30.6mm (1.2 INCH) 5x7 DOT MATRIX DISPLAY

Part Number: TC12-11SURKWA  Hyper Red

Features
- 1.2 inch matrix height.
- Dot size 3mm.
- Low current operation.
- High contrast and light output.
- Column cathode and column anode available.
- Easy mounting on P.C. boards or sockets.
- Mechanically rugged.
- Standard: gray face, white dot.
- RoHS compliant.

Description
The Hyper Red source color devices are made with Al-GaInP 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 \text{ (ucd) [1] @ 10mA} )</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC12-11SURKWA</td>
<td>Hyper Red (AlGaInP)</td>
<td>White Diffused</td>
<td>Min. 31000 Typ. 82000</td>
<td>Column Cathode</td>
</tr>
</tbody>
</table>

Note:
1. Luminous intensity/luminous flux: +/-15%.

Electrical / Optical Characteristics at \( TA=25°C \)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Parameter</th>
<th>Device</th>
<th>Typr</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>Hyper Red</td>
<td>650</td>
<td>nm</td>
<td>( I_r=20mA )</td>
<td></td>
</tr>
<tr>
<td>( \lambda_D [1]</td>
<td>Dominant Wavelength</td>
<td>Hyper Red</td>
<td>630</td>
<td>nm</td>
<td>( I_r=20mA )</td>
<td></td>
</tr>
<tr>
<td>( \Delta \lambda_{1/2} )</td>
<td>Spectral Line Half-width</td>
<td>Hyper Red</td>
<td>28</td>
<td>nm</td>
<td>( I_r=20mA )</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Capacitance</td>
<td>Hyper Red</td>
<td>35</td>
<td>pF</td>
<td>( V_r=0V; f=1MHz )</td>
<td></td>
</tr>
<tr>
<td>( V_f [2]</td>
<td>Forward Voltage</td>
<td>Hyper Red</td>
<td>1.95</td>
<td>2.5</td>
<td>V</td>
<td>( I_r=20mA )</td>
</tr>
<tr>
<td>( I_{R} )</td>
<td>Reverse Voltage</td>
<td>Hyper Red</td>
<td>10</td>
<td>uA</td>
<td>( V_r=5V )</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

Absolute Maximum Ratings at \( TA=25°C \)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Hyper Red</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>185</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.
Kingbright

Hyper Red  TC12-11SURKWA

RELATIVE INTENSITY Vs. WAVELENGTH

- Forward Current (mA) vs. Forward Voltage
- Luminous Intensity vs. Forward Current
- Forward Current (mA) vs. Ambient Temperature (°C)
- Luminous Intensity vs. Ambient Temperature (°C)
PACKING & LABEL SPECIFICATIONS

Inside Label On IC-tube

Outside Label On Box

21 PCS/TUBE

INSIDE LABEL

OUTSIDE LABEL

840PCS/BOX

40 TUBE/BOX

Kingbright

TX12-11XXX

QTY: 21 PCS

CODE: xx

RoHS Compliant

Number OF FOC

LOT NO.

Date

RoHS Compliant

Number OF QA

Bin Code

Date

PASSED

xxxxxx-xxxx

XXXXXXX-xxxx

xxxxxx

40 TUBE/BOX