MEMS 2X2 OPTICAL SWITCH

DiCon’s MEMS 2x2 Optical Switch is a true 2x2 optical switch. It has two fiber inputs and two fiber outputs and can be switched to one of two configurations, shown below. This optical switch utilizes DiCon’s proprietary MEMS technology to achieve reliable optical performance and excellent durability; DiCon’s Optical Switches have been shown to last for over 1 billion switch cycles and are qualified to Telcordia GR-1221 environmental standards.

FEATURES

- Reliable Optical Performance
- Excellent Durability
- Compact Form Factor
- Low Power Consumption

APPLICATIONS

- Optical Communications
- Bio-medical Instrumentation
- Test Applications
- Add/Drop Applications

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MEMS 2X2 OPTICAL SWITCH

OPTICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insertion Loss3,4,5</td>
<td>1.0 dB max.</td>
</tr>
<tr>
<td>Crosstalk</td>
<td>-50 dB max.</td>
</tr>
<tr>
<td>Back Reflection</td>
<td>-50 dB max.</td>
</tr>
<tr>
<td>Switching Time</td>
<td>30 ms max.</td>
</tr>
<tr>
<td>TDL6</td>
<td>0.30 dB max.</td>
</tr>
<tr>
<td>WDL6,7</td>
<td>0.20 dB max.</td>
</tr>
<tr>
<td>PDL6</td>
<td>0.10 dB max.</td>
</tr>
<tr>
<td>Repeatability8</td>
<td>0.02 dB max.</td>
</tr>
<tr>
<td>Durability</td>
<td>10⁹ cycles min.</td>
</tr>
<tr>
<td>Optical Power</td>
<td>500 mW max.</td>
</tr>
<tr>
<td>Operating Temp</td>
<td>-5 to 70°C</td>
</tr>
<tr>
<td>Storage Temp</td>
<td>-40 to 85°C</td>
</tr>
<tr>
<td>Fiber Type</td>
<td>9/125 μm single mode</td>
</tr>
</tbody>
</table>

1. Specifications are without connectors.
2. Specifications are for a single pass through the switch. The optical path from In 2 to Out 2 uses an internal double pass through the switch.
3. IL is measured at CWL, 23°C ± 5°C.
4. IL is for single-band. Dual-band adds 0.2 dB.
5. In 2 to Out 2 path adds 0.8 dB.
6. In 2 to Out 2 path adds 0.1 dB.
7. WDL is measured in a +/- 20nm range at 23°C.
8. Repeatability is defined within 100 cycles. In 2 to Out 2 adds 0.02 dB.

MECHANICAL DIMENSIONS

(Units: mm)

ORDERING INFORMATION

Product Code
MS2 MEMS Switch

Switch Configuration
2X2 2X2 Switch
M/2X2 M 2x2 Switches
(Specify M between 2 & 5)

Control Interface
I2C I2C
RS232 RS232
TTL TTL

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 SMF-28, Loose-tube
Or other equivalent 9μm Single-mode fiber

Connector Type
FC/SC FC/SC
FC/APC FC/APC
LC/SC LC/SC
LC/APC LC/APC
SC/SC SC/SC
SC/APC SC/APC
N NONE

Other connector options are also available

Pigtail Length
1 1 Meter
X Specify X Meters
Tolerance is +/- 0.05 m

ELECTRICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latching Type</td>
<td>non-latching</td>
</tr>
<tr>
<td>Control Type</td>
<td>I2C, RS232 or TTL</td>
</tr>
<tr>
<td>Vcc</td>
<td>12 VDC</td>
</tr>
<tr>
<td>Voltage</td>
<td>5 VDC</td>
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<tr>
<td>Power</td>
<td>700 mW max.</td>
</tr>
<tr>
<td>Consumption</td>
<td>1.5 W max.</td>
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<tr>
<td>Connector Type</td>
<td>Molex 87833-1620</td>
</tr>
</tbody>
</table>

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