

#### 3.5x2.8mm SURFACE MOUNT LED LAMP

Part Number: KAA-3528SURKCGKCT

Hyper Red Green

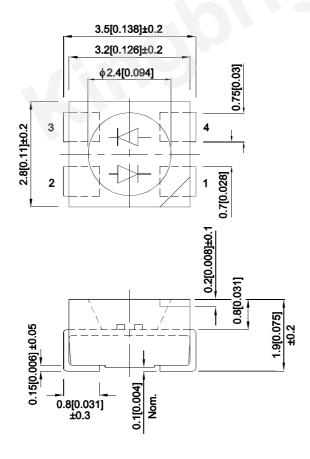
#### **Features**

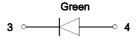
- Both chips can be controlled separately.
- Suitable for all SMD assembly and solder process.
- Available on tape and reel.
- Package: 2000pcs / reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

### **Descriptions**

- The Hyper Red source color devices are made with Al-GaInP on GaAs substrate Light Emitting Diode.
- The Green source color devices are made with AlGaInP on GaAs substrate Light Emitting Diode.

## **Package Dimensions**











- Notes:
  1. All dimensions are in millimeters (inches).
  2. Tolerance is ±0.25(0.01") unless otherwise noted.

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**REV NO: V.6A CHECKED: Allen Liu**  DATE: FEB/26/2016 **DRAWN: J.L.Liang** 

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#### **Selection Guide**

| Part No.          | Emitting Color (Material) | Lens Type   | lv (mcd) [2]<br>@ 20mA |      | Viewing<br>Angle [1] |
|-------------------|---------------------------|-------------|------------------------|------|----------------------|
|                   |                           |             | Min.                   | Тур. | 201/2                |
| KAA-3528SURKCGKCT | Hyper Red (AlGaInP)       | Water Clear | 200                    | 320  | - 120°               |
|                   |                           |             | *55                    | *100 |                      |
|                   | Green (AlGaInP)           |             | 40                     | 80   |                      |
|                   |                           |             | *40                    | *80  |                      |

#### Notes:

- θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
   Luminous intensity/ luminous Flux: +/-15%.
- \* Luminous intensity value is traceable to CIE127-2007 standards.

## Electrical / Optical Characteristics at TA=25°C

| Symbol | Parameter                | Emitting Color     | Тур.        | Max.       | Units | Test Conditions     |  |
|--------|--------------------------|--------------------|-------------|------------|-------|---------------------|--|
| λpeak  | Peak Wavelength          | Hyper Red<br>Green | 645<br>574  |            | nm    | IF=20mA             |  |
| λD [1] | Dominant Wavelength      | Hyper Red<br>Green | 630<br>570  |            | nm    | IF=20mA             |  |
| Δλ1/2  | Spectral Line Half-width | Hyper Red<br>Green | 28<br>20    |            | nm    | IF=20mA             |  |
| С      | Capacitance              | Hyper Red<br>Green | 35<br>15    |            | pF    | VF=0V;f=1MHz        |  |
| VF [2] | Forward Voltage          | Hyper Red<br>Green | 1.95<br>2.1 | 2.5<br>2.5 | V     | Ir=20mA             |  |
| lr     | Reverse Current          | Hyper Red<br>Green |             | 10<br>10   | uA    | V <sub>R</sub> = 5V |  |

#### Notes:

- Wavelength: +/-1nm.
   Forward Voltage: +/-0.1V.
- 3. Wavelength value is traceable to CIE127-2007 standards.
- 4. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

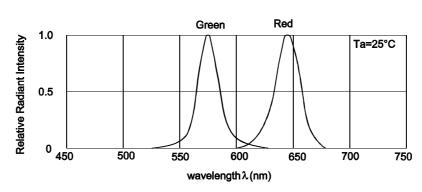
## Absolute Maximum Ratings at TA=25°C

| Parameter                | Hyper Red      | Green | Units |  |  |
|--------------------------|----------------|-------|-------|--|--|
| Power dissipation        | 75             | 75    | mW    |  |  |
| DC Forward Current       | 30             | 30    | mA    |  |  |
| Peak Forward Current [1] | 185            | 150   | mA    |  |  |
| Reverse Voltage          | ,              | V     |       |  |  |
| Operating Temperature    | -40°C To +85°C |       |       |  |  |
| Storage Temperature      | -40°C To +85°C |       |       |  |  |

