18mm (0.7 INCH) SINGLE COLOR DOT MATRIX DISPLAY

Part Number: TA07-11SEKWA
Super Bright Orange

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

Description
The Super Bright Orange device is made with AlGaInP (on GaAs substrate) light emitting diode chip.

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]) [@10\text{mA}]</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TA07-11SEKWA</td>
<td>Super Bright Orange (AlGaInP)</td>
<td>White Diffused</td>
<td>Min. 12000</td>
<td><em>Typ. 52000</em> 21000</td>
</tr>
</tbody>
</table>

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

### Electrical / Optical Characteristics at \( TA=25^\circ\text{C} \)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Parameter</th>
<th>Device Type</th>
<th>Typ.</th>
<th>Test Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \lambda_{\text{peak}} )</td>
<td>Peak Wavelength</td>
<td>Super Bright Orange</td>
<td>610 nm</td>
<td>( I_r=20\text{mA} )</td>
</tr>
<tr>
<td>( \lambda_D ) ([1])</td>
<td>Dominant Wavelength</td>
<td>Super Bright Orange</td>
<td>601 nm</td>
<td>( I_r=20\text{mA} )</td>
</tr>
<tr>
<td>( \Delta \lambda_{1/2} )</td>
<td>Spectral Line Half-width</td>
<td>Super Bright Orange</td>
<td>29 nm</td>
<td>( I_r=20\text{mA} )</td>
</tr>
<tr>
<td>C</td>
<td>Capacitance</td>
<td>Super Bright Orange</td>
<td>15 pF</td>
<td>( V_r=0\text{V}; f=1\text{MHz} )</td>
</tr>
<tr>
<td>( V_F ) ([2])</td>
<td>Forward Voltage</td>
<td>Super Bright Orange</td>
<td>2.1 V</td>
<td>( I_r=20\text{mA} )</td>
</tr>
<tr>
<td>( I_{R} )</td>
<td>Reverse Current</td>
<td>Super Bright Orange</td>
<td>10 uA</td>
<td>( V_{R}=5\text{V} )</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 \( TA=25^\circ\text{C} \)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Super Bright Orange</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>195</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.
Super Bright Orange  
TA07-11SEKWA

RELATIVE INTENSITY vs. WAVELENGTH

Ta=25°C

Forward Voltage (V)  vs. FORWARD CURRENT

Luminous Intensity (mA)  vs. FORWARD CURRENT

Forward Current (mA) vs. Ambient Temperature Ta (°C)

Relative Luminous Intensity vs. Ambient Temperature Ta (°C)
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.

DISPLAY SOLDERING CONDITIONS

Wave Soldering Profile For Lead-free Through-hole LED.

NOTES:
1. Recommend the wave temperature 245°C~260°C. The maximum soldering temperature should be less than 260°C.
2. Do not apply stress on epoxy resins when temperature is over 85°C.
3. The soldering profile apply to the lead free soldering (Sn/Cu/Ag alloy).
4. During wave soldering, the PCB top-surface temperature should be kept below 105°C.
5. No more than once.
Soldering General Notes:

a. Through-hole displays are incompatible with reflow soldering.
b. 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.