

MEMS 3-CH FLEXPORTR OPTICAL SWITCH

DiCon's MEMS 3-Channel Flexport Switch provides an optical connection between any two of three 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 space.



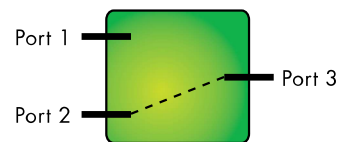
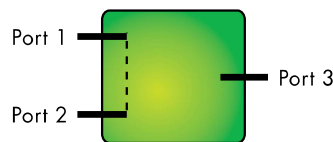
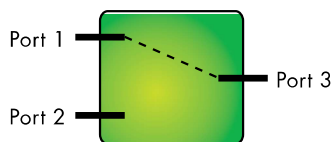
FEATURES

- Proven MEMS Durability and Reliability
- Compact Form Factor
- Fast Switching Time
- TTL Parallel or I²C Serial Control Interface
- Qualified to GR-1221

APPLICATIONS

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

3 Possible Switch States



DiCon
FIBEROPTICS

MEMS 3-CH FLEXPOROT OPTICAL SWITCH

OPTICAL SPECIFICATIONS¹

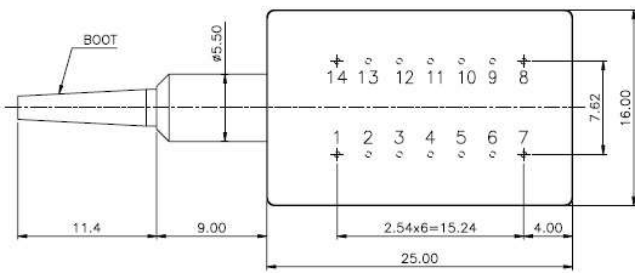
PARAMETER	RATING
Insertion Loss ^{2,3,4}	0.8 dB max.
Crosstalk ⁵	-50 dB max.
Back Reflection	-50 dB max.
Switching Time	30 ms max.
TDL	0.30 dB max.
WDL ⁶	0.20 dB max.
PDL	0.10 dB max.
Repeatability ⁷	0.02 dB max.
Durability	10 ⁹ cycles min.
Optical Power	500 mW max.
Operating Temp	-5 to 70°C
Storage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

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

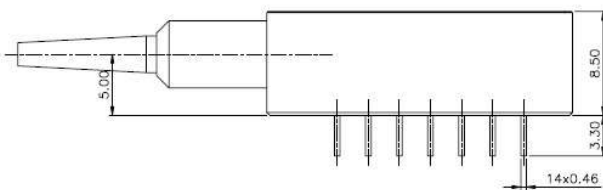
MECHANICAL DIMENSIONS

(Units: mm)

Top View



Side View



ORDERING INFORMATION

MS1 - 3F - □ - □ - □ - 9/BF - □

Product Code

MS1 MEMS Switch

Switch Configuration

3F 3-Channel Flexport Switch

Control Interface

TTL TTL
I²C I²C

Wavelength Range

13 1290 - 1330 nm
15 1530 - 1570 nm
16 1570 - 1610 nm
13/15 1290 - 1330 & 1530 - 1570 nm
15/16 1530 - 1550 & 1570 - 1610 nm

Connector Type

FC/SPC FC/SPC
FC/APC FC/APC
N NONE
Also Available: SC, SC/UPC, SC/APC, ST, ST/UPC, LC

Fiber and Jacket Type

9/BF Corning SMF-28, bare fiber
Or other equivalent 9 μm Singlemode fiber

Pigtail Length

1 1 Meter
X Specify X Meters
Tolerance is +/- 10 cm

ELECTRICAL SPECIFICATIONS

PARAMETER	RATING
Latching Type	non-latching
Control Type	I ² C and TTL
V _{cc} Voltage	12 VDC
Power Consumption	170 mW max.
V _{cc} Damage Threshold	15 VDC