Super-Luminescent Light Emitting Diode Device

IPSDD0819 (880nm)

Features

- Wide Optical Bandwidth
- Very Low Spectral Ripple
- High Output Power in SM/or PM Fiber

Applications

- Broadband Light Source
- Fiber Optic Sensor (FOS) System
- Biomedical Imaging Device
- OCT Diagnostic System

Device Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Wavelength</td>
<td>( \lambda_c )</td>
<td>870</td>
<td>880</td>
<td>890</td>
<td>nm</td>
</tr>
<tr>
<td>3dB Bandwidth</td>
<td>( \Delta \lambda_{3dB} )</td>
<td>42</td>
<td>45</td>
<td>-</td>
<td>nm</td>
</tr>
<tr>
<td>Output Power in SM Fiber</td>
<td>( P_o )</td>
<td>6</td>
<td>8</td>
<td>-</td>
<td>mW</td>
</tr>
<tr>
<td>Spectral Modulation Depth(_{p-p} )</td>
<td>( \Delta )</td>
<td>-</td>
<td>0.1</td>
<td>0.2</td>
<td>dB</td>
</tr>
<tr>
<td>Operating Current</td>
<td>( I_F )</td>
<td>-</td>
<td>180</td>
<td>250</td>
<td>mA</td>
</tr>
<tr>
<td>Back Facet Monitor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Absolute Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Min.</th>
<th>Max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature</td>
<td>-20</td>
<td>70</td>
<td>°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-40</td>
<td>85</td>
<td>°C</td>
</tr>
<tr>
<td>TEC Drive Current</td>
<td>-</td>
<td>1.5</td>
<td>A</td>
</tr>
<tr>
<td>TEC Drive Voltage</td>
<td>-</td>
<td>3.6</td>
<td>V</td>
</tr>
<tr>
<td>Maximum Current</td>
<td>300</td>
<td></td>
<td>mA</td>
</tr>
<tr>
<td>Thermistor Resistance</td>
<td>10kΩ @ 25°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SLD Chip Temperature Setting</td>
<td>25°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiber Type</td>
<td>SMF/PMF/MMF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiber Jacket</td>
<td>250µm tight buffer with 900µm loose tube</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Package</td>
<td>14-pin DIL/14-pin BUT/8-pin BUT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead Solder Temperature</td>
<td>260°C for 10 Seconds</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Package Dimensions

14-Pin BUT Package

14-Pin DIL Package

### Pin Definition

<table>
<thead>
<tr>
<th>Pin</th>
<th>Function</th>
<th>Pin</th>
<th>Function</th>
<th>Pin</th>
<th>Function</th>
<th>Pin</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TEC (+)</td>
<td>8</td>
<td>NC</td>
<td>1</td>
<td>TEC (+)</td>
<td>8</td>
<td>NC</td>
</tr>
<tr>
<td>2</td>
<td>Thermistor</td>
<td>9</td>
<td>NC</td>
<td>2</td>
<td>NC</td>
<td>9</td>
<td>SLD (-)</td>
</tr>
<tr>
<td>3</td>
<td>NC</td>
<td>10</td>
<td>SLD (+)</td>
<td>3</td>
<td>NC</td>
<td>10</td>
<td>Case</td>
</tr>
<tr>
<td>4</td>
<td>NC</td>
<td>11</td>
<td>SLD (-)</td>
<td>4</td>
<td>NC</td>
<td>11</td>
<td>Thermistor</td>
</tr>
<tr>
<td>5</td>
<td>Thermistor</td>
<td>12</td>
<td>NC</td>
<td>5</td>
<td>SLD (+)</td>
<td>12</td>
<td>Thermistor</td>
</tr>
<tr>
<td>6</td>
<td>NC</td>
<td>13</td>
<td>Case</td>
<td>6</td>
<td>NC</td>
<td>13</td>
<td>NC</td>
</tr>
<tr>
<td>7</td>
<td>NC</td>
<td>14</td>
<td>TEC (-)</td>
<td>7</td>
<td>NC</td>
<td>14</td>
<td>TEC (-)</td>
</tr>
</tbody>
</table>

- If the SLD is ordered with a Back Facet Monitor, Pin 7 is PD-Cathode and Pin 8 is PD+Anode

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**8-Pin BUT Package**

**Pin Definition**

<table>
<thead>
<tr>
<th>Pin</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TEC (+)</td>
</tr>
<tr>
<td>2</td>
<td>NC</td>
</tr>
<tr>
<td>3</td>
<td>NC</td>
</tr>
<tr>
<td>4</td>
<td>SLED (+)</td>
</tr>
<tr>
<td>5</td>
<td>SLED (-)</td>
</tr>
<tr>
<td>6</td>
<td>Thermistor</td>
</tr>
<tr>
<td>7</td>
<td>Thermistor</td>
</tr>
<tr>
<td>8</td>
<td>TEC (-)</td>
</tr>
</tbody>
</table>
Product Specification, Revision 1.50

Part Numbering System

Model:
IPSDDXXXX: SLD Device

Package:
1: 14-pin DIL
2: 8-pin Butterfly
3: 14-pin Butterfly

Fiber Type:
1: SM Fiber
2: PM Fiber
3: MM Fiber

Jacket Type:
1: 900µm
2: 250µm tight buffer

Connector Type:
0: No Connector
3: FC/APC
4: FC/UPC
7: SC/APC
8: SC/UPC

Back Facet Monitor:
Available upon request

Example: IPSDD0805-1224: 850nm SLD in 14-pin DIL with
250µm tight buffered PM Fiber with FC/UPC connectors

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