Kingbright

Part Number: KB-2720SYKW   Super Bright Yellow

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 Super Bright Yellow device is made with AlGaInP (on GaAs substrate) light emitting diode chip.

Package Dimensions& Internal Circuit Diagram

RECOMMENDED PCB LAYOUT
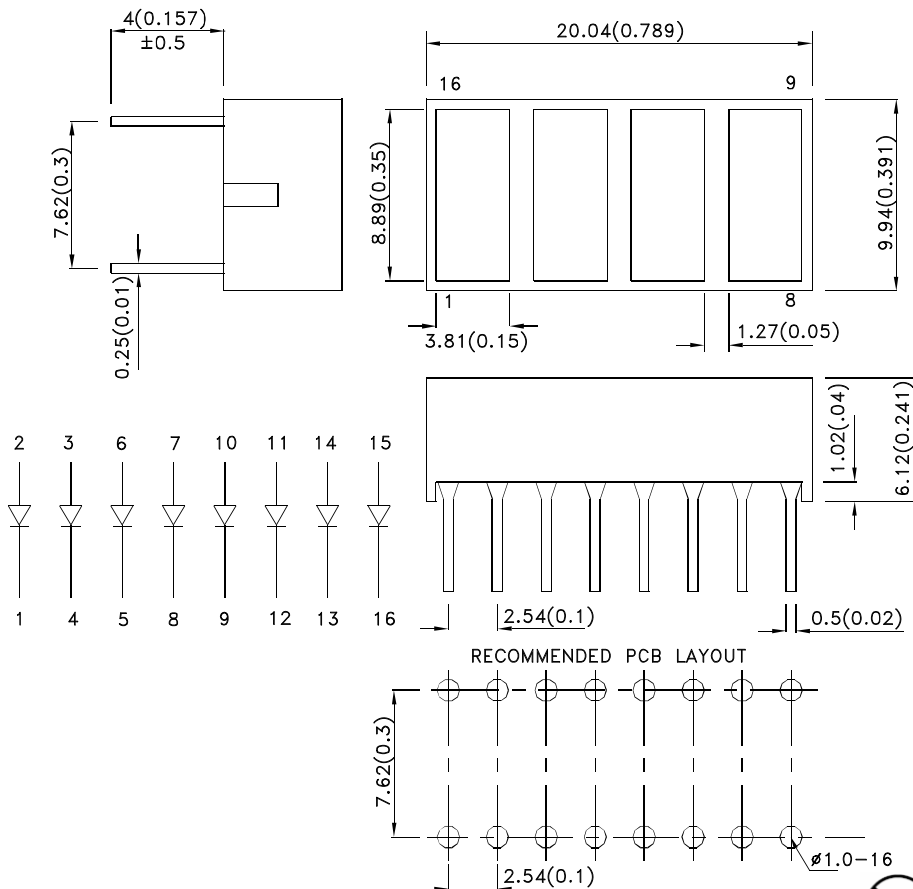
Notes:
1. All dimensions are in millimeters (inches), Tolerance is ±0.25(0.01")unless otherwise noted.
2. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

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Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) [1] @ 20mA	
			Min.	Typ.
KB-2720SYKW	Super Bright Yellow (AlGaInP)	White Diffused	300	400
			*55	*130

Note:
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
λpeak	Peak Wavelength	Super Bright Yellow	590		nm	I_F=20mA
λD [1]	Dominant Wavelength	Super Bright Yellow	590		nm	I_F=20mA
Δλ1/2	Spectral Line Half-width	Super Bright Yellow	20		nm	I_F=20mA
C	Capacitance	Super Bright Yellow	20		pF	V_F=0V;f=1MHz
V_F [2]	Forward Voltage	Super Bright Yellow	2.0	2.5	V	I_F=20mA
I_R	Reverse Current	Super Bright Yellow		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.

