.
Crosstalk[4]	50 um	-25 dB max.
	62.5 um	-20 dB max.
Back Reflection		-20 dB max.
TDL		0.30 dB max.
Repeatability[5]		0.02 dB max.
Optical Power		500 mW max.
Durability		10^9 cycles min.
Switching Time		30 ms 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. The IL specification is defined with an LED source for full mode fill condition measured at CWL at 23°C +/- 5°C. The IL will be lower if measured using an under filled mode condition. For example the IL measured with a VCSEL source is about 0.4 dB typically.
3. IL is for single-band. Dual-band adds 0.3dB.
4. Power off isolation is same as crosstalk.
5. Repeatability is defined with in 100 cycles.

ORDERING INFORMATION

MLC - ☐ - ☐ - ☐ - ☐ - ☐ - ☐

Product Code

MLC   MEMS Switch
       with External PCB

Switch Configuration

1xN   1xN Switch
Specify N≤12 for 50μm or N≤8 for 62.5μm

Control Interface

TTL   TTL
I2C   I²C

Wavelength / Source

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

Fiber and Jacket Type

50/BF   50 μm Core, Bare Fiber
62/BF   62.5 μm Core, Bare Fiber

Connector Type

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

Other connectors available upon request.

Pigtail Length

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

MECHANICAL DIMENSIONS
(Units: mm)

ELECTRICAL SPECIFICATIONS

PARAMETER	RATING
Latching Type	non-latching
Control Type[1]	I²C or TTL
Vcc Voltage	12 VDC
Power Consumption	700 mW max.
Vcc Damage Threshold	15 VDC

0330A