



**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES

Part Number: KPBD-3224LVSURKZGKC

Hyper Red  
Green

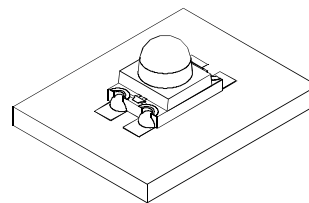
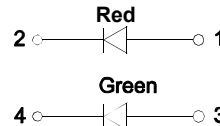
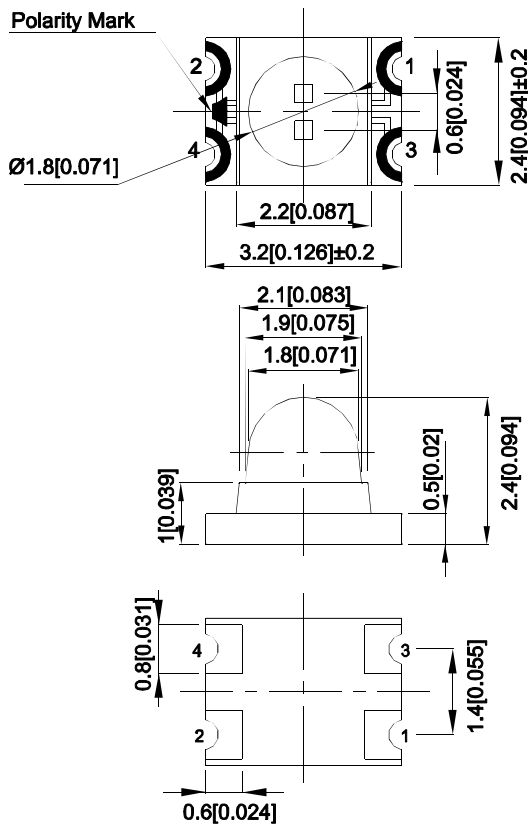
### Features

- 3.2x2.4mm SMD LED, 2.4mm thickness.
- Low power consumption.
- Ideal for backlight and indicator.
- Package : 1500pcs / reel.
- Moisture sensitivity level : level 3.
- Low current IF=2mA operating.
- RoHS compliant.

### Descriptions

- The Hyper Red source color devices are made with AlGaInP on GaAs substrate Light Emitting Diode.
- The Green source color devices are made with InGaN on Sapphire Light Emitting Diode.
- 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, equipments and machineries must be electrically grounded.

### Package Dimensions



**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] @ 2mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
KPBD-3224LVSURKZGKC	Hyper Red (AlGaInP)	Water Clear	20	50	20°
			*10	*30	
	Green (InGaN)		120	250	
			*120	*250	

Notes:

1. θ1/2 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	Min.	Typ.	Max.	Units	Test Conditions
λ <sub>peak</sub>	Peak Wavelength	Hyper Red Green		645 515		nm	I <sub>F</sub> =2mA
λ <sub>D</sub> [1]	Dominant Wavelength	Hyper Red Green		630 525		nm	I <sub>F</sub> =2mA
Δλ <sub>1/2</sub>	Spectral Line Half-width	Hyper Red Green		28 35		nm	I <sub>F</sub> =2mA
C	Capacitance	Hyper Red Green		35 45		pF	V <sub>F</sub> =0V;f=1MHz
V <sub>F</sub> [2]	Forward Voltage	Hyper Red Green	1.5 2.2	1.75 2.65	2.1 3.1	V	I <sub>F</sub> =2mA
I <sub>R</sub>	Reverse Current	Hyper Red Green			10 50	uA	V <sub>R</sub> = 5V

Notes:

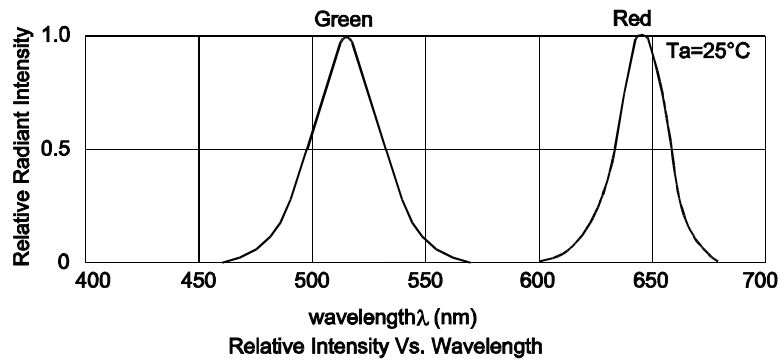
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
3. Wavelength value is traceable to CIE127-2007 standards.
4. Excess driving current and/or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

