



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



Part Number: KB2550CGKD

Green

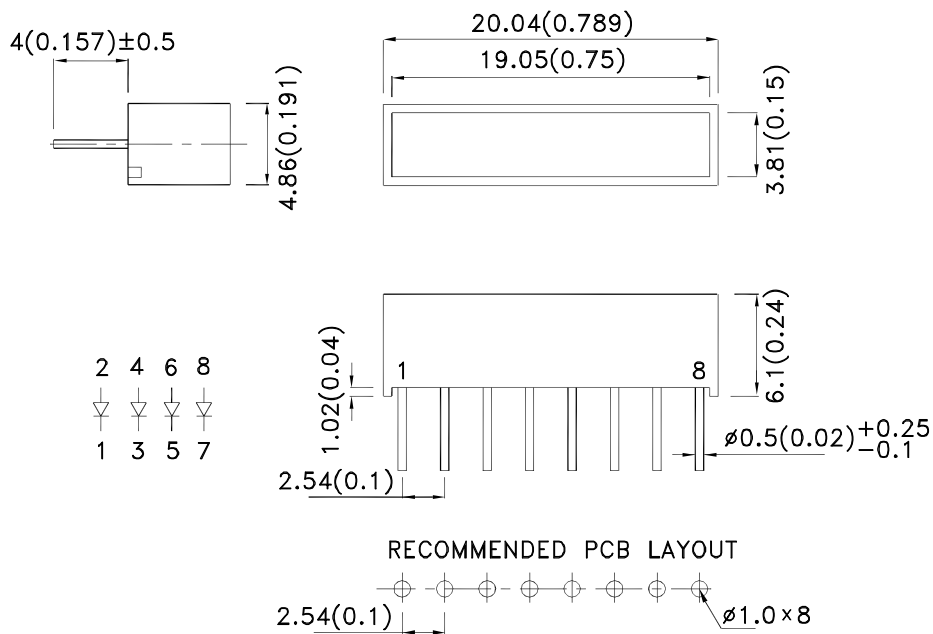
Features

- Uniform light emitting area.
- Low current operation.
- Easily mounted on P.C. boards.
- Flush mountable.
- Excellent on/off contrast.
- Can be used with panels and legend mounts.
- Categorized for luminous intensity.
- RoHS compliant.

Description

The Green source color devices are made with AlGaInP on GaAs substrate Light Emitting Diode.

Package Dimensions & Internal Circuit Diagram



Notes:

1. All dimensions are in millimeters (inches), Tolerance is $\pm 0.25(0.01)$ unless otherwise noted.
2. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.



Selection Guide

| Part No. | Dice | Lens Type | Iv (mcd) [1] @ 20mA | |
|------------|-----------------|----------------|------------------------|------|
| | | | Min. | Typ. |
| KB2550CGKD | Green (AlGaInP) | Green Diffused | 55 | 110 |
| | | | *20 | *36 |

Notes:

1. Luminous intensity / luminous Flux: +/-15%.

* Luminous intensity value is traceable to the CIE127-2007 compliant national standards.

Electrical / Optical Characteristics at TA=25°C

| Symbol | Parameter | Device | Typ. | Max. | Units | Test Conditions |
|-----------------------|--------------------------|--------|------|------|-------|---------------------------|
| λ_{peak} | Peak Wavelength | Green | 574 | | nm | I _F =20mA |
| λ_D [1] | Dominant Wavelength | Green | 570 | | nm | I _F =20mA |
| $\Delta\lambda_{1/2}$ | Spectral Line Half-width | Green | 20 | | nm | I _F =20mA |
| C | Capacitance | Green | 15 | | pF | V _F =0V;f=1MHz |
| V _F [2] | Forward Voltage | Green | 2.1 | 2.5 | V | I _F =20mA |
| I _R | Reverse Current | Green | | 10 | uA | V _R =5V |

Notes:

