3.5x2.8mm SURFACE MOUNT LED LAMP

Part Number: KA-3528ECT  High Efficiency Red

Features

- Single color.
- Suitable for all SMT assembly and solder process.
- Available on tape and reel.
- Ideal for backlighting.
- Package: 1500pcs/reel.
- RoHS compliant.

Description

The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.

Package Dimensions

Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25 (0.01") 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>KA-3528ECT</td>
<td>High Efficiency Red (GaAsP/GaP)</td>
<td>WATER CLEAR</td>
<td>7</td>
<td>30</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>High Efficiency Red</td>
<td>627</td>
<td>nm</td>
<td>IF=20mA</td>
<td></td>
</tr>
<tr>
<td>$\lambda_D$ [1]</td>
<td>Dominant Wavelength</td>
<td>High Efficiency Red</td>
<td>625</td>
<td>nm</td>
<td>IF=20mA</td>
<td></td>
</tr>
<tr>
<td>$\Delta \lambda_{1/2}$</td>
<td>Spectral Line Half-width</td>
<td>High Efficiency Red</td>
<td>45</td>
<td>nm</td>
<td>IF=20mA</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Capacitance</td>
<td>High Efficiency Red</td>
<td>15</td>
<td>pF</td>
<td>V=0V; f=1MHz</td>
<td></td>
</tr>
<tr>
<td>VF [2]</td>
<td>Forward Voltage</td>
<td>High Efficiency Red</td>
<td>2</td>
<td>2.5</td>
<td>V</td>
<td>IF=20mA</td>
</tr>
<tr>
<td>IR</td>
<td>Reverse Current</td>
<td>High Efficiency Red</td>
<td>10</td>
<td>uA</td>
<td>V=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>High Efficiency 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>160</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.
High Efficiency Red  KA-3528ECT

- **Relative Radiant Intensity vs. Wavelength**: 
  - **High Efficiency Red (Hi.Eff.Red)**
  - **T_a = 25°C**
  - **Wavelength (nm)**: 500 to 800

- **Forward Current vs. Forward Voltage**
  - **Forward Voltage (V)**: 1.5 to 2.5
  - **Forward Current (mA)**: 0 to 50

- **Luminous Intensity vs. Forward Current**
  - **Forward Current (mA)**: 0 to 50
  - **Luminous Intensity (cd)**: 0 to 2.5

- **Forward Current vs. Ambient Temperature**
  - **Ambient Temperature (°C)**: -40 to 100
  - **Forward Current (mA)**: 0 to 50

- **Relative Luminous Intensity vs. Ambient Temperature**
  - **Ambient Temperature (°C)**: 0 to 80
  - **Relative Luminous Intensity**

- **Spatial Distribution**
  - **Angle (°)**: 0° to 60°
Reflow soldering is recommended and the soldering profile is shown below. Other soldering methods are not recommended as they might cause damage to the product.

Reflow Soldering Profile for Lead-free SMT Process.

NOTES:
1. We recommend the reflow temperature 245°C(±5°C). The maximum soldering temperature should be limited to 250°C.
2. Don’t cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

Recommended Soldering Pattern
(Units: mm; Tolerance: ±0.1)

Tape Dimensions
PACKING & LABEL SPECIFICATIONS

KA-3528ECT

USER DIRECTION OF FEED

LABEL

1,500PCS / REEL

1 REEL / BAG

OUTSIDE LABEL

30K / 56# BOX

OUTSIDE LABEL

15K / 55# BOX

Kingbright

P/N: KA-3528xxx

QTY: 1,500 pcs  Q.C.

S/N: XXXX

CODE: XXX

LOT NO:

RoHS Compliant