MEMS VOA MUX/DEMUX MODULE

DiCon’s MEMS VOA MUX/DeMux Module allows for multiplexing or demultiplexing of up to four 100 GHz channels with integrated power equalization. Each channel has its own WDM filter, variable optical attenuator and tap detector.

FEATURES

- Proven MEMS Durability and Reliability
- Multi-Channel Mux/DeMux with power monitoring and level control
- Flexible channel configurations

APPLICATIONS

- Test & Measurement
- Gain Equalizer
- Channel Power Equalization
# MEMS VOA MUX/DEMUX MODULE

## OPTICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excess Loss(^2,3,4)</td>
<td>C-P1 2.4 dB max</td>
</tr>
<tr>
<td></td>
<td>C-P4 4.2 dB max</td>
</tr>
<tr>
<td>Dynamic Power Range</td>
<td>1% Taps -27 to 17 dBm</td>
</tr>
<tr>
<td></td>
<td>2% Taps -27 to 17 dBm</td>
</tr>
<tr>
<td></td>
<td>5% Taps -32 to 13 dBm</td>
</tr>
<tr>
<td></td>
<td>10% Taps -35 to 10 dBm</td>
</tr>
<tr>
<td>Attenuation Range(^6)</td>
<td>30 dB min.</td>
</tr>
<tr>
<td>Adjacent Channel Isolation(^5)</td>
<td>25 dB min</td>
</tr>
<tr>
<td>Output Accuracy(^7)</td>
<td>± 0.3 dB max.</td>
</tr>
<tr>
<td>PDL(^8)</td>
<td>0 - 15 dB 0.15 dB max.</td>
</tr>
<tr>
<td></td>
<td>15 - 20 dB 0.2 dB max.</td>
</tr>
<tr>
<td>WDL</td>
<td>Narrow Band Application(^10) 0 - 30 dB(^8,9) 0.2 dB max.</td>
</tr>
<tr>
<td>Back Reflection</td>
<td>-50 dB max.</td>
</tr>
<tr>
<td>Tuning Resolution</td>
<td>0.01 dB</td>
</tr>
<tr>
<td>Optical Power</td>
<td>300 mW max.</td>
</tr>
<tr>
<td>Durability</td>
<td>10(^9) cycles min</td>
</tr>
<tr>
<td>Fiber Type</td>
<td>9/125 μm single mode</td>
</tr>
</tbody>
</table>

1. All Specifications at room temperature, without connectors.
2. Excess Loss is measured at CWL, 23°C.
3. Add 0.2 dB for 5% taps.
4. Add 0.4 dB for 10% taps.
5. Available up to 40 dB. Contact DiCon for details.
6. 40 dB high isolation by request.
7. For closed-loop operation.
8. Operating from 1290 - 1330 nm adds 0.1 dB.
9. Operating from 1290 - 1330 nm adds 0.3 dB.
10. Maximum change of each 2 nm segment within the operating range.

## MECHANICAL DIMENSIONS

(Units: mm)

### Top View

![Top View Diagram](image)

### Left Side View

![Left Side View Diagram](image)

## 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>I(^2)C, RS232</td>
</tr>
<tr>
<td>Vcc Voltage</td>
<td>5 VDC</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>1 W max.</td>
</tr>
<tr>
<td>Connector Type</td>
<td>Molex 87833-1620</td>
</tr>
</tbody>
</table>

## ORDERING INFORMATION

MD - □□□□□□□□□□□□□□□□□

- **Product Code**
  - MD
  - Mux/DeMux
  - VOA Module

- **MUX Type**
  - D DeMux
  - M Mux

- **Components**
  - X/Y X-Ch, Y% Tap
  - N = No Taps
  - Choose X≤4, Y=1,2,5, or 10

- **Control Type**
  - I2C FC
  - RS2 RS-232

- **P1 ITU Channel**\(^1,2\)
  - N Specify ITU Channel #
  - NA None

- **P2 ITU Channel**\(^1,2\)
  - N Specify ITU Channel #
  - NA None

- **P3 ITU Channel**\(^1,2\)
  - N Specify ITU Channel #
  - NA None

- **P4 ITU Channel**\(^1,2\)
  - N Specify ITU Channel #
  - NA None

- **Fiber and Jacket Type**
  - 9/9B Corning SMF-28 9μm bare fiber
  - 9/LT Corning SMF-28 9μm fiber with loose tube
  - Or other equivalent 9μm Singlemode fiber

- **Connector Type**
  - FC/SPC FC/SPC
  - FC/APC FC/APC
  - N NONE

- **Pigtial Length**
  - 1 1 meter
  - X Specify X meters

1. Based on ITU grid
2. Refer to the 4 channel Mux or DeMux configuration diagram for filter location