## Absolute Maximum Ratings at TA=25°C

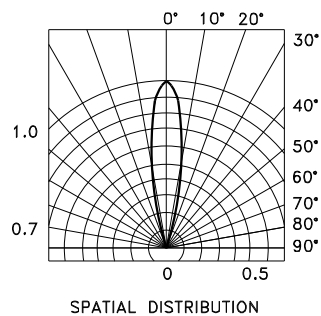
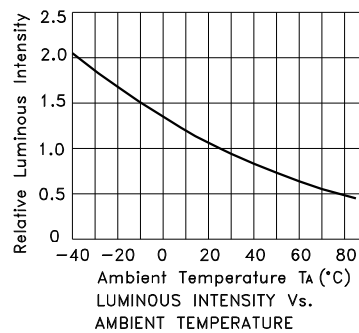
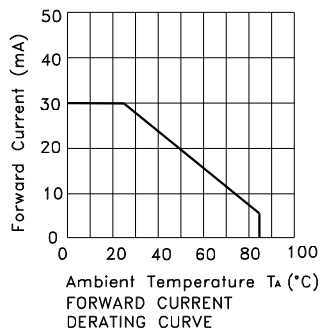
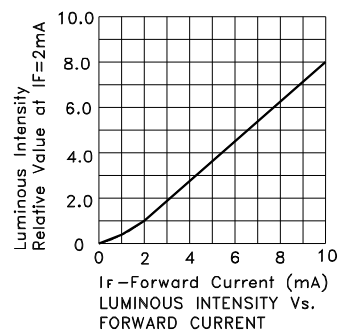
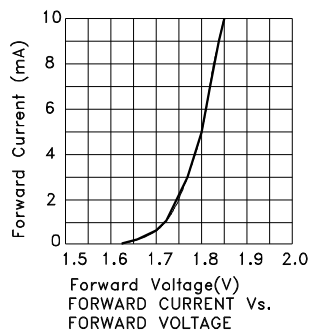
Parameter	Hyper Red	Green	Units
Power dissipation	63	77.5	mW
DC Forward Current	30	25	mA
Peak Forward Current [1]	185	150	mA
Electrostatic Discharge Threshold (HBM)	3000	450	V
Reverse Voltage	5		V
Operating Temperature	-40°C To +85°C		
Storage Temperature	-40°C To +85°C		

Notes:

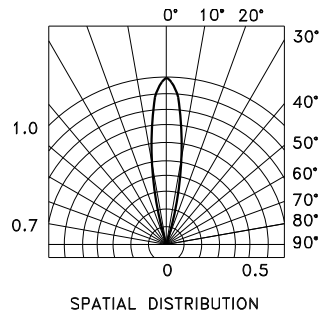
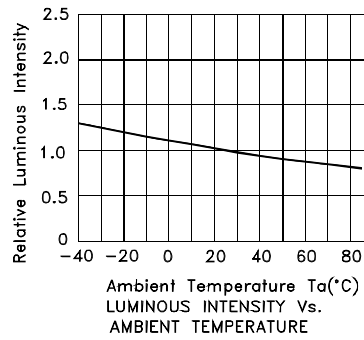
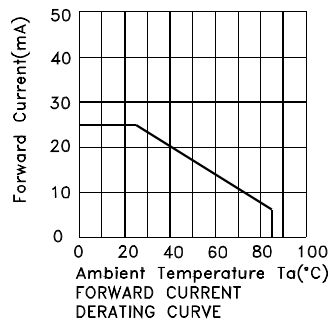
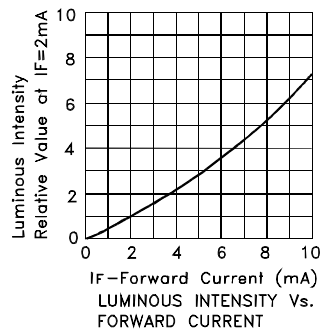
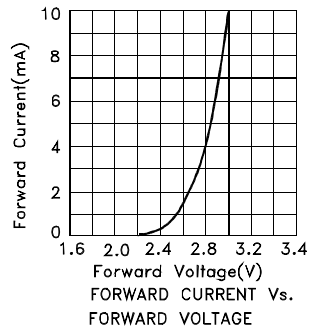
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.



## KPBD-3224LVSURKZGKC Hyper Red



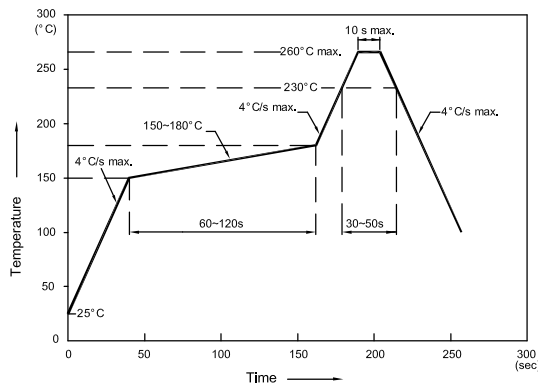
## Green



## KPBD-3224LVSURKZGKC

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.

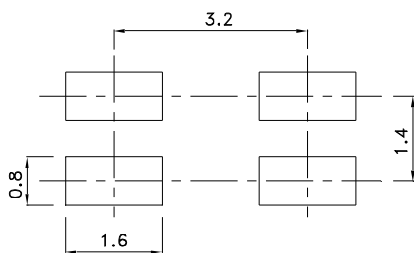
Reflow Soldering Profile For Lead-free SMT Process.



