DiCon’s MEMS Reflection On/Off Switch provides an optical shutter that can return light through the input fiber. 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 along an axis, allowing the input light to be selectively redirected back to the input fiber.

FEATURES
- Proven MEMS Durability and Reliability
- Compact Form Factor
- Fast Switching Time
- Direct Voltage Control
- Qualified to GR-1221

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

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MEMS REFLECTION ON/OFF OPTICAL SWITCH

OPTICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insertion Loss</td>
<td>0.7 dB max.</td>
</tr>
<tr>
<td>Back Reflection</td>
<td>-45 dB max.</td>
</tr>
<tr>
<td>Switching Time</td>
<td>5 ms max.</td>
</tr>
<tr>
<td>TDL</td>
<td>0.30 dB max.</td>
</tr>
<tr>
<td>WDL</td>
<td>0.20 dB max.</td>
</tr>
<tr>
<td>PDL</td>
<td>0.10 dB max.</td>
</tr>
<tr>
<td>Repeatability</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. IL is measured at CWL, 23°C.
3. IL is for single-band. Dual-band option adds 0.1 dB.
4. WDL is measured in a +/- 20nm range at 23°C.
5. Repeatability is defined after 100 cycles.

ORDERING INFORMATION

Product Code
MS - REF10 - □ - □ - □ - □ - □ - □
- □
- □
- □
- □
- □
- □

Switch Configuration
- REF10 Reflection On/Off Switch
- T Transparent Switch
- O Opaque Switch

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

Off State Isolation
- 35 35 dB min.
- 45 45 dB min.
- X Specify X dB min.

Fiber and Jacket Type
- 9/BF Corning SMF-28, bare fiber
- 9/LT Corning SMF-28, loose tube
- Or other equivalent 9 µm 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 +/- 10 cm

MECHANICAL DIMENSIONS

Units: mm

Housing

Pin Bending

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>Direct Voltage</td>
</tr>
<tr>
<td>Vcc Voltage</td>
<td>Transparent</td>
</tr>
<tr>
<td></td>
<td>0 - 5 VDC</td>
</tr>
<tr>
<td>Voltage</td>
<td>Opaque¹</td>
</tr>
<tr>
<td></td>
<td>0 - 7 VDC</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>20 µW max.</td>
</tr>
</tbody>
</table>

1. Min. IL is between 6 and 7 VDC.