



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Part Number: KPBD-3224SURKSYKC

Hyper Red
Super Bright Yellow

Features

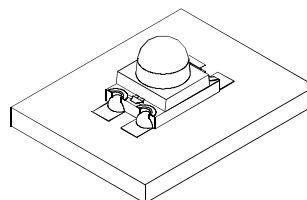
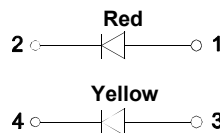
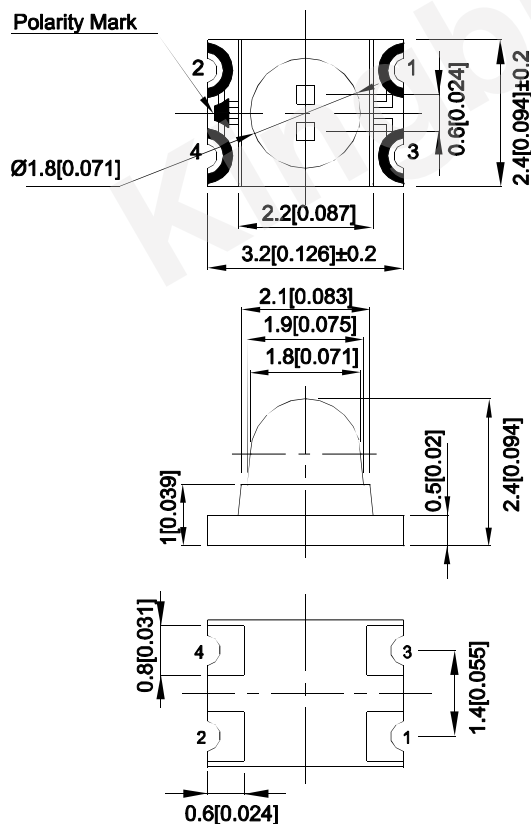
- 3.2x2.4mm SMD LED, 2.4mm thickness.
- Low power consumption.
- Ideal for backlight and indicator.
- Package : 1500pcs / reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

Descriptions

- The Hyper Red source color devices are made with Al GaInP on GaAs substrate Light Emitting Diode.
- The Super Bright Yellow device is made with AlGaInP (on GaAs substrate) light emitting diode chip.
- Electrostatic discharge and power surge could damage the LEDs.
- It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.
- All devices, equipment and machinery must be electrically grounded.

Package Dimensions

Polarity Mark



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.1 (0.004") unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
4. The device has a single mounting surface. The device must be mounted according to the specifications.



Selection Guide

Part No.	Emitting Color (Material)	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
KPBD-3224SURKSYKC	Hyper Red (AlGaInP)	Water Clear	700	1300	20°
			*120	*400	
	Super Bright Yellow (AlGaInP)		300	600	
			*300	*600	

Notes:

1. $\theta_{1/2}$ is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.

2. 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	Typ.	Max.	Units	Test Conditions
λ_{peak}	Peak Wavelength	Hyper Red Super Bright Yellow	645 590		nm	I _F =20mA
λ_D [1]	Dominant Wavelength	Hyper Red Super Bright Yellow	630 590		nm	I _F =20mA
$\Delta\lambda_{1/2}$	Spectral Line Half-width	Hyper Red Super Bright Yellow	28 20		nm	I _F =20mA
C	Capacitance	Hyper Red Super Bright Yellow	35 20		pF	V _F =0V; f=1MHz
V _F [2]	Forward Voltage	Hyper Red Super Bright Yellow	1.95 2	2.5 2.5	V	I _F =20mA
I _R	Reverse Current	Hyper Red Super Bright Yellow		10 10	uA	V _R = 5V

Notes:

1. Wavelength: +/-1nm.

2. 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.

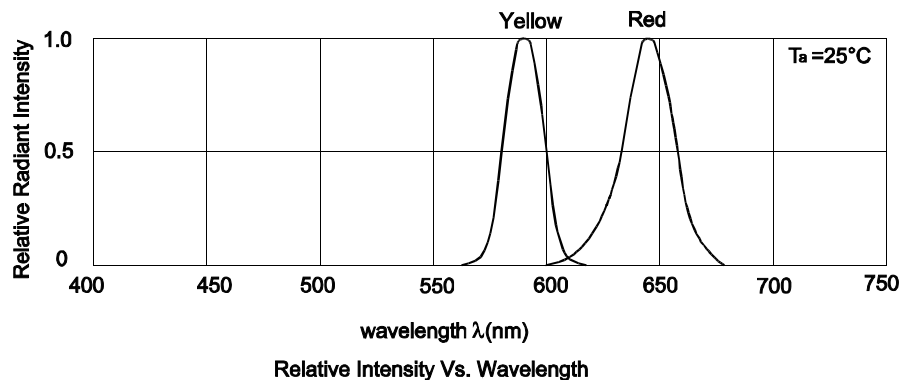
Absolute Maximum Ratings at TA=25°C

Parameter	Hyper Red	Super Bright Yellow	Units
Power dissipation	75	75	mW
DC Forward Current	30	30	mA
Peak Forward Current [1]	185	175	mA
Reverse Voltage	5		V
Operating Temperature	-40°C To +85°C		
Storage Temperature	-40°C To +85°C		

