Multi-Channel VOA Array with Integrated Monitor

(patent pending)

Product Description

The Multi-channel Variable Fiber Optical Attenuator with Integrated Power Monitor Module (VOA-TAPM) is designed to provide the precision control of a steady output optical power or attenuation independent of environmental variations or input laser instability. The input-tap and output-tap are integrated with VOAs in a compact module. The module eliminates laser power variations, such as PDL, WDL, TDL, etc. and is particularly suitable for continuous optical power regulation and transient optical suppression, as well as analog signal modulation applications.

The module is a platform ready for customization with control electronics option.

Performance Specifications

<table>
<thead>
<tr>
<th>VOA-ILPM Module</th>
<th>Min</th>
<th>Typical</th>
<th>Max</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Wavelength</td>
<td>780 – 1100, 1260–1360, 1510–1620</td>
<td>nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Channel Number</td>
<td>4</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insertion Loss [1]</td>
<td>1.5</td>
<td>dB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attenuation Range</td>
<td>30</td>
<td>dB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Voltage</td>
<td>3.5</td>
<td>5</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>ILPM (Input/Output) Accuracy</td>
<td>± 0.1</td>
<td>dB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Input Power</td>
<td>20</td>
<td>dBm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum Detectable Power</td>
<td>-30</td>
<td>dBm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VOA Response Time</td>
<td>0.1</td>
<td>5</td>
<td>ms</td>
<td></td>
</tr>
<tr>
<td>Electrically Power Consumption/Channel</td>
<td>0.2</td>
<td>W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resolution</td>
<td>Continuous</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-5 ~ 70</td>
<td>°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-40 ~ 85</td>
<td>°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiber Type</td>
<td>Corning SMF-28 or MMF or PMF</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[1] Measured without connector
[2] Noted as SM fiber
VOA-ILPM Module

Mechanical Footprint Dimensions (Units: inch)

Note: Typical size for 4 Channel module only.

Electric PIN Assignment

The connector J9 supports a 50 pin ribbon cable with 50 mil centers. Samtec EHF-125-01-L-D-RA-K or equivalent connector should be used.

The pin definition will be provided in the application note

Ordering Information

<table>
<thead>
<tr>
<th>VOA-TAPM</th>
<th>ILPM</th>
<th>Channel number</th>
<th>Wavelength</th>
<th>Off State</th>
<th>Package Type</th>
<th>Fiber Type</th>
<th>Connector Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Input ILPM only = 10</td>
<td>Output ILPM only = 01</td>
<td>Input &amp; Output ILPM = 11</td>
<td>Ex. 4 channels = 04</td>
<td>1310nm = 3</td>
<td>1410nm = 4</td>
<td>1550nm = 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Normally open = 1</td>
<td>Normally closed = 2</td>
<td>SMF-28 = 1</td>
<td>MMF-50/125 = 5</td>
</tr>
</tbody>
</table>