Absolute Maximum Ratings at TA=25°C

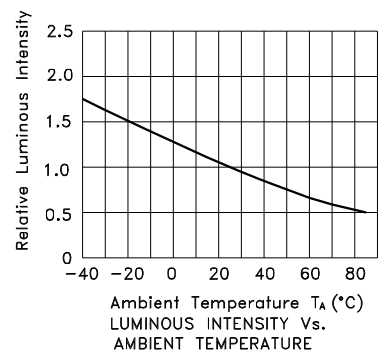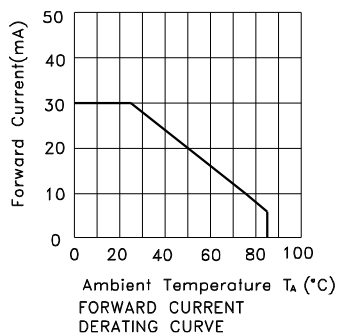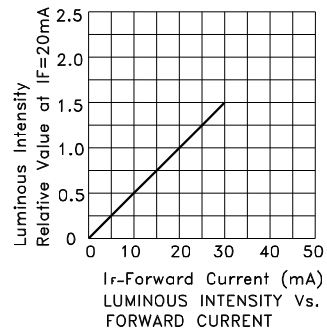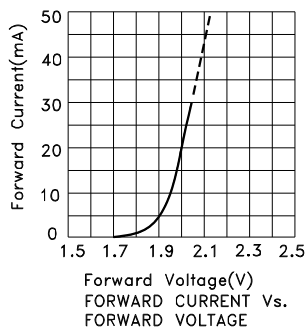| Parameter	Super Bright Yellow	Units
Power dissipation	75	mW
DC Forward Current	30	mA
Peak Forward Current [1]	175	mA
Reverse Voltage	5	V
Operating / Storage Temperature	-40°C To +85°C	
Lead Solder Temperature[2]	260°C For 3-5 Seconds	

Notes:
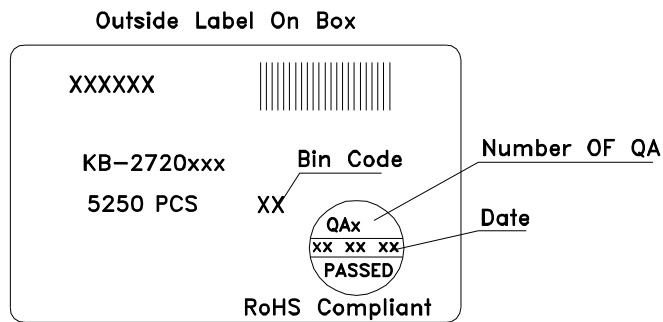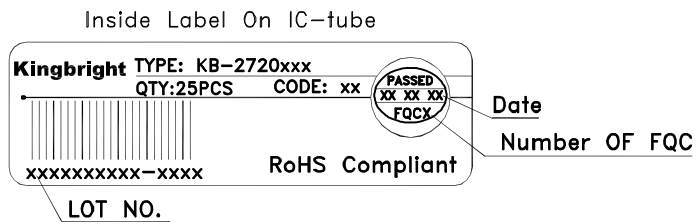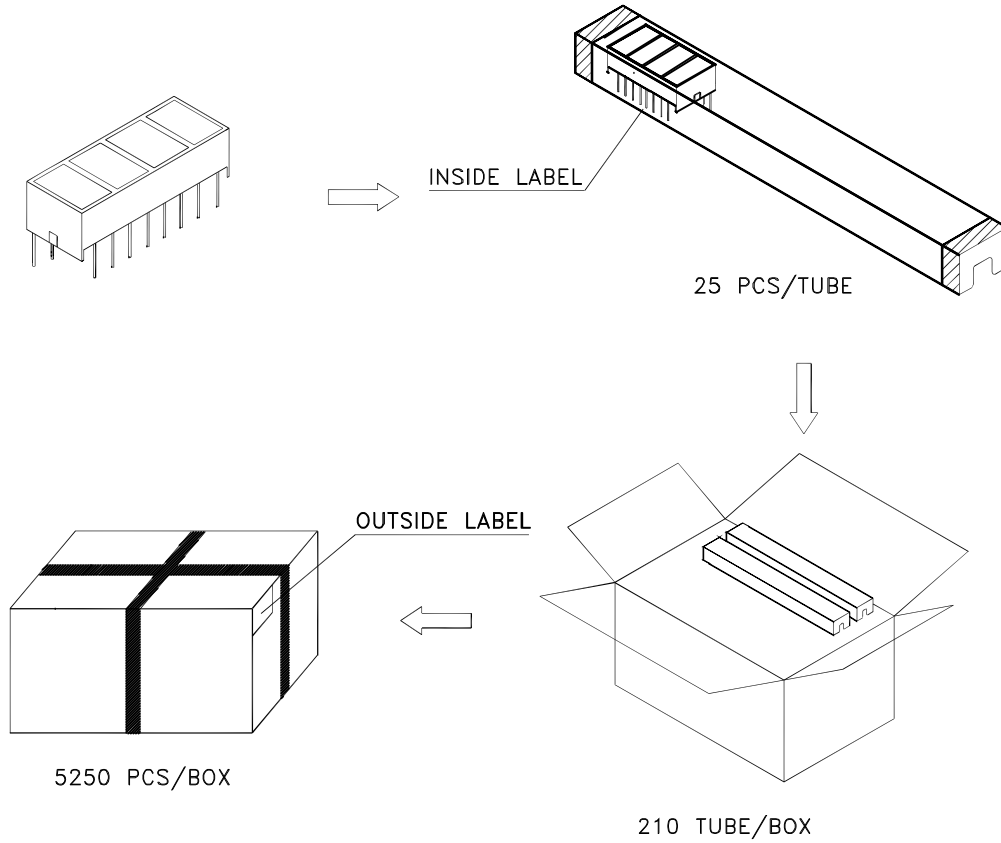1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 2mm below package base.

