



APBD3224SURKSGC-F01

DESCRIPTIONS

- The Hyper Red source color devices are made with AlGaInP on GaAs substrate Light Emitting Diode
- The Super Bright Green source color devices are made with Gallium Phosphide Green 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

FEATURES

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

APPLICATIONS

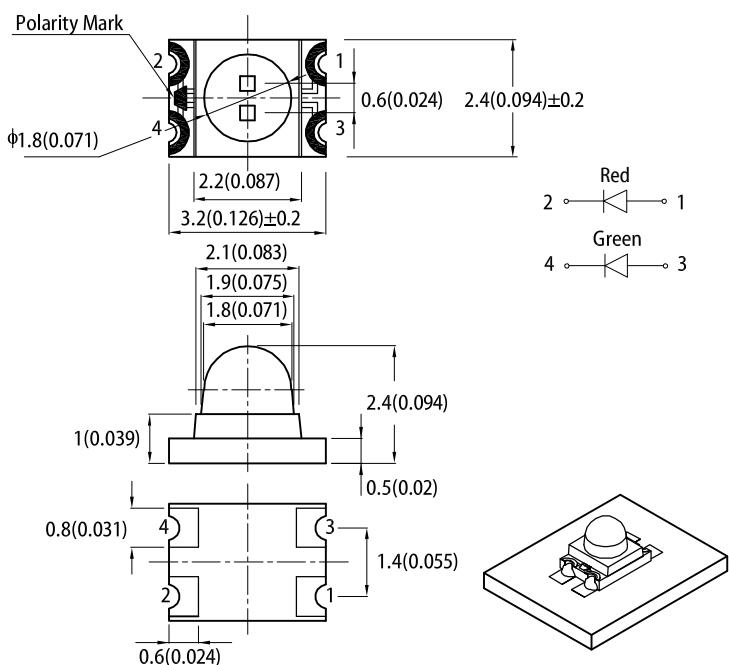
- Backlight
- Status indicator
- Home and smart appliances
- Wearable and portable devices
- Healthcare applications

ATTENTION

Observe precautions for handling electrostatic discharge sensitive devices

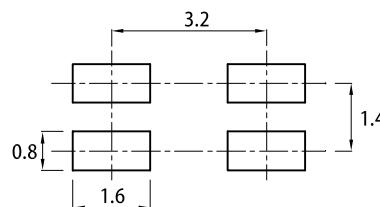


PACKAGE DIMENSIONS



RECOMMENDED SOLDERING PATTERN

RECOMMENDED SCODE
(units : mm; tolerance : ± 0.1)



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.1(0.004")$ 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 Number	Emitting Color (Material)	Lens Type	IV (mcd) @ 20mA ^[2]		Viewing Angle ^[1] 201/2
			Min.	Typ.	
APBD3224SURKSGC-F01	■ Hyper Red (AlGaInP)	Water Clear	380	800	20°
	■ Super Bright Green (GaP)		18	60	

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%.

ELECTRICAL / OPTICAL CHARACTERISTICS at $T_A=25^\circ C$

Parameter	Symbol	Emitting Color	Value		Unit
			Typ.	Max.	
Wavelength at Peak Emission $I_F = 20mA$	λ_{peak}	Hyper Red Super Bright Green	645 565	-	nm
Dominant Wavelength $I_F = 20mA$	λ_{dom} [1]	Hyper Red Super Bright Green	630 568	-	nm
Spectral Bandwidth at 50% Φ REL MAX $I_F = 20mA$	$\Delta\lambda$	Hyper Red Super Bright Green	28 30	-	nm
Capacitance	C	Hyper Red Super Bright Green	35 15	-	pF
Forward Voltage $I_F = 20mA$	V_F [2]	Hyper Red Super Bright Green	1.95 2.2	2.5 2.5	V
Reverse Current ($V_R = 5V$)	I_R	Hyper Red Super Bright Green	-	10 10	μA

Notes:

1. The dominant wavelength (λ_d) above is the setup value of the sorting machine. (Tolerance $\lambda_d: \pm 1nm$.)2. Forward voltage: $\pm 0.1V$.