#### Notes:

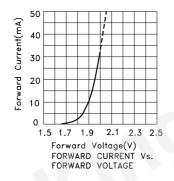
- 1. 1/10 Duty Cycle, 0.1ms Pulse Width.
- 2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity - Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

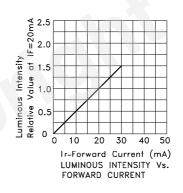
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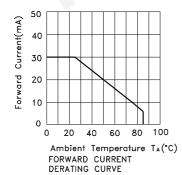


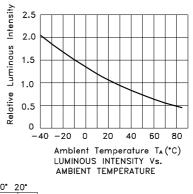
Relative Intensity Vs. Wavelength

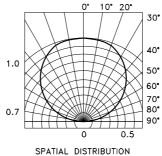
## KAA-3528SURKCGKCT Hyper Red





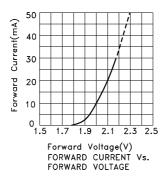


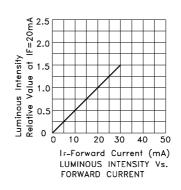


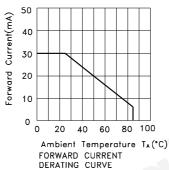


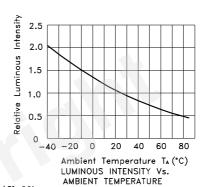
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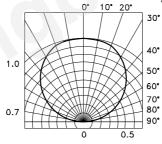
## Green











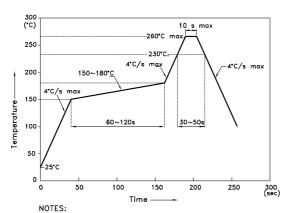
SPATIAL DISTRIBUTION

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#### **KAA-3528SURKCGKCT**

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.



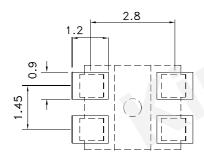
- NOTES:

  1.We recommend the reflow temperature 245°C(+/-5°C). The maximum soldering temperature should be limited to 260°C.

  2.Don't cause stress to the epoxy resin while it is exposed
  - to high temperature.

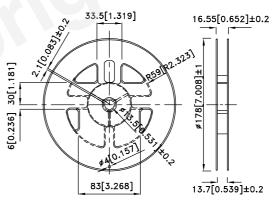
    3.Number of reflow process shall be 2 times or less.

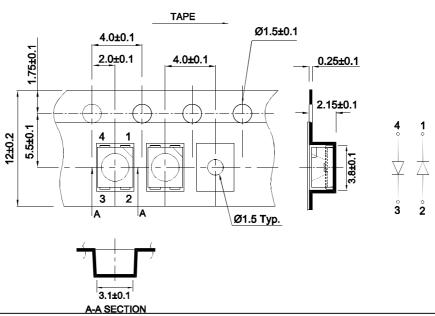
## Recommended Soldering Pattern (Units: mm; Tolerance: ± 0.1)



Tape Dimensions (Units : mm)

### **Reel Dimension**

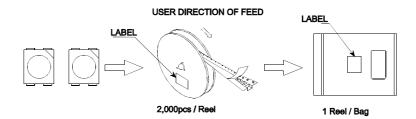


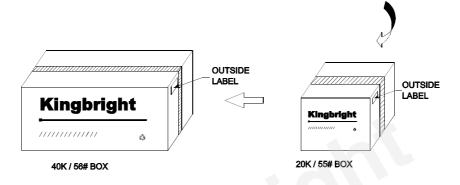


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#### **PACKING & LABEL SPECIFICATIONS**

#### **KAA-3528SURKCGKCT**







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