**DESCRIPTION**

OKI 550A and OL580A are 1.55μm InGaAsP/InP laser diode DIP modules with single mode and multimode fiber pigtail, respectively. These modules are optimum light sources for long distance high bit rate optical transmission systems.

**FEATURES**

- High output power
- Single or multimode fiber
- Hermetically sealed 14 pin Dual Inline Package (DIP)
- Includes thermoelectric cooler and monitor PD
  (Temperature and power control)
- High speed (565 Mb/s RZ)
- Long life and high reliability

**ABSOLUTE MAXIMUM RATINGS** (Ta = 25°C)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Ratings</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiber Output Power</td>
<td>$P_i$</td>
<td>OL550A 1.3</td>
<td>mW</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OL580A 3.0</td>
<td></td>
</tr>
<tr>
<td>LD Reverse Voltage</td>
<td>$V_r$(LD)</td>
<td>2</td>
<td>V</td>
</tr>
<tr>
<td>PD Reverse Voltage</td>
<td>$V_r$(PD)</td>
<td>15</td>
<td>V</td>
</tr>
<tr>
<td>PD Forward Current</td>
<td>$I_F$(PD)</td>
<td>10</td>
<td>mA</td>
</tr>
<tr>
<td>Cooler Current</td>
<td>$I_C$</td>
<td>1.2</td>
<td>A</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>Topr</td>
<td>$-20^\circ$ $+$ $65^\circ$</td>
<td>°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>Tstg</td>
<td>$-40^\circ$ $+$ $70^\circ$</td>
<td>°C</td>
</tr>
</tbody>
</table>

**FIBER OUTPUT POWER** (Ta = 25°C)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Fiber</th>
<th>Test Conditions</th>
<th>Limits</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OL550A</td>
<td>Single Mode</td>
<td>0.8</td>
<td>mA</td>
</tr>
<tr>
<td></td>
<td>OL580A</td>
<td>Multimode</td>
<td>1.5</td>
<td>mA</td>
</tr>
</tbody>
</table>

**OPTICAL AND ELECTRICAL CHARACTERISTICS** (Ta = 25°C)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Test Conditions</th>
<th>Limits</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threshold Current</td>
<td>$I_{th}$</td>
<td>—</td>
<td>—</td>
<td>mA</td>
</tr>
<tr>
<td>Peak Wavelength</td>
<td>$\lambda P$</td>
<td>$P_i=1mW$</td>
<td>1520</td>
<td>1550</td>
</tr>
<tr>
<td>Spectra Half-width</td>
<td>$\Delta \lambda$</td>
<td>$P_i=1mW$</td>
<td>—</td>
<td>3</td>
</tr>
<tr>
<td>Rise Time</td>
<td>$t_r$</td>
<td>$I_{bias} = I_{th}$</td>
<td>—</td>
<td>0.3</td>
</tr>
<tr>
<td>Fall Time</td>
<td>$t_f$</td>
<td>$P_i=1mW$</td>
<td>—</td>
<td>0.5</td>
</tr>
<tr>
<td>Forward Voltage</td>
<td>$V_F$</td>
<td>$I_r = I_{th} + 40 mA$</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>PD Dark Current</td>
<td>$I_{DARK}$</td>
<td>$V_r(PD) = 5V$</td>
<td>0.5</td>
<td>1</td>
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<tr>
<td>Monitor Current</td>
<td>$I_m$</td>
<td>$P_i=1mW$</td>
<td>100</td>
<td>300</td>
</tr>
<tr>
<td>PD Capacitance</td>
<td>$C_i$</td>
<td>$V_r(PD) = 5V$, $f=1MHz$</td>
<td>—</td>
<td>15</td>
</tr>
<tr>
<td>Cooler Capacity</td>
<td>$\Delta T$</td>
<td>$P_i=1mW$</td>
<td>—</td>
<td>40</td>
</tr>
<tr>
<td>Cooler Current</td>
<td>$I_C$</td>
<td>$\Delta T = 40^\circ C$</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Cooler Voltage</td>
<td>$V_C$</td>
<td>$\Delta T = 40^\circ C$</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Thermistor Resistance</td>
<td>$R_{th}$</td>
<td>—</td>
<td>—</td>
<td>10</td>
</tr>
</tbody>
</table>