DiCon’s PM MEMS 3D Matrix Optical Switch is a proprietary optical switch structure that allows any of the inputs to connect to any of the outputs in a fully non-blocking, all-optical cross-connect configuration. This innovative design is based on DiCon’s industry proven MEMS mirror technology and offers the same level of durability and reliability that can be expected from any of the DiCon’s MEMS fiber optic switch solutions.

**OPERATING PRINCIPLE**

(ANY PORT TO ANY PORT FUNCTIONALITY)

**FEATURES**

- High Reliability
- Proven MEMS Technology
- Lifetime > 1 Billion Switch Cycles
- Available in any MxN configuration up to 96x96

**APPLICATIONS**

- Dynamic Management of Optical Networks
- Configurable Test & Measurement
- ROADM
PM MEMS 3D MATRIX OPTICAL SWITCH

OPTICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insertion Loss</td>
<td>0.8 dB typ. 1.4 dB max.</td>
</tr>
<tr>
<td>Crosstalk</td>
<td>-70 dB typ. -55 dB max.</td>
</tr>
<tr>
<td>Back Reflection</td>
<td>-55 dB typ. -45 dB max.</td>
</tr>
<tr>
<td>Extinction Ratio</td>
<td>18 dB min</td>
</tr>
<tr>
<td>Switching Time</td>
<td>15 ms typ. 20 ms max.</td>
</tr>
<tr>
<td>TLD</td>
<td>0.1 dB typ. 0.4 dB max.</td>
</tr>
<tr>
<td>WDL</td>
<td>0.1 dB typ. 0.4 dB max.</td>
</tr>
<tr>
<td>Repeatability</td>
<td>0.01 dB typ. 0.06 dB max.</td>
</tr>
<tr>
<td>Durability</td>
<td>$10^9$ 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 Panda Fiber</td>
</tr>
</tbody>
</table>

1. All specifications are without connectors at room temp.
2. IL is measured at CWL.
3. WDL is measured from CWL in a +/- 20nm range.
4. Repeatability is defined within 100 cycles.

ORDERING INFORMATION

Product Code

MN8 - [ ]

Switch Configuration

MxN MxN Non-Blocking
(Specify M,N≤96)

Control Interface

I2C I2C
RS2 RS232

Wavelength Range

13 1290 - 1330 nm
15 1530 - 1570 nm
16 1570 - 1610 nm

Other wavelengths available upon special order

Connector Key Orientation

PMF Fast axis
PMS Slow axis
PMN No connector

Fiber and Jacket Type

2/LT 9/125µm Panda Fiber, 900 µm Loose Tube

Connector Type

FC/SPC FC/SPC
FC/APC FC/APC
LC/SPC LC/SPC
LC/APC LC/APC
SC/SPC SC/SPC
SC/APC SC/APC
N NONE

Other connector types are also available

Pigtail Length

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 or RS232</td>
</tr>
<tr>
<td>Vcc Voltage</td>
<td>12 VDC</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>Start Up 18.8 W max.</td>
</tr>
<tr>
<td>Operating</td>
<td>8.4 W max.</td>
</tr>
<tr>
<td>Connector Type</td>
<td>Molex 87833-1620</td>
</tr>
</tbody>
</table>

MECHANICAL DIMENSIONS

(Units: mm)

DiCon Fiberoptics, Inc. 1689 Regatta Blvd. Richmond, CA 94804 Tel. (510) 620-5000 Fax. (510) 620-4100 www.diconfiberoptics.com