20mm (0.8 INCH) SINGLE COLOR DOT MATRIX DISPLAY

Part Number: TA08-81CGKWA  Green

Features
- 0.8 inch matrix height.
- Dot size 2mm.
- Low current operation.
- Stackable vertically and horizontally.
- Column anode.
- Easy mounting on P.C.boards or sockets.
- Mechanically rugged.
- Standard: gray face, white dot.
- RoHS compliant.

Description
The Green source color devices are made with AlGaInP on GaAs substrate Light Emitting Diode.

Package Dimensions & Internal Circuit Diagram

Notes:
1. All dimensions are in millimeters (inches), Tolerance is ±0.25(0.01”) unless otherwise noted.
2. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
**Selection Guide**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Dice</th>
<th>Lens Type</th>
<th>( I_v) (ucd) ([1]) @ 10mA</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TA08-81CGKWA</td>
<td>Green (AlGaInP)</td>
<td>White Diffused</td>
<td>Min. 22000; Typ. 9000</td>
<td>Column Anode</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>*3600  *7300</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
1. Luminous intensity/ luminous flux: +/-15%.
2. * Luminous intensity value is traceable to the CIE127-2007 compliant national standards.

**Electrical / Optical Characteristics at TA=25°C**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Parameter</th>
<th>Device</th>
<th>Typ.</th>
<th>Max.</th>
<th>Units</th>
<th>Test Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \lambda_{\text{peak}} )</td>
<td>Peak Wavelength</td>
<td>Green</td>
<td>574</td>
<td>nm</td>
<td>( I_r=20\text{mA} )</td>
<td></td>
</tr>
<tr>
<td>( \lambda_D ) ([1])</td>
<td>Dominant Wavelength</td>
<td>Green</td>
<td>570</td>
<td>nm</td>
<td>( I_r=20\text{mA} )</td>
<td></td>
</tr>
<tr>
<td>( \Delta \lambda/2 )</td>
<td>Spectral Line Half-width</td>
<td>Green</td>
<td>20</td>
<td>nm</td>
<td>( I_r=20\text{mA} )</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Capacitance</td>
<td>Green</td>
<td>15</td>
<td>pF</td>
<td>( V_r=0\text{V}; f=1\text{MHz} )</td>
<td></td>
</tr>
<tr>
<td>( V_F ) ([2])</td>
<td>Forward Voltage</td>
<td>Green</td>
<td>2.1</td>
<td>2.5</td>
<td>V</td>
<td>( I_r=20\text{mA} )</td>
</tr>
<tr>
<td>( I_R )</td>
<td>Reverse Current</td>
<td>Green</td>
<td>10</td>
<td>uA</td>
<td>( V_r=5\text{V} )</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
3. Wavelength value is traceable to the CIE127-2007 compliant national standards.

**Absolute Maximum Ratings at TA=25°C**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Green</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power dissipation</td>
<td>75</td>
<td>mW</td>
</tr>
<tr>
<td>DC Forward Current</td>
<td>30</td>
<td>mA</td>
</tr>
<tr>
<td>Peak Forward Current [1]</td>
<td>150</td>
<td>mA</td>
</tr>
<tr>
<td>Reverse Voltage</td>
<td>5</td>
<td>V</td>
</tr>
<tr>
<td>Operating / Storage Temperature</td>
<td>-40°C To +85°C</td>
<td></td>
</tr>
<tr>
<td>Lead Solder Temperature[2]</td>
<td>260°C For 3-5 Seconds</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 2mm below package base.
Green TA08-81CGKWA

Relative Radiant Intensity vs. Wavelength

Forward Current (mA)

Forward Voltage (V)

Luminous Intensity vs. Forward Current

Ambient Temperature vs. Forward Current Derating Curve

Luminous Intensity vs. Ambient Temperature
Packing & Label Specifications

TA08-81CGKWA

Inside Label on IC-tube

- Kingbright
- TYPE: T08-81xxx
- QTY: 25 PCS
- CODE: xx
- PASS: xx xx xx FQC
- RoHS Compliant
- LOT NO.
- Date
- Number OF FQC

Outside Label on Box

- XXXXXX
- T08-81xxx
- 2250 PCS
- XX
- Bln Code
- Number OF QA
- QAxx
- xx xx xx
- PASSED
- RoHS Compliant
- Date
THROUGH HOLE DISPLAY MOUNTING METHOD

Lead Forming
Do not bend the component leads by hand without proper tools. The leads should be bent by clinching the upper part of the lead firmly such that the bending force is not exerted on the plastic body.

Installation
1. The installation process should not apply stress to the lead terminals.
2. When inserting for assembly, ensure the terminal pitch matches the substrate board’s hole pitch to prevent spreading or pinching the lead terminals.
3. The component shall be placed at least 5mm from edge of PCB to avoid damage caused excessive heat during wave soldering.
DISPLAY SOLDERING CONDITIONS

Detailed application notes are listed on our website.
http://www.kingbright.com/application_notes

Soldering General Notes:
1. Through-hole displays are incompatible with reflow soldering.
2. If components will undergo multiple soldering processes, or other processes where the components may be subjected to intense heat, please check with Kingbright for compatibility.

CLEANING
1. Mild "no-clean" fluxes are recommended for use in soldering.
2. If cleaning is required, Kingbright recommends to wash components with water only. Do not use harsh organic solvents for cleaning, because they may damage the plastic parts. And the devices should not be washed for more than one minute.

CIRCUIT DESIGN NOTES
1. Protective current-limiting resistors may be necessary to operate the Displays.
2. LEDs mounted in parallel should each be placed in series with its own current-limiting resistor.