### FEATURES
- **Type:** Graphic
- **Display format:** 128 x 64 dots
- **Built-in controller:** Samsung KS 0107/KS 0108 (or equivalent)
- **Duty cycle:** 1/64
- **+ 5 V power supply**
- **N.V. built-in**
- **Compliant to RoHS directive 2002/95/EC**

### MECHANICAL DATA

<table>
<thead>
<tr>
<th>ITEM</th>
<th>STANDARD VALUE</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module Dimension</td>
<td>93.0 x 70.0</td>
<td></td>
</tr>
<tr>
<td>Viewing Area</td>
<td>72.0 x 40.0</td>
<td></td>
</tr>
<tr>
<td>Dot Size</td>
<td>0.48 x 0.48</td>
<td></td>
</tr>
<tr>
<td>Dot Pitch</td>
<td>0.52 x 0.52</td>
<td></td>
</tr>
<tr>
<td>Mounting Hole</td>
<td>88.0 x 65.0</td>
<td></td>
</tr>
<tr>
<td>Character Size</td>
<td>N/a</td>
<td></td>
</tr>
</tbody>
</table>

### ABSOLUTE MAXIMUM RATINGS

<table>
<thead>
<tr>
<th>ITEM</th>
<th>SYMBOL</th>
<th>STANDARD VALUE</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>MIN.</td>
<td>TYP.</td>
</tr>
<tr>
<td>Power Supply</td>
<td>V_{DD} to V_{SS}</td>
<td>4.75</td>
<td>5.0</td>
</tr>
<tr>
<td>Input Voltage</td>
<td>V_{I}</td>
<td>-0.3</td>
<td>-</td>
</tr>
</tbody>
</table>

**Note**
- $V_{SS} = 0 \text{ V}, V_{DD} = 5.0 \text{ V}$

### ELECTRICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>ITEM</th>
<th>SYMBOL</th>
<th>CONDITION</th>
<th>STANDARD VALUE</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>MIN.</td>
<td>TYP.</td>
</tr>
<tr>
<td>Input Voltage</td>
<td>V_{DD}</td>
<td>L level</td>
<td>0.7</td>
<td>V_{DD}</td>
</tr>
<tr>
<td></td>
<td>V_{IO}</td>
<td>H level</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Supply Current</td>
<td>I_{DD}</td>
<td>V_{DD} = + 5 V</td>
<td>-</td>
<td>2.5</td>
</tr>
<tr>
<td>Recommended LC Driving Voltage</td>
<td>V_{DD}</td>
<td>to V_{0}</td>
<td>- 20 °C</td>
<td>9.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0 °C</td>
<td>9.7</td>
<td>10.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>25 °C</td>
<td>8.9</td>
<td>9.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50 °C</td>
<td>8.6</td>
<td>9.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>70 °C</td>
<td>8.4</td>
<td>8.9</td>
</tr>
<tr>
<td>LED Forward Voltage</td>
<td>V_{F}</td>
<td>25 °C</td>
<td>-</td>
<td>4.2</td>
</tr>
<tr>
<td>LED Forward Current - Array</td>
<td>I_{F}</td>
<td>25 °C</td>
<td>-</td>
<td>330</td>
</tr>
<tr>
<td>LED Forward Current - Edge</td>
<td></td>
<td></td>
<td>-</td>
<td>120</td>
</tr>
<tr>
<td>EL Power Supply Current</td>
<td>I_{EL}</td>
<td>V_{EL} = 110 V_{AC}, 400 Hz</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### OPTIONS

<table>
<thead>
<tr>
<th>PROCESS COLOR</th>
<th>BACKLIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>TN</td>
<td>STN Gray</td>
</tr>
<tr>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

For detailed information, please see the “Product Numbering System” document.
## INTERFACE PIN FUNCTION

<table>
<thead>
<tr>
<th>PIN NO.</th>
<th>SYMBOL</th>
<th>FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VSS</td>
<td>Ground</td>
</tr>
<tr>
<td>2</td>
<td>VDD</td>
<td>Power supply (+ 5 V)</td>
</tr>
<tr>
<td>3</td>
<td>V0</td>
<td>Contrast adjustment</td>
</tr>
<tr>
<td>4</td>
<td>D/I</td>
<td>Data/instruction</td>
</tr>
<tr>
<td>5</td>
<td>R/W</td>
<td>Data read/write</td>
</tr>
<tr>
<td>6</td>
<td>E</td>
<td>H → L enable signal</td>
</tr>
<tr>
<td>7</td>
<td>DB0</td>
<td>Data bus line</td>
</tr>
<tr>
<td>8</td>
<td>DB1</td>
<td>Data bus line</td>
</tr>
<tr>
<td>9</td>
<td>DB2</td>
<td>Data bus line</td>
</tr>
<tr>
<td>10</td>
<td>DB3</td>
<td>Data bus line</td>
</tr>
<tr>
<td>11</td>
<td>DB4</td>
<td>Data bus line</td>
</tr>
<tr>
<td>12</td>
<td>DB5</td>
<td>Data bus line</td>
</tr>
<tr>
<td>13</td>
<td>DB6</td>
<td>Data bus line</td>
</tr>
<tr>
<td>14</td>
<td>DB7</td>
<td>Data bus line</td>
</tr>
<tr>
<td>15</td>
<td>CS1</td>
<td>Chip select for IC1</td>
</tr>
<tr>
<td>16</td>
<td>CS2</td>
<td>Chip select for IC1</td>
</tr>
<tr>
<td>17</td>
<td>RST</td>
<td>Reset</td>
</tr>
<tr>
<td>18</td>
<td>VEE</td>
<td>Negative voltage output</td>
</tr>
<tr>
<td>19</td>
<td>A</td>
<td>Power supply for LED (+ 4.2 V), RA = 0 Ω</td>
</tr>
<tr>
<td>20</td>
<td>K</td>
<td>Power supply for LED (0 V)</td>
</tr>
</tbody>
</table>

## DIMENSIONS in millimeters

![Diagram of the LCD-128H064A with dimensions and pin placement details.]
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