Ridge Waveguide WG-SHG1560-40

Length 40mm

Reference Mark

5 ± 0.5 mm

1.0 ± 0.05 mm

Side view

Ridge waveguide

Reference Mark

~110µm

[Image for reference only. Not to scale.]

AR coated SHG waveguide chip

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waveguide length [mm]</td>
<td>40</td>
</tr>
<tr>
<td>Available pump wavelength by chip selection [nm]</td>
<td>1535-1565</td>
</tr>
<tr>
<td>Temperature tuning Coeff. [nm/°C]</td>
<td>0.15</td>
</tr>
<tr>
<td>Standard temperature tuning range [°C]</td>
<td>50 +/- 20</td>
</tr>
<tr>
<td>CW pump launch [mW]</td>
<td>300</td>
</tr>
<tr>
<td>Coupling efficiency [%]</td>
<td>75 +/- 5</td>
</tr>
<tr>
<td>CW SHG output [mW]</td>
<td>40 +/- 5</td>
</tr>
<tr>
<td>Typical efficiency [%/W]</td>
<td>45</td>
</tr>
<tr>
<td>Waveguide NA and ωo [µm] (@1.56µm)</td>
<td>0.12 / 4.5</td>
</tr>
</tbody>
</table>

Top view of chip layout with butt coupled fibre launch

Set-up for lensed launch testing

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Waveguide dimensions

Substrate Thickness(z) 1.0mm±0.05mm
Substrate Width(y) 5mm±0.2mm
Waveguide Chip Length(x) 40mm±0.5mm

- The SHG device base material is 5% Magnesium doped Lithium Niobate
- A Zinc indiffused planar layer and diced ridge structures define the waveguides
- Typical coupling efficiencies with a lensed launch: ~75%
- Launch fibre for tests: OzOptics PMF-1550-8/125-0.25-L (MFD 10.5 μm)
- Set-up for lensed Launch, Thorlabs lens: Zoom collimator C220-TMD-B; Aspheric focusing: C560-TME-C

Substrate Thickness (z)
Substrate Width (y)
Waveguide Chip Length (x)

1560nm Fiber Laser
Collimating Lens f=14mm
Focusing Lens f=13.86mm
Covesion WG
780nm Output Beam

Phase matching scan at 50 °C

Pump throughput (mW)
SHG output (mW)
Wavelength (nm)

1560nm output beam
Mode Field Diameter : 9 μm

For more information, please contact us at:
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