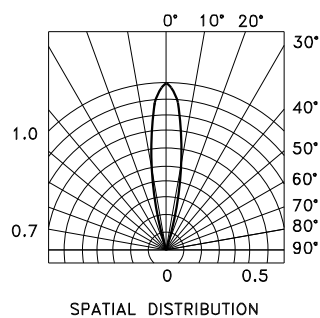
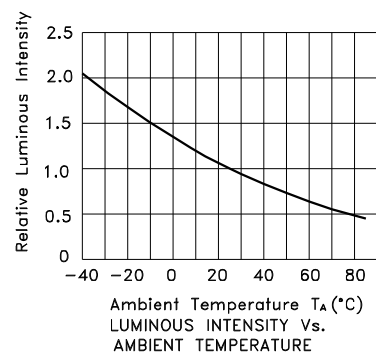
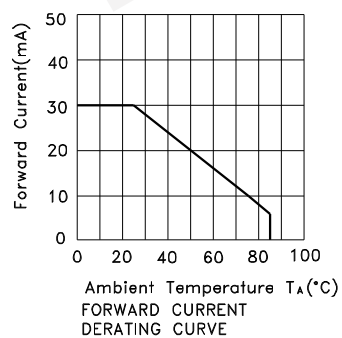
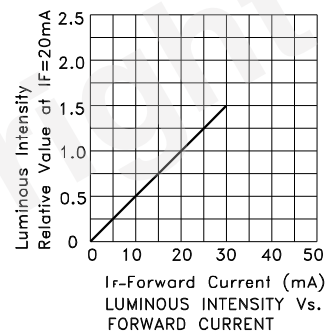
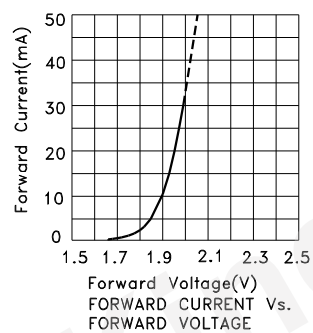
Notes:

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

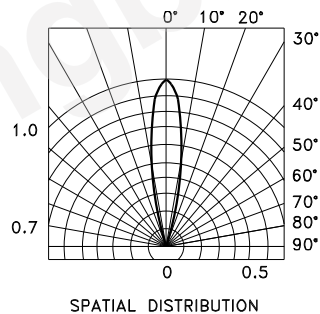
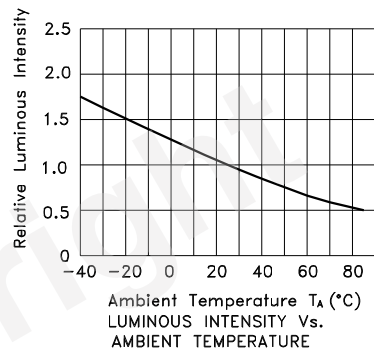
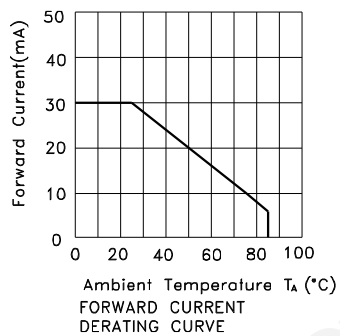
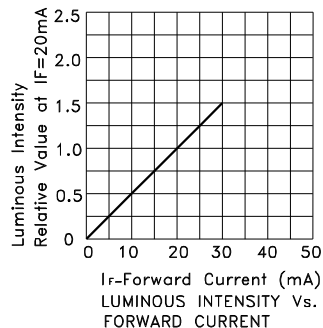
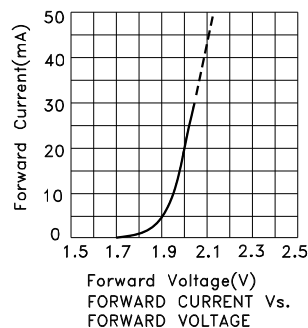
2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.



KPBD-3224SURKSYKC Hyper Red



Super Bright Yellow



KPBD-3224SURKSYKC

**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.**

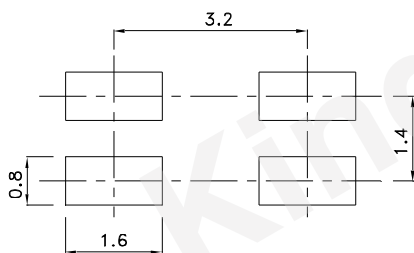
Reflow Soldering Profile For Lead-free SMT Process.



