### Features
- 2.0mmx1.25mm SMT LED, 0.75mm THICKNESS.
- LOW POWER CONSUMPTION.
- WIDE VIEWING ANGLE.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- VARIOUS COLORS AND LENS TYPES AVAILABLE.
- PACKAGE: 2000PCS / REEL.
- MOISTURE SENSITIVITY LEVEL: LEVEL 3.
- RoHS COMPLIANT.

### Description
The Hyper Red source color devices are made with DH 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>APT2012SURCK</td>
<td>Hyper Red (InGaAlP)</td>
<td>WATER CLEAR</td>
<td>50</td>
<td>150</td>
</tr>
</tbody>
</table>

Notes:
1. \( \theta_{1/2} \) 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>( \lambda_{\text{peak}} )</td>
<td>Peak Wavelength</td>
<td>Hyper Red</td>
<td>650</td>
<td>nm</td>
<td></td>
<td>( I_f=20mA )</td>
</tr>
<tr>
<td>( \lambda_D ) [1]</td>
<td>Dominant Wavelength</td>
<td>Hyper Red</td>
<td>635</td>
<td>nm</td>
<td></td>
<td>( I_f=20mA )</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></td>
<td>( I_f=20mA )</td>
</tr>
<tr>
<td>C</td>
<td>Capacitance</td>
<td>Hyper Red</td>
<td>35</td>
<td>pF</td>
<td></td>
<td>( V_f=0V; f=1MHz )</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_f=20mA )</td>
</tr>
<tr>
<td>( I_R )</td>
<td>Reverse Voltage</td>
<td>Hyper Red</td>
<td>10</td>
<td>uA</td>
<td></td>
<td>( V_R=5V )</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  APT2012SURCK

- Relative Intensity vs. Wavelength
- Forward Current vs. Forward Voltage
- Relative Intensity vs. Forward Current
- Relative Luminous Intensity vs. Ambient Temperature
- Spatial Distribution
Recommended Soldering Pattern
(Units : mm; Tolerance: ± 0.1)

Tape Specifications
(Units : mm)
PACKING & LABEL SPECIFICATIONS

USER DIRECTION OF FEED

LABEL

2,000pcs / Reel

LABEL

1 Reel / Bag

OUTSIDE LABEL

60K / 20# BOX

OUTSIDE LABEL

30K / 55# Box

Kingbright

P/NO: APT2012xxx

QTY: 2,000 pcs Q.C.

S/N: XXXX

CODE: XXX

LOT NO:

MADE IN CHINA

RoHS Compliant