MEMS 1XN OPTICAL SWITCH

CYLINDRICAL PACKAGE

DiCon's MEMS 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 2D space. 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
- Direct Voltage Control
- Qualified to GR-1221

APPLICATIONS

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

DiCon FIBEROPTICS

MEMS 1XN OPTICAL SWITCH

OPTICAL SPECIFICATIONS[1]

PARAMETER		RATING
Insertion Loss[2,3,4]	1x2,1x4	0.7 dB max.
	1x8	0.8 dB max.
	1x12	1.2 dB max.
Crosstalk[5]		-50 dB max.
Back Reflection		-50 dB max.
TDL		0.30 dB max.
WDL[6]	1x2,1x4,1x8	0.20 dB max.
	1x12	0.30 dB max.
PDL		0.10 dB max.
Repeatability[7]		0.02 dB max.
Optical Power		500 mW max.
Durability		10^9 cycles min.
Switching Time[8]	1x2	10 ms max.
	1x4,1x8	20 ms max.
	1x12	30 ms max.
Operating Temp		-5 to 70°C
Storage Temp		-40 to 85°C
Fiber Type		9/125 µm single mode

1. Specifications are without connectors.
2. IL is measured at CWL, 23°C.
3. IL is for standard opaque model.
4. IL is for single-band. Dual-band adds 0.1dB.
5. Power off isolation is same as crosstalk.
6. WDL is measured in a +/- 20nm range at 23°C.
7. Repeatability is defined after 100 cycles.

ORDERING INFORMATION

MSB - ☐ - 0 - ☐ - 9/BF - ☐ - ☐

Product Code

MSB	Cylindrical MEMS Switch

Switch Configuration

1x2	1x2 Switch
1X4	1X4 Switch
1X8	1X8 Switch
1X12	1X12 Switch

Control Interface

0	Direct Voltage

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

Or other equivalent 9 µm Singlemode fiber

Connector Type

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

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

Pigtail Length

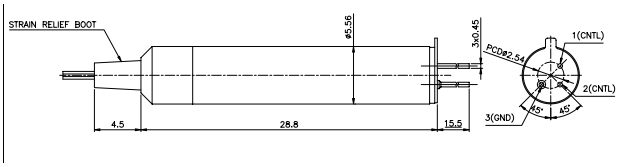
1	1 Meter
X	Specify X Meters

Tolerance is +/- 0.05 m

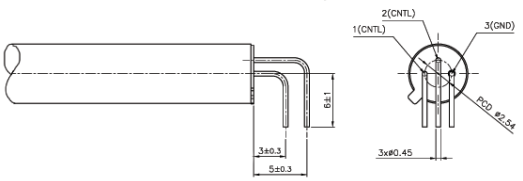
MECHANICAL DIMENSIONS

(Units: mm)

Housing



Pin Bending



ELECTRICAL SPECIFICATIONS

PARAMETER	RATING
Latching Type	non-latching
Control Type	Direct Voltage[1]
Vcc Voltage	0-30 VDC
Power Consumption	120 µW max.
Vcc Damage Threshold	40 VDC

1. Tolerance is +/- 10 mV to meet optical specifications.