Planar Waveguide Dense Wavelength Division Multiplexer/Demultiplexer

AWGM5 Series

Product Description

Arrayed-waveguide grating (AWG) wavelength division multiplexers and demultiplexers at 50GHz channel spacing are based on patent-pending CVD process. These silica-on-silicon waveguides exhibit exceptional material uniformity.

Complemented by our automated robust packaging, Oplink’s planar lightwave circuits are well suited for demanding telecom applications such as DWDM, long-haul, and metro transmission systems. The AWG offers low insertion loss, accurate channel alignment, very low crosstalk and high channel-to-channel uniformity. This product family complies with Telcordia GR-1221-CORE.

Oplink can provide customized designs to meet specialized feature applications. Also, Oplink offers modular assemblies that integrate other components to form a full function module.

Performance Specification

<table>
<thead>
<tr>
<th>AWGM5 Parameters</th>
<th>Gaussian</th>
<th>Moderate</th>
<th>Flat-top</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel Spacing</td>
<td></td>
<td>50</td>
<td></td>
<td>GHz</td>
</tr>
<tr>
<td>Number of Channels</td>
<td></td>
<td>Up to 80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Channel Passband</td>
<td></td>
<td>± 6.25</td>
<td></td>
<td>GHz</td>
</tr>
<tr>
<td>Insertion Loss</td>
<td></td>
<td>&lt; 4.0</td>
<td>&lt; 6.0</td>
<td>dB</td>
</tr>
<tr>
<td>Uniformity</td>
<td></td>
<td>&lt; 1.5</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Polarization Dependent Loss</td>
<td></td>
<td>&lt; 0.5</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Adjacent Channel Crosstalk</td>
<td></td>
<td>&gt; 25</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Non-adjacent Channel Crosstalk</td>
<td></td>
<td>&gt; 30</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Total Crosstalk</td>
<td></td>
<td>&gt; 20</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Return Loss</td>
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<td>&gt; 40</td>
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<td>dB</td>
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<tr>
<td>Directivity</td>
<td></td>
<td>&gt; 50</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Power Consumption</td>
<td></td>
<td>4</td>
<td></td>
<td>W</td>
</tr>
<tr>
<td>Maximum Power Handling</td>
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<td>300</td>
<td></td>
<td>mW</td>
</tr>
<tr>
<td>Operating Temperature</td>
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<td>-5 to +70</td>
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<td>°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
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<td>-40 to +85</td>
<td></td>
<td>°C</td>
</tr>
</tbody>
</table>

Features

- Established Silica-on-Silicon Technology
- Low Insertion Loss
- Low PDL
- Extremely Low Crosstalk
- Low Chromatic Dispersion
- Telcordia GR-1221-CORE Qualified

Applications

- DWDM Transmission
- Wavelength Routing
- Optical Add/Drop Multiplexing

Options

- Channel Count: 16, 24, 32, 40, 80 or Custom
- Channel Spacing: 100GHz, 200GHz
- Wavelength Plan: ITU Grid in C or L-Band
- Custom Packaging Available
- RTD/Thermistor Temperature Sensor or Internal Temp Control Option
Mechanical Drawing / Package Dimensions

Ordering Information

Oplink can provide a remarkable range of customized optical solutions. For detail, please contact Oplink’s OEM design team or account manager for your requirements and ordering information (510) 933-7200.

AWGM5 Series

Channel Number
- 40ch = 40
- 80ch = 80

Longest ITU Channel Number
- Gaussian = G
- Flat-Top = F

AWG Type
- P1 = 1
- P2 = 2

Fiber Length*
- 0.5 meter = H
- 1.0 meter = 1
- 1.5 meter = 5
- 2.0 meter = 2

Connector Type
- None = 1
- FC/PC = 2
- SC/PC = 5
- ST = 8
- LC = 9
- MU = A

Fiber Jacket
- SMF-28 250 μm bare fiber = 1
- SMF-28 with 900 μm loose tube = 2

* The mechanical tolerance should be +/-0.2mm on all package dimensions unless otherwise custom specified

* 1 meter is standard. The lead-time for special fiber length will be longer.