1.0X0.5mm SMD CHIP LED LAMP

Part Number: KPHHS-1005SURCK  Hyper Red

Features
- 1.0mmX0.5mm SMT LED, 0.5mm THICKNESS.
- LOW POWER CONSUMPTION.
- WIDE VIEWING ANGLE.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- VARIOUS COLORS AND LENS TYPES AVAILABLE.
- MOISTURE SENSITIVITY LEVEL : LEVEL 3.
- RoHS COMPLIANT.

Description
The Hyper Red source color devices are made with InGaAlP on GaAs substrate Light Emitting Diode.

Package Dimensions

Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.1(0.004") unless otherwise noted.
3. Specifications are subject to change without notice.
4. The device has a single mounting surface. The device must be mounted according to the specifications.
Selection Guide

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Dice</th>
<th>Lens Type</th>
<th>Iv (mcd) [2]  @ 20mA</th>
<th>Viewing Angle [1]</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPHHS-1005SURCK</td>
<td>Hyper Red (InGaAlP)</td>
<td>WATER CLEAR</td>
<td>50 150</td>
<td>120°</td>
</tr>
</tbody>
</table>

Notes:
1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
2. 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>Typ.</th>
<th>Max.</th>
<th>Units</th>
<th>Test Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>λpeak</td>
<td>Peak Wavelength</td>
<td>Hyper Red</td>
<td>650</td>
<td>nm</td>
<td>IF=20mA</td>
<td></td>
</tr>
<tr>
<td>λD [1]</td>
<td>Dominant Wavelength</td>
<td>Hyper Red</td>
<td>635</td>
<td>nm</td>
<td>IF=20mA</td>
<td></td>
</tr>
<tr>
<td>Δλ1/2</td>
<td>Spectral Line Half-width</td>
<td>Hyper Red</td>
<td>28</td>
<td>nm</td>
<td>IF=20mA</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Capacitance</td>
<td>Hyper Red</td>
<td>35</td>
<td>pF</td>
<td>VF=0V;f=1MHz</td>
<td></td>
</tr>
<tr>
<td>Vf [2]</td>
<td>Forward Voltage</td>
<td>Hyper Red</td>
<td>1.95</td>
<td>2.5</td>
<td>V</td>
<td>IF=20mA</td>
</tr>
<tr>
<td>Ir</td>
<td>Reverse Current</td>
<td>Hyper Red</td>
<td>10</td>
<td>uA</td>
<td>VR=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 Temperature</td>
<td>-40°C To +85°C</td>
<td></td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-40°C To +85°C</td>
<td></td>
</tr>
</tbody>
</table>

Note:
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
Hyper Red  KPHHS-1005SURCK

Relative Radiant Intensity

RELATIVE INTENSITY Vs. WAVELENGTH

Ta=25°C

wavelength λ (nm)

Forward Current (mA)  
Forward Voltage (V)

FORWARD CURRENT Vs. FORWARD VOLTAGE

Luminous Intensity

Relative Value of at 30mA

LUMINOUS INTENSITY Vs. FORWARD CURRENT

Forward Current (mA)

Ambient Temperature T_a(°C)

FORWARD CURRENT DERATING CURVE

Luminous Intensity

Relative Luminous Intensity

LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

Spatial Distribution

SPEC NO: DSAC4159  REV NO: V.13  DATE: JUN/28/2007  PAGE: 3 OF 4
Recommended Soldering Pattern
(Units : mm; Tolerance: ± 0.1)

Tape Specifications
(Units : mm)