1. Wavelength: + / -1nm.

2. Forward Voltage: + / -0.1V.

3. Wavelength value is traceable to the CIE127-2007 compliant national standards.

4. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

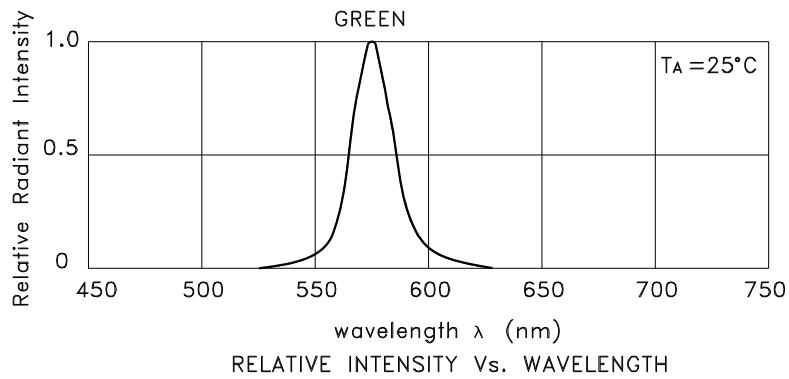
Absolute Maximum Ratings at TA=25°C

| Parameter | Green | Units |
|---------------------------------|-----------------------|-------|
| Power dissipation | 75 | mW |
| DC Forward Current | 30 | mA |
| Peak Forward Current [1] | 150 | mA |
| Reverse Voltage | 5 | V |
| Operating / Storage Temperature | -40°C To +85°C | |
| Lead Solder Temperature[2] | 260°C For 3-5 Seconds | |

Notes:

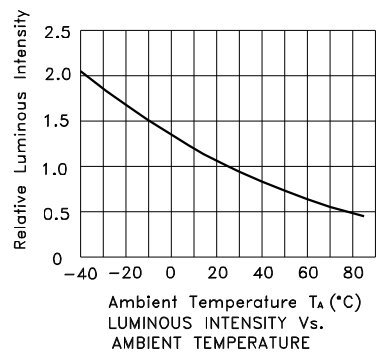
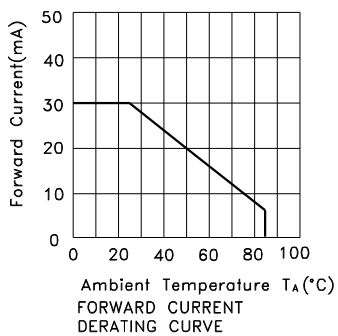
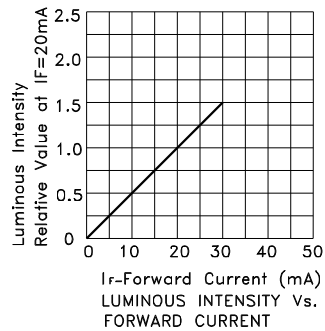
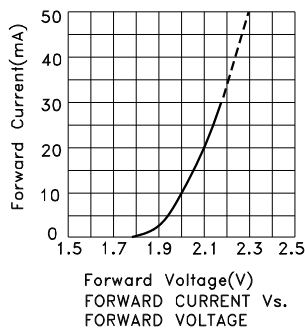
1. 1 / 10 Duty Cycle, 0.1ms Pulse Width.

2. 2mm below package base.



