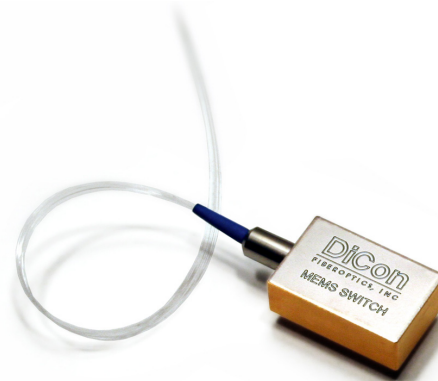


# MEMS 1X2 SWITCH

DiCon's MEMS 1x2 is based on a micro-electromechanical system (MEMS) chip. The MEMS chip consists of an electrically moveable mirror on a silicon support. A voltage applied to the MEMS chip causes the mirror to rotate, which changes the coupling of light between a common fiber and two input/output fibers. The MEMS 1x2 Switch is a non-latching device, which can act as a shutter when electrical power is removed.



## FEATURES

- Small optical switch package
- Based on DiCon's proven MEMS platform
- TTL parallel or SMBus/I<sup>2</sup>C serial control interface
- Qualified to Telecordia GR-1221
- Transparent and Opaque versions available

## APPLICATIONS

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



# MEMS 1X2 SWITCH

## OPTICAL SPECIFICATIONS<sup>1,2</sup>

PARAMETER	RATING
Insertion Loss <sup>3,4</sup>	0.7 dB max.
Crosstalk	-50 dB max.
Back Reflection	-50 dB max.
Switching Time	15 ms max.
TDL	0.30 dB max.
WDL <sup>5</sup>	0.20 dB max.
PDL	0.10 dB max.
Repeatability <sup>6</sup>	0.02 dB max.
Durability	10 <sup>9</sup> cycles min.
Optical Power	500 mW max.
Operating Temp	-5 to 70°C
Storage Temp	-40 to 85°C
Fiber Type	9/125 μm single mode

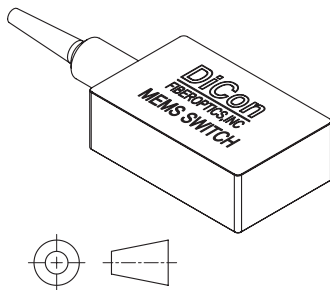
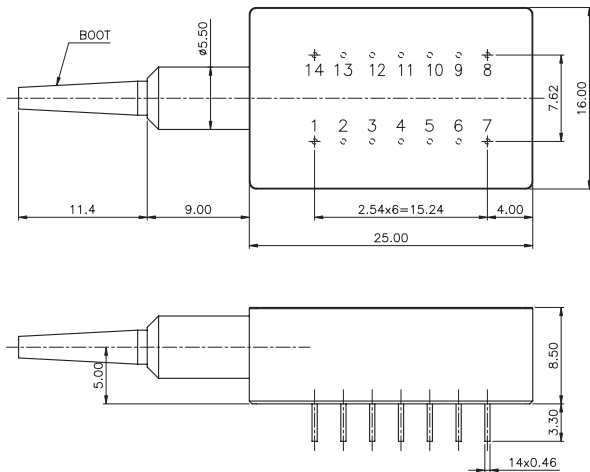
- Specifications are without connectors.
- Specifications are guaranteed in defined switch states only.
- IL is measured at CWL, 23°C.
- Loose tube option adds 0.1 dB.
- WDL is measured in a +/- 20nm range at 23°C.
- Repeatability is defined after 100 cycles.

## MECHANICAL DIMENSIONS

(Units: mm)

Top View

Bare Fiber



## ORDERING INFORMATION

MS1 - 1x2 - □ - □ - □ - □ - □

### Product Code

MS1 MEMS Switch

### Switch Configuration

1x2 1x2 Switch

### Control Interface

TTL TTL  
I2C I<sup>2</sup>C

### 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  
9/LT Corning SMA-28, 900μm loose tube  
*Or other equivalent 9μm 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*

## ELECTRICAL SPECIFICATIONS

PARAMETER	RATING
Latching Type	non-latching
Control Type	I <sup>2</sup> C and TTL
Vcc Voltage	12 VDC
Power Consumption	170 mW max.
Vcc Damage Threshold	15 VDC

### Loose Tube

