**FEATURES**
- Built-in controller (SBN1661 or equivalent)
- +5 V Power supply
- 1/32 Duty cycle
- 8-bit parallel interface

**MECHANICAL DATA**

<table>
<thead>
<tr>
<th>Item</th>
<th>Dimensions</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module size (W x H x T)</td>
<td>84.0 x 44.0 x 8.8 (12.7 LED)</td>
<td>mm</td>
</tr>
<tr>
<td>Viewing area (W x H)</td>
<td>60.5 x 18.5</td>
<td>mm</td>
</tr>
<tr>
<td>Active area (W x H)</td>
<td>53.64 x 15.64</td>
<td>mm</td>
</tr>
<tr>
<td>Dot size (W x H)</td>
<td>0.40 x 0.45</td>
<td>mm</td>
</tr>
<tr>
<td>Dot pitch (W x H)</td>
<td>0.44 x 0.49</td>
<td>mm</td>
</tr>
</tbody>
</table>

**INTERFACE PIN CONNECTIONS**

<table>
<thead>
<tr>
<th>No.</th>
<th>Symbol</th>
<th>Level</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VSS</td>
<td>0V</td>
<td>Power supply ground</td>
</tr>
<tr>
<td>2</td>
<td>VDD</td>
<td>5V</td>
<td>Power supply voltage</td>
</tr>
<tr>
<td>3</td>
<td>V0</td>
<td>-</td>
<td>Contrast adjustment voltage</td>
</tr>
<tr>
<td>4</td>
<td>AO</td>
<td>H/L</td>
<td>Data type select signal</td>
</tr>
<tr>
<td>5</td>
<td>E1</td>
<td>H/L</td>
<td>Chip select signal for IC1</td>
</tr>
<tr>
<td>6</td>
<td>E2</td>
<td>H/L</td>
<td>Chip select signal for IC2</td>
</tr>
<tr>
<td>7</td>
<td>NC</td>
<td>-</td>
<td>No connection</td>
</tr>
<tr>
<td>8</td>
<td>NC</td>
<td>-</td>
<td>No connection</td>
</tr>
<tr>
<td>9</td>
<td>R/W</td>
<td>H/L</td>
<td>H: Read / L: Write</td>
</tr>
<tr>
<td>10-17</td>
<td>DB0-DB7</td>
<td>H/L</td>
<td>Data bus line</td>
</tr>
<tr>
<td>18</td>
<td>RES</td>
<td>L</td>
<td>Reset signal</td>
</tr>
<tr>
<td>19</td>
<td>A</td>
<td>4.2V</td>
<td>LED power (+)</td>
</tr>
<tr>
<td>20</td>
<td>K</td>
<td>0V</td>
<td>LED power (-)</td>
</tr>
</tbody>
</table>

**INTERFACE PIN CONNECTIONS**

<table>
<thead>
<tr>
<th>Item</th>
<th>Symbol</th>
<th>Condition</th>
<th>MIN.</th>
<th>TYP.</th>
<th>MAX.</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply voltage for logic</td>
<td>VSS-VDD</td>
<td>-</td>
<td>4.5</td>
<td>5</td>
<td>5.5</td>
<td>V</td>
</tr>
<tr>
<td>Supply voltage for LCD drive</td>
<td>VSS-VDD</td>
<td>-</td>
<td>4.4</td>
<td>4.8</td>
<td>5.2</td>
<td>V</td>
</tr>
<tr>
<td>Input voltage</td>
<td>Vf</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
<td>VDD</td>
<td>V</td>
</tr>
<tr>
<td>Output voltage</td>
<td>VOUT</td>
<td>-</td>
<td>2.4</td>
<td>-</td>
<td>-</td>
<td>V</td>
</tr>
</tbody>
</table>

**EXTERNAL DIMENSIONS**

![Diagram of the module dimensions]