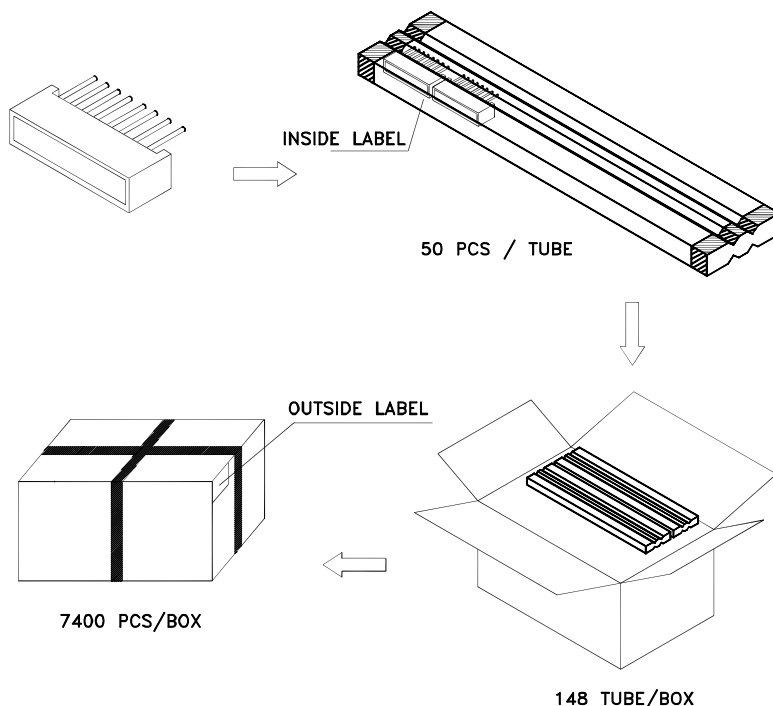
Green

KB2550CGKD

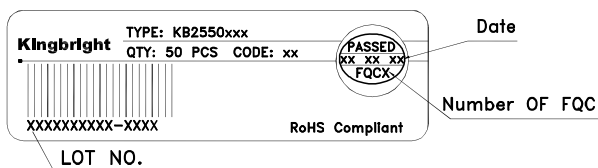


PACKING & LABEL SPECIFICATIONS

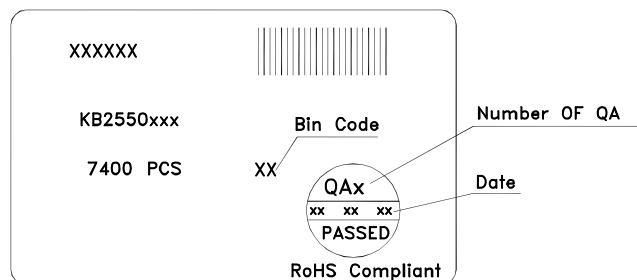
KB2550CGKD



Inside Label On IC-tube



Outside Label On Box



Terms and conditions for the usage of this document

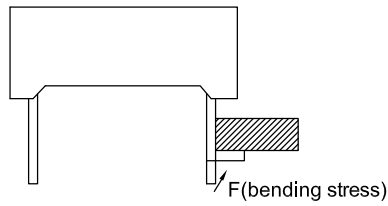
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2. The part number, type, and specifications mentioned in this document are subject to future change and improvement without notice. Before production usage customer should refer to the latest datasheet for the updated specifications.
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THROUGH HOLE DISPLAY MOUNTING METHOD

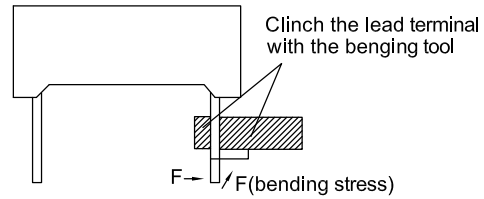
Lead Forming

Do not bend the component leads by hand without proper tools.

The leads should be bent by clinching the upper part of the lead firmly such that the bending force is not exerted on the plastic body.



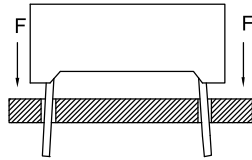
Not Recommended



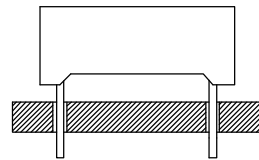
Recommended

Installation

- 1.The installation process should not apply stress to the lead terminals.
- 2.When inserting for assembly, ensure the terminal pitch matches the substrate board's hole pitch to prevent spreading or pinching the lead terminals.

