Overview

The FLEx Front Light Panel optical film is designed to laminate to the front surface of Sharp reflective display (LS044Q7DH01) to provide high quality on-demand display lighting. This thin plastic panel incorporates only a single LED which enables product designers to develop ultra-thin devices and minimize battery use.

- One low-power LED (included in Front Light)
- Over 80x less power compared to traditional backlighting
- 0.06 mm thick FLEx film is over 5x thinner than alternative lightguides

Mechanical

All dimensions in mm

12342-06
PRELIMINARY

For more information:
WEB flexlighting.com
CONTACT flexlighting.com/contact
PHONE 773-295-0305

SHARP
Approved
Value-Added Partner
### Electrical

<table>
<thead>
<tr>
<th>Item</th>
<th>Symbol</th>
<th>Typical</th>
<th>Absolute Max</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward Current</td>
<td>( I_F )</td>
<td>20</td>
<td>25</td>
<td>mA</td>
</tr>
<tr>
<td>Pulse Forward Current</td>
<td>( I_{FP} )</td>
<td>--</td>
<td>80</td>
<td>mA</td>
</tr>
<tr>
<td>Reverse Voltage</td>
<td>( V_R )</td>
<td>--</td>
<td>5</td>
<td>V</td>
</tr>
</tbody>
</table>

**Example ZIF Connectors:**
- Molex 503480-0400
- Molex 52745-0497
- Molex 54560-0471
- Molex 54548-0471 (bottom)
- Molex 505110-0492

### Optical (PRELIMINARY)

#### 4.4” Sharp + Front Light (12342-06)

<table>
<thead>
<tr>
<th>Item</th>
<th>Symbol</th>
<th>TYP.</th>
<th>Unit</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viewing Angle</td>
<td>( \Theta ) 11</td>
<td>--</td>
<td>(^\circ) (Degree)</td>
<td>[Remark 1]</td>
</tr>
<tr>
<td></td>
<td>( \Theta ) 12</td>
<td>--</td>
<td>(^\circ) (Degree)</td>
<td></td>
</tr>
<tr>
<td>OR &gt; 2</td>
<td>( \Theta ) 21</td>
<td>--</td>
<td>(^\circ) (Degree)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( \Theta ) 22</td>
<td>--</td>
<td>(^\circ) (Degree)</td>
<td></td>
</tr>
<tr>
<td>Contrast Ratio</td>
<td>Front light ON</td>
<td>OR</td>
<td>10</td>
<td>[Remark 2]</td>
</tr>
</tbody>
</table>

**Remark 1: Viewing Angle**

**Remark 2: Definition of Contrast Ratio**

\[
\text{Contrast Ratio (OR)} = \frac{\text{Reflection intensity in white display}}{\text{Reflection intensity in black display}}
\]

*Measurements taken with a Minolta Chroma Meter CS-100 at a 17” view distance*