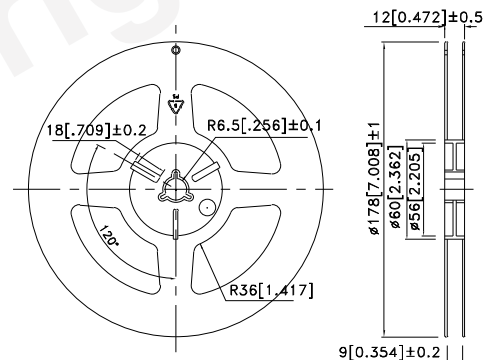
NOTES:

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.

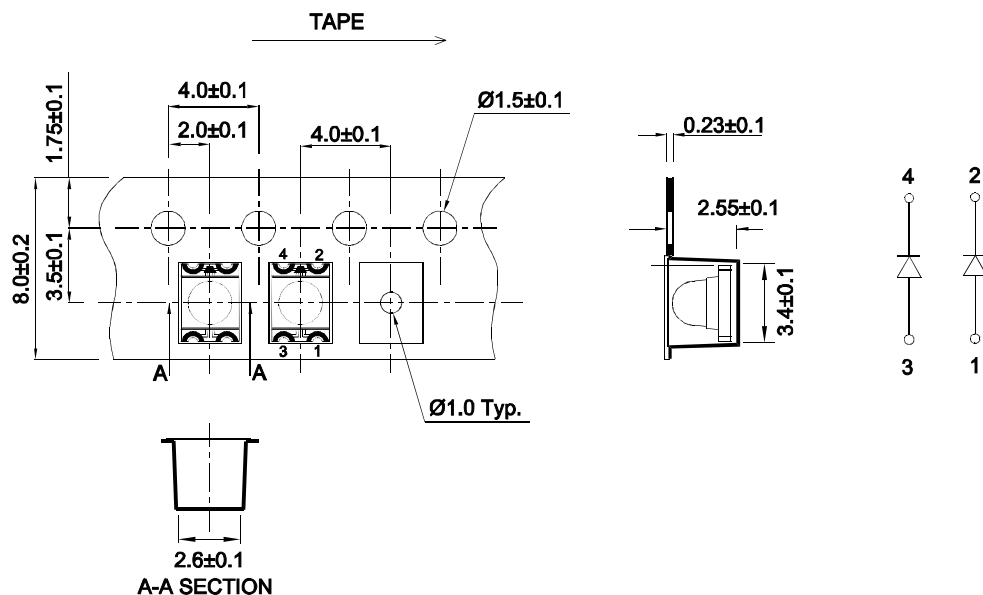
Recommended Soldering Pattern
(Units : mm; Tolerance: ± 0.1)



Reel Dimension

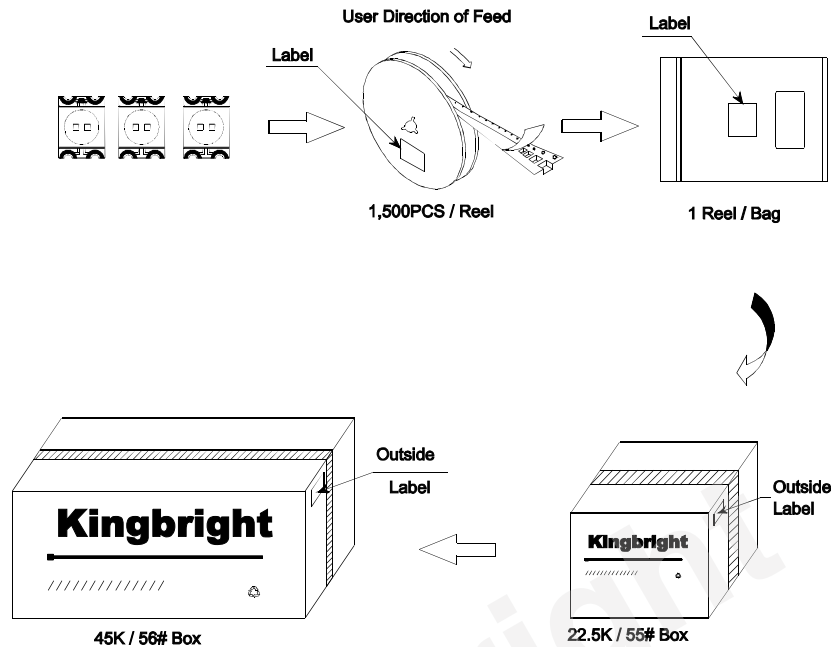


Tape Dimensions (Units : mm)



PACKING & LABEL SPECIFICATIONS

KPBD-3224PBVGC



Kingbright		
P/NO: KPBD-3224xxx		
QTY: 1,500 PCS	Q.C.	Q.C. xxxxxxx PASSED
S/N: XXXX		
CODE: XXX		
LOT NO:		
RoHS Compliant		

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