**GH07895A6C**

### Features
1. Maximum optical power output: 95mW (CW)
2. High power (pulse Max. 135mW), ×16 speed writing
3. High coupling efficiency
   - The ellipticity (θ⊥/θ∥) is close to 1.
4. Wavelength: TYP. 784nm
5. Bottom face cutting package (φ5.6mm) enables to design a slim drive.

### Applications
1. CD-R drives
2. CD-RW drives

### Outline Dimensions
(Unit: mm)

- **Emission point**
  - X: ±0.1
  - Y: ±0.1
  - Z: ±0.1
- **Cap glass**
  - ø5.6: ±0.025
  - ø1.0: MIN.
- **Laser chip**
  - ø2.0: MAX.
  - ø1.25: MAX.
  - ø4.4 MAX.
  - ø5.6: MAX.
- **Tolerance**: ±0.2mm
  - ø2
  - ø2
  - ø2
  - ø2
  - ø2

### Absolute Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Rating</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optical power output</td>
<td>P₀</td>
<td>95</td>
<td>mW</td>
</tr>
<tr>
<td>Optical power output (pulse)</td>
<td>P₀</td>
<td>135</td>
<td>mW</td>
</tr>
<tr>
<td>Reverse voltage</td>
<td>VᵣL</td>
<td>2</td>
<td>V</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>TᵣL(c)</td>
<td>-10 to +65</td>
<td>°C</td>
</tr>
<tr>
<td>Pulse</td>
<td>TᵣL(p(c)</td>
<td>-10 to +70</td>
<td>°C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>Tₘ</td>
<td>-40 to +85</td>
<td>°C</td>
</tr>
<tr>
<td>Soldering temperature</td>
<td>Tₘs</td>
<td>300</td>
<td>°C</td>
</tr>
</tbody>
</table>

- **Case temperature**
- **Pulse width**: 0.5μs, Duty: 50%
- **CW (Continuous Wave) drive**

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**Notice**: In the absence of confirmation by device specification sheets, SHARP takes no responsibility for any defects that may occur in equipment using any SHARP devices shown in catalogs, data books, etc. Contact SHARP in order to obtain the latest device specification sheets before using any SHARP device.

**Internet**: Internet address for Electronic Components Group: [http://sharp-world.com/ecg/](http://sharp-world.com/ecg/)
## Electro-optical Characteristics

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Conditions</th>
<th>MIN.</th>
<th>TYP.</th>
<th>MAX.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threshold current</td>
<td>$I_{th}$</td>
<td>–</td>
<td>–</td>
<td>30</td>
<td>40</td>
<td>mA</td>
</tr>
<tr>
<td>Operating current</td>
<td>$I_{op}$</td>
<td>–</td>
<td>–</td>
<td>120</td>
<td>145</td>
<td>mA</td>
</tr>
<tr>
<td>Operating voltage</td>
<td>$V_{op}$</td>
<td>–</td>
<td>–</td>
<td>1.95</td>
<td>2.5</td>
<td>V</td>
</tr>
<tr>
<td>Wavelength</td>
<td>$\lambda_{d}$</td>
<td>$Po=80\text{mW}$</td>
<td>780</td>
<td>784</td>
<td>787</td>
<td>nm</td>
</tr>
<tr>
<td>Half intensity angle</td>
<td>$\theta$/</td>
<td>$Po=80\text{mW}$</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>°</td>
</tr>
<tr>
<td></td>
<td>$\theta_{90}$</td>
<td></td>
<td>15</td>
<td>17</td>
<td>19</td>
<td>°</td>
</tr>
<tr>
<td>Ripple</td>
<td>$R_{ii}$</td>
<td>–</td>
<td>–</td>
<td>0</td>
<td>20</td>
<td>%</td>
</tr>
<tr>
<td>Mismatch angle</td>
<td>$\Delta\theta$/</td>
<td>$Po=80\text{mW}$</td>
<td>-1.5</td>
<td>0</td>
<td>+1.5</td>
<td>°</td>
</tr>
<tr>
<td></td>
<td>$\Delta\theta_{90}$</td>
<td></td>
<td>-2.5</td>
<td>-</td>
<td>+2.5</td>
<td>°</td>
</tr>
<tr>
<td>Differential efficiency</td>
<td>$\eta_{d}$</td>
<td>$55\text{mW}$</td>
<td>0.7</td>
<td>0.9</td>
<td>1.2</td>
<td>mW/ mA</td>
</tr>
<tr>
<td>Interference pattern intensity</td>
<td>$\alpha$</td>
<td>$Po=80\text{mW}$</td>
<td>–</td>
<td>–</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>Kink</td>
<td>$K-LI$</td>
<td>$P_1=27\text{mW}$, $P_2=81\text{mW}$, $P_3=135\text{mW}$</td>
<td>–</td>
<td>–</td>
<td>10</td>
<td>%</td>
</tr>
<tr>
<td>Polarization ratio</td>
<td>$P_l$</td>
<td>$Po=3\text{mW}$, $NA=0.13$</td>
<td>20</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

*1 Initial value, CW (Continuous Wave) drive
*2 Angle at 50% peak intensity (full-width at half-maximum)
*3 Parallel to the junction plane (X-Z plane)
Perpendicular to the junction plane (Y-Z plane)
*4 $R=\Delta P/ P$ : the maximum deviation of the far field pattern from its approximate curve $P$ : the peak of the approximate curve
*5 Pulse drive (Pulse width : 0.5µs, Duty : 50%)

• Please refer to the chapter “Handling Precautions”
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   — Telecommunication equipment [terminal]
   — Test and measurement equipment
   — Industrial control
   — Audio visual equipment
   — Consumer electronics

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   — Traffic signals
   — Gas leakage sensor breakers
   — Alarm equipment
   — Various safety devices, etc.

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