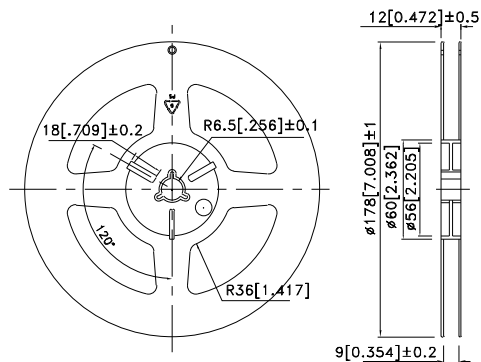
NOTES:

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.

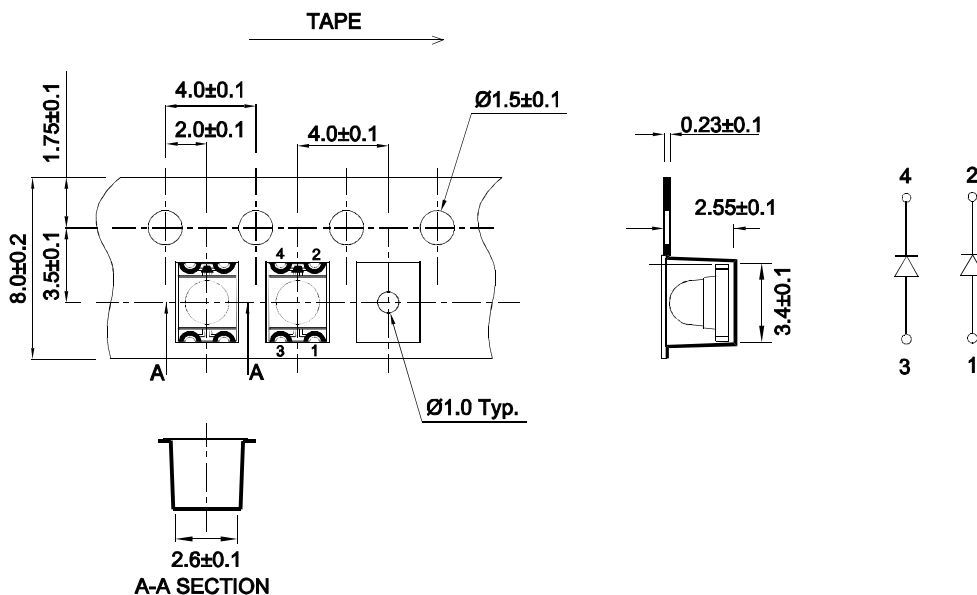
### Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



### Reel Dimension

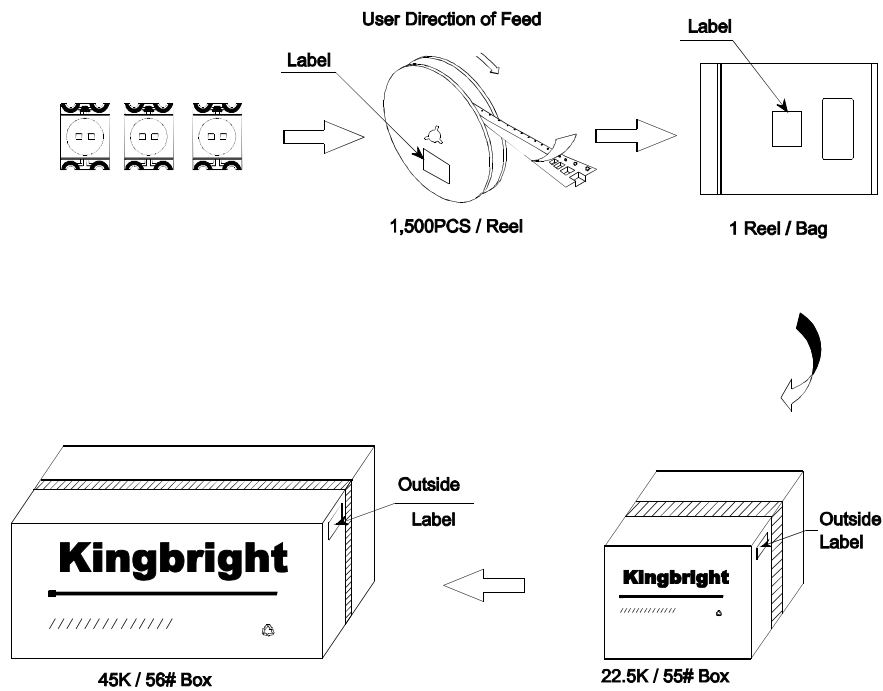



### Tape Dimensions (Units : mm)



## PACKING & LABEL SPECIFICATIONS

KPBD-3224LVSURKZGKC



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

### Terms and conditions for the usage of this document

1. The information included in this document reflects representative usage scenarios and is intended for technical reference only.
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