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RELATIVE INTENSITY Vs. WAVELENGTH

Super Bright Yellow   KB-2720SYKW

FORWARD CURRENT Vs.
FORWARD VOLTAGE

LUMINOUS INTENSITY Vs.
FORWARD CURRENT

FORWARD CURRENT
DERATING CURVE

LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

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PACKING & LABEL SPECIFICATIONS   **KB-2720SYKW**

INSIDE LABEL

25 PCS/TUBE

OUTSIDE LABEL

5250 PCS/BOX

210 TUBE/BOX

Inside Label On IC-tube

Kingbright TYPE: KB-2720xxx
QTY:25PCS   CODE: xx   PASSED XX XX XX FQCx
Date
Number OF FQC
xxxxxxxxxx-xxxx   RoHS Compliant
LOT NO.

Outside Label On Box

XXXXXX

KB-2720xxx   Bin Code   Number OF QA
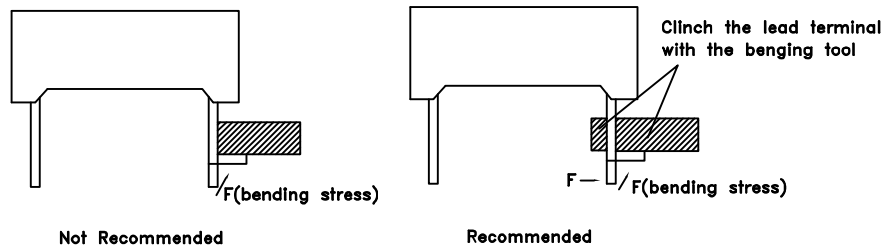5250 PCS   XX
QAx
xx xx xx   Date
PASSED
RoHS Compliant

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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.
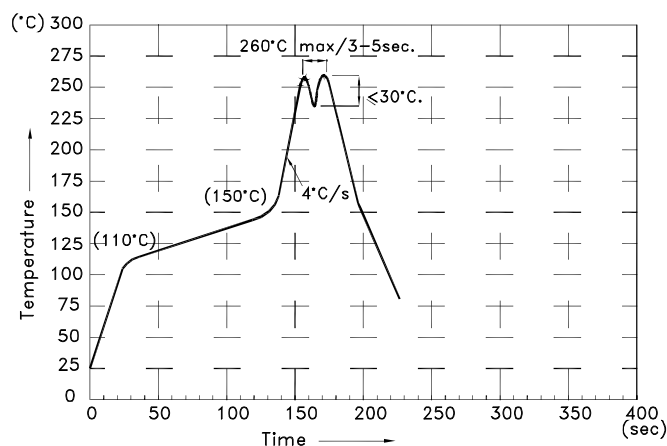
Clinch the lead terminal with the benging tool

F(bending stress)

F — F(bending stress)

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.

F   F

Not Recommended
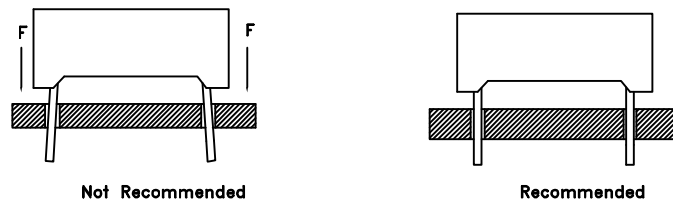
Recommended

DISPLAY SOLDERING CONDITIONS

Wave Soldering Profile For Lead-free Through-hole LED.

(°C) 300

260°C max/3~5sec.

<30°C.

(150°C)   4°C/s

(110°C)

Temperature

0   50   100   150   200   250   300   350   400 (sec)

Time

NOTES:
1. Recommend the wave temperature 245°C~260°C.The maximum soldering temperature should be less than 260°C.
2. Do not apply stress on epoxy resins when temperature is over 85°C.
3. The soldering profile apply to the lead free soldering (Sn/Cu/Ag alloy).
4. During wave soldering , the PCB top-surface temperature should be kept below 105°C
5. No more than once.

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Soldering General Notes:

a. Through-hole displays are incompatible with reflow soldering.

b. 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 .And the devices should not be washed for more than one minute.

CIRCUIT DESIGN NOTES

1. Protective current-limiting resistors may be necessary to operate the Displays.

2. LEDs mounted in parallel should each be placed in series with its own current-limiting resistor.

Recommended Set-up   invalid Set-up