Ultra-High Speed Polarization Scrambler
(5MHz, 2MHz)
(patent pending)

Product Description

The polarization scrambler is a non-mechanical device having industrial leading performance of high speed and low optical loss to provide an ultimate solution for polarization randomization. The polarization scrambler is based on fast speed electro-optical materials functioning as phase retardation with three plates oriented at 0, 45 and 0 degrees that are driven at three fixed at frequencies respectively. Converts any input state of polarization to randomly polarized states fully covering the Poincare sphere.

The device is conveniently powered by a 12V supply without the need for control signals.

Performance Specifications

<table>
<thead>
<tr>
<th>Polarization Scrambler</th>
<th>Min</th>
<th>Typical</th>
<th>Max</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center Operating Wavelength</td>
<td>1060</td>
<td>1550</td>
<td>1800</td>
<td>nm</td>
</tr>
<tr>
<td>Operating Wavelength Range</td>
<td>100</td>
<td></td>
<td></td>
<td>nm</td>
</tr>
<tr>
<td>Insertion Loss</td>
<td>1.0</td>
<td>1.5</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Polarization Dependent Loss</td>
<td>0.05</td>
<td>0.15</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Return Loss</td>
<td>45</td>
<td>50</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Degree of Polarization (1000 AVG)</td>
<td></td>
<td>5</td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>Modulation Frequency</td>
<td></td>
<td>10</td>
<td>5000</td>
<td>KHz</td>
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<tr>
<td></td>
<td></td>
<td>10</td>
<td>1000</td>
<td>KHz</td>
</tr>
</tbody>
</table>

Power Supply 12 V /2A
Power Consumption 3 W
Operating Optical Power 500 mW
Operating Temperature -5 ~ 70 °C
Storage Temperature -40 ~ 85 °C

I.Excluding connectors.
Polarization Scrambler

Ordering Information

<table>
<thead>
<tr>
<th>NOPS-</th>
<th>1 1</th>
<th>1 1</th>
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<tbody>
<tr>
<td>Type</td>
<td>Wavelength</td>
<td>M Frequency</td>
</tr>
<tr>
<td></td>
<td>1060 = 1</td>
<td>5MHz = 1</td>
</tr>
<tr>
<td></td>
<td>1310 = 3</td>
<td>2MHz = 2</td>
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<tr>
<td></td>
<td>1550 = 5</td>
<td>Special = 0</td>
</tr>
<tr>
<td></td>
<td>Special = 0</td>
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<td>Package</td>
<td>Fiber Type</td>
<td>Fiber Length</td>
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<td>SMF 28</td>
<td>HI 1060 = 2</td>
<td>Special = 0</td>
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<tr>
<td>0.25m = 1</td>
<td>900um loose</td>
<td>Bare fiber = 1</td>
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<tr>
<td>0.5m = 2</td>
<td>tube = 3</td>
<td>Special = 0</td>
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<tr>
<td>1.0 m = 3</td>
<td>Special = 0</td>
<td>None = 1</td>
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<tr>
<td>ST/PC = 6</td>
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<td></td>
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<td>LC = 7</td>
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Revision: 05-4-2019