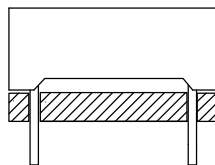


Not Recommended

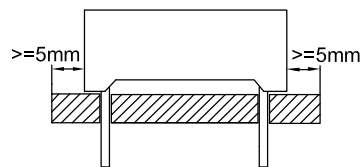


Recommended

- 3.The component shall be placed at least 5mm from edge of PCB to avoid damage caused excessive heat during wave soldering.

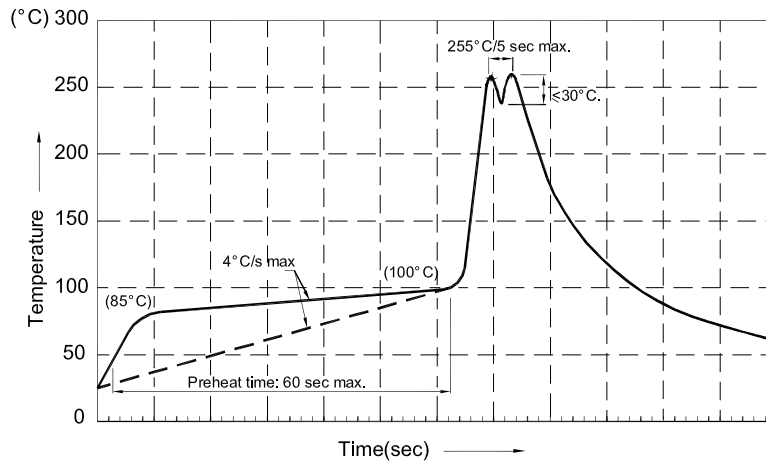


Not Recommended



Recommended

Recommended Wave Soldering Profiles:



Notes:

1. Recommend pre-heat temperature of 105° C or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of 260° C
2. Peak wave soldering temperature between 245° C ~ 255° C for 3 sec (5 sec max).
3. Do not apply stress to the epoxy resin while the temperature is above 85° C.
4. Fixtures should not incur stress on the component when mounting and during soldering process.
5. SAC 305 solder alloy is recommended.
6. No more than one wave soldering pass.
7. During wave soldering, the PCB top-surface temperature should be kept below 105° C.

Soldering General Notes:

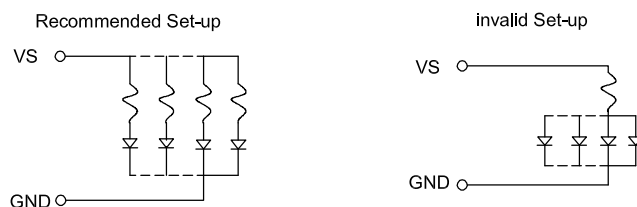
1. Through-hole displays are incompatible with reflow soldering.
2. If components will undergo multiple soldering processes, or other processes where the components may be subjected to intense heat, please check with Kingbright for compatibility.

CLEANING

1. Mild "no-clean" fluxes are recommended for use in soldering.
2. If cleaning is required, Kingbright recommends to wash components with water only. Do not use harsh organic solvents for cleaning because they may damage the plastic parts .
3. The cleaning process should take place at room temperature and the devices should not be washed for more than one minute.
4. When water is used in the cleaning process, immediately remove excess moisture from the component with forced-air drying afterwards.

CIRCUIT DESIGN NOTES

1. Protective current-limiting resistors may be necessary to operate the LEDs within the specified range.
2. LEDs mounted in parallel should each be placed in series with its own current-limiting resistor.



3. The driving circuit should be designed to protect the LED against reverse voltages and transient voltage spikes when the circuit is powered up or shut down.
4. The safe operating current should be chosen after considering the maximum ambient temperature of the operating environment.
5. Prolonged reverse bias should be avoided, as it could cause metal migration, leading to an increase in leakage current or causing a short circuit.