

# MEMS ON-OFF OPTICAL SWITCH

DiCon's MEMS On-Off Optical Switch has one input and one output fiber and provides the ability to turn on or off the optical signal passing through it. These fiber optic switches are compact cylindrical devices driven by a direct analog voltage and are intended to be integrated into a larger optical system.



## FEATURES

- Lifetime > 1 Billion Switch Cycles
- Proven MEMS Technology
- Qualified to GR-1221
- High Reliability

## APPLICATIONS

MEMS On-Off Optical Switches are useful in secure optical communication applications where it is critical to control the flow of sensitive information, or in test applications where it is desired to simulate the cutting of fiber optic cables.



# MEMS ON-OFF OPTICAL SWITCH

## OPTICAL SPECIFICATIONS<sup>1</sup>

PARAMETER	RATING
Insertion Loss <sup>2</sup>	0.8 dB max.
Back Reflection	-50 dB max.
TDL	0.30 dB max.
WDL <sup>3</sup>	0.20 dB max.
PDL	0.10 dB max.
Repeatability <sup>4</sup>	0.05 dB max.
Optical Power	500 mW max.
Durability	10 <sup>9</sup> cycles min.
Switching Time	5 ms max.
Operating Temp	-5 to 70°C
Storage Temp	-40 to 85°C
Fiber Type	9/125 μm single mode

- Specifications are without connectors.
- IL is measured at CWL, 23°C.
- WDL is measured in a +/- 20nm range at 23°C.
- Repeatability is defined after 100 cycles.

## ORDERING INFORMATION

MS - 10 - C -  -  -  -  -  -  -

### Housing Type

C Cylindrical

### Switch Type

T Transparent<sup>1</sup>

O Opaque<sup>2</sup>

### Wavelength Range

13 1290 - 1330 nm

15 1530 - 1570 nm

16 1570 - 1610 nm

### Off State Isolation

30 30 dB min.

35 35 dB min.

40 40 dB min.

X Specify X dB min. (X≤40dB)

### Fiber and Jacket Type

9/BF Corning SMF-28, bare fiber

9/LT Corning SMF-28, loose tube

### 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*

### Pin Bending

S Straight Pins

B Bent Pins

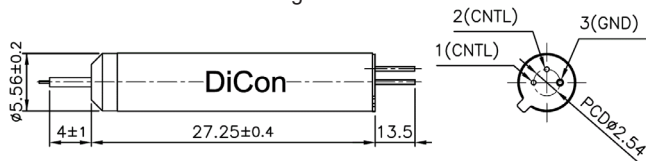
1. Minimum IL is at 0V. Off state isolation is at 4.5-6.5V.

2. Off state isolation is at 0V. Minimum IL is at 6-7V.

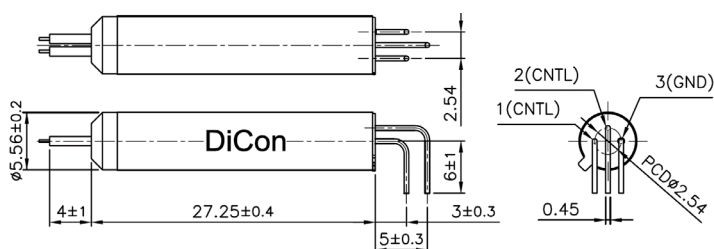
## MECHANICAL DIMENSIONS

(Units: mm)

### Straight Pins



### Bent Pins



## ELECTRICAL SPECIFICATIONS

PARAMETER	RATING
Latching Type	Non-latching
Off State	Transparent Type
Drive Voltage	Opaque Type
Power Consumption	20 μW max.
Vcc Damage Threshold	10 VDC