

MEMS MULTI-MODE 1xN OPTICAL SWITCH

CYLINDRICAL PACKAGE

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 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



MEMS MULTI-MODE 1XN OPTICAL SWITCH

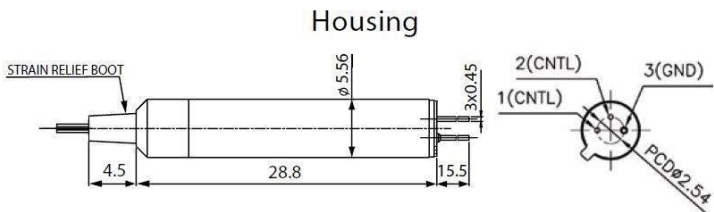
OPTICAL SPECIFICATIONS¹

PARAMETER		RATING
Insertion Loss ^{2,3}	1x2, 1x4	1.0 dB max.
	1x6, 1x8	1.2 dB max.
Crosstalk ⁴	50 μ m	-25 dB max.
	62.5 μ m	-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 ⁶	1x2, 1x4	20 ms max.
	1x6, 1x8	30 ms max.
Operating Temp		-5 to 70°C
Storage Temp		-40 to 85°C
Fiber Type		Multi-mode, Bare Fiber

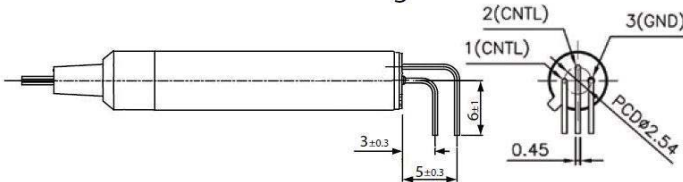
- Specifications are without connectors.
- IL is measured at specified wavelength, 23°C.
- IL is for single-band. Dual-band adds 0.3dB.
- Power off isolation is same as crosstalk.
- Repeatability is defined after 100 cycles.
- When using optimized voltage ramp.

MECHANICAL DIMENSIONS

(Units: mm)



Pin Bending



ORDERING INFORMATION

MSB - - 0 - - - - - -

Product Code	Switch Configuration	Control Interface	Wavelength Range	Fiber and Jacket Type	Connector Type	Pigtail Length	Pin Bending
MSB	1xN	0	8	50/BF	FC	1	S
			9	62/BF	LC	X	B
			8/13		SC		
					ST		
					N		

Cylindrical MEMS Switch
Specify N \leq 8 for 50 μ m or N \leq 4 for 62.5 μ m
Direct Voltage
850 nm only
980 nm only
850 & 1310 nm
50 μ m core, bare fiber
62.5 μ m core, bare fiber
FC/PC
LC/PC
SC/PC
ST/PC
NONE
1 Meter
Specify X Meters
Tolerance is +/- 0.05 m
Straight Pins
Bent Pins

ELECTRICAL SPECIFICATIONS

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

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