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

ABSOLUTE MAXIMUM RATINGS at $T_A=25^\circ C$

Parameter	Symbol	Value		Unit
		Hyper Red	Super Bright Green	
Power Dissipation	P_D	75	62.5	mW
Reverse Voltage	V_R	5	5	V
Junction Temperature	T_J	115	110	°C
Operating Temperature	T_{op}	-40 to +85		°C
Storage Temperature	T_{stg}	-40 to +85		°C
DC Forward Current	I_F	30	25	mA
Peak Forward Current	I_{FM} [1]	185	140	mA
Electrostatic Discharge Threshold (HBM)	-	3000	8000	V

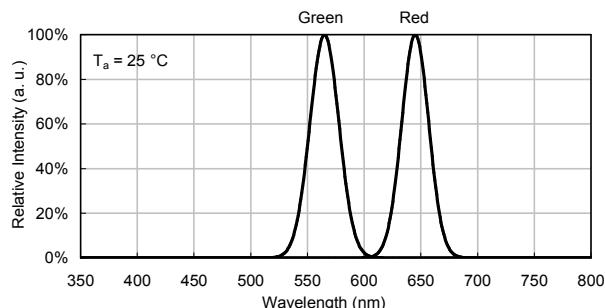
Notes:

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

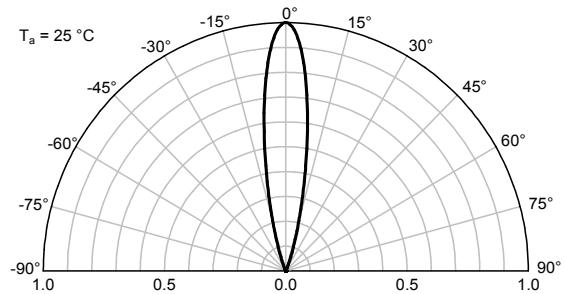
2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

TECHNICAL DATA

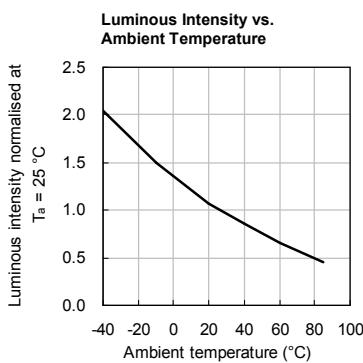
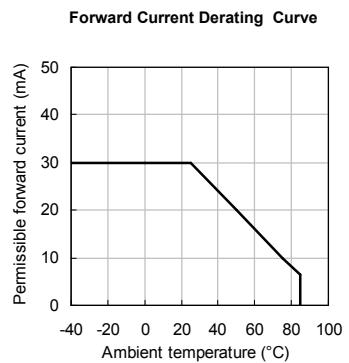
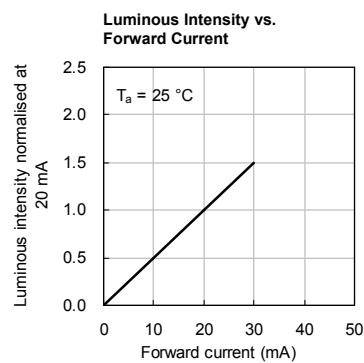
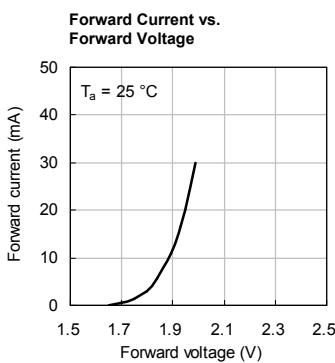
RELATIVE INTENSITY vs. WAVELENGTH



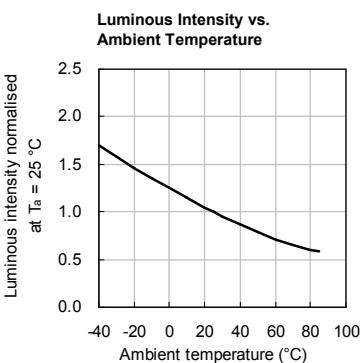
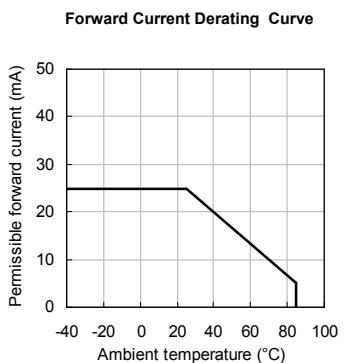
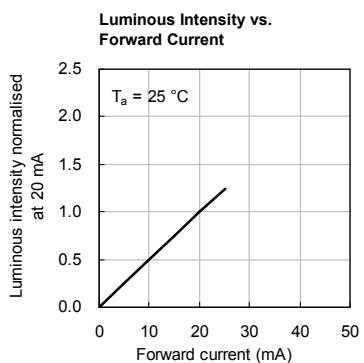
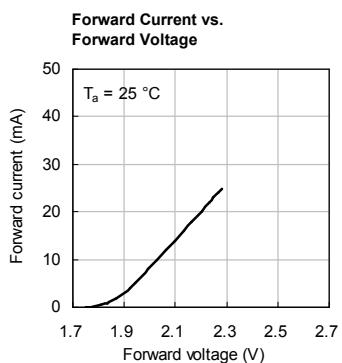
SPATIAL DISTRIBUTION



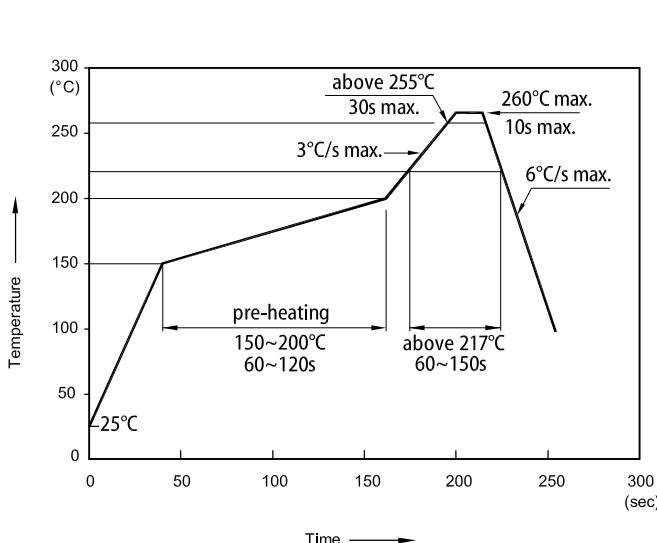
HYPER RED



SUPER BRIGHT GREEN



REFLOW SOLDERING PROFILE for LEAD-FREE SMD PROCESS

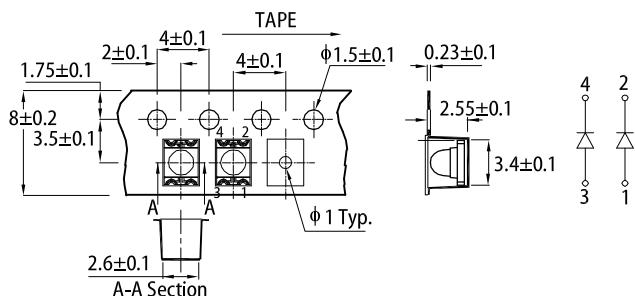


Notes:

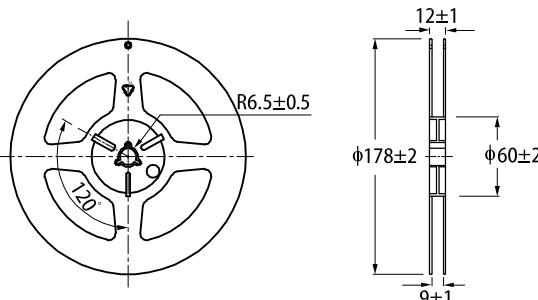
NOTES:

1. Don't cause stress to the LEDs while it is exposed to high temperature.
2. The maximum number of reflow soldering passes is 2 times.
3. Reflow soldering is recommended. Other soldering methods are not recommended as they might cause damage to the product.

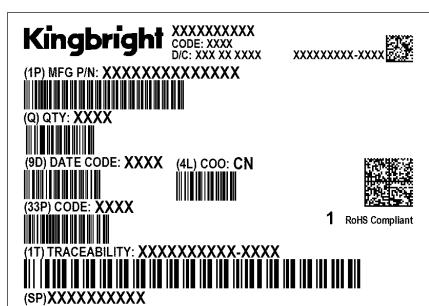
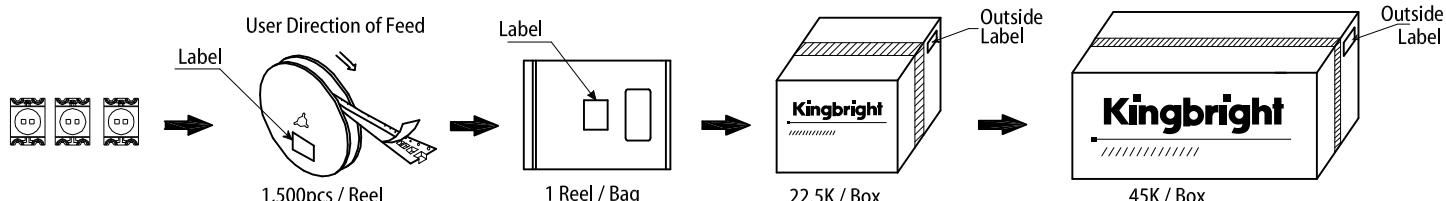
TAPE SPECIFICATIONS (units : mm)



REFL. DIMENSION (units: mm)



PACKING & LABEL SPECIFICATIONS



PRECAUTIONARY NOTES

REVISIONARY NOTES

1. The information included in this document reflects representative usage scenarios and is intended for technical reference only.
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.
3. When using the products referenced in this document, please make sure the product is being operated within the environmental and electrical limits specified in the datasheet. If customer usage exceeds the specified limits, Kingbright will not be responsible for any subsequent issues.
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