

APB3025NSGC-F01

3.0 x 2.5 mm Surface Mount LED Lamp

DESCRIPTIONS

- The Pure Orange source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Pure Orange Light Emitting Diode
- The Super Bright Green source color devices are made with Gallium Phosphide Green Light Emitting Diode

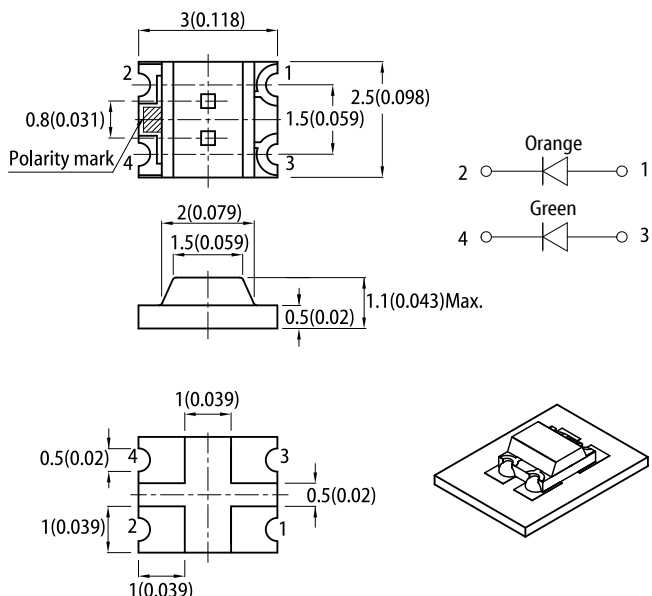
FEATURES

- 3.0 mm x 2.5 mm SMD LED, 1.1 mm thickness
- Bi-color, low power consumption
- Wide viewing angle
- Ideal for backlight and indicator
- Package: 2000 pcs / reel
- Moisture sensitivity level: 3
- Halogen-free
- RoHS compliant

APPLICATIONS

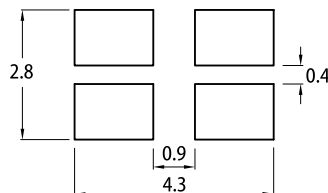
- Backlight
- Status indicator
- Home and smart appliances
- Wearable and portable devices
- Healthcare applications

PACKAGE DIMENSIONS



RECOMMENDED SOLDERING PATTERN

(units : mm; tolerance : ± 0.1)



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.2(0.008") 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]
			Min.	Typ.	2θ1/2
APB3025NSGC-F01	■ Pure Orange (GaAsP/GaP)	Water Clear	8	15	160°
			*3	*8	
	■ Super Bright Green (GaP)		8	15	
			*8	*15	

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 $T_A=25^\circ\text{C}$

Parameter	Symbol	Emitting Color	Value		Unit
			Typ.	Max.	
Wavelength at Peak Emission $I_F = 20\text{mA}$	λ_{peak}	Pure Orange Super Bright Green	607 565	-	nm
Dominant Wavelength $I_F = 20\text{mA}$	$\lambda_{\text{dom}}^{[1]}$	Pure Orange Super Bright Green	602 568	-	nm
Spectral Bandwidth at 50% Φ REL MAX $I_F = 20\text{mA}$	$\Delta\lambda$	Pure Orange Super Bright Green	35 30	-	nm
Capacitance	C	Pure Orange Super Bright Green	15 15	-	pF
Forward Voltage $I_F = 20\text{mA}$	$V_F^{[2]}$	Pure Orange Super Bright Green	2.05 2.2	2.5 2.5	V
Reverse Current ($V_R = 5\text{V}$)	I_R	Pure Orange Super Bright Green	-	10 10	μA

Notes:

1. The dominant wavelength (λ_d) above is the setup value of the sorting machine. (Tolerance $\lambda_d : \pm 1\text{nm}$.)

2. Forward voltage: $\pm 0.1\text{V}$.

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 $T_A=25^\circ\text{C}$

Parameter	Symbol	Value		Unit
		Pure Orange	Super Bright Green	
Power Dissipation	P_D	62.5	62.5	mW
Reverse Voltage	V_R	5	5	V
Junction Temperature	T_J	125	110	$^\circ\text{C}$
Operating Temperature	T_{op}	-40 To +85		$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 To +85		$^\circ\text{C}$
DC Forward Current	I_F	25	25	mA
Peak Forward Current	$I_{FM}^{[1]}$	145	140	mA
Electrostatic Discharge Threshold (HBM)	-	8000	8000	V

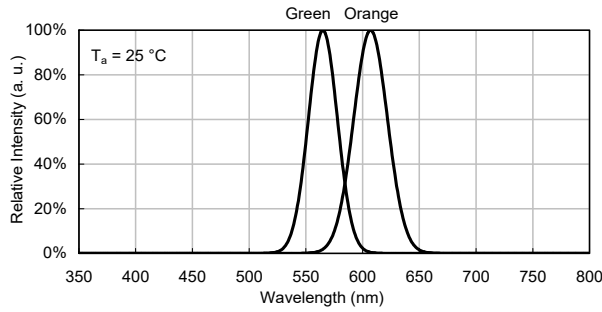
Notes:

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

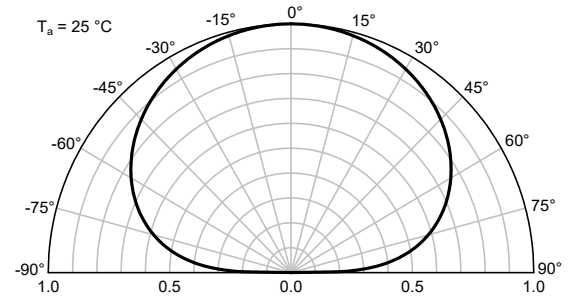
2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

TECHNICAL DATA

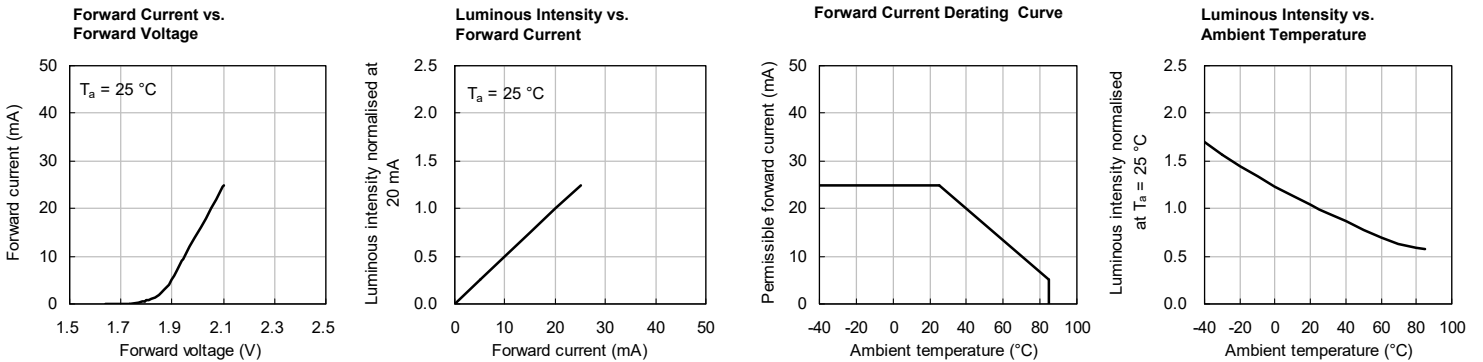
RELATIVE INTENSITY vs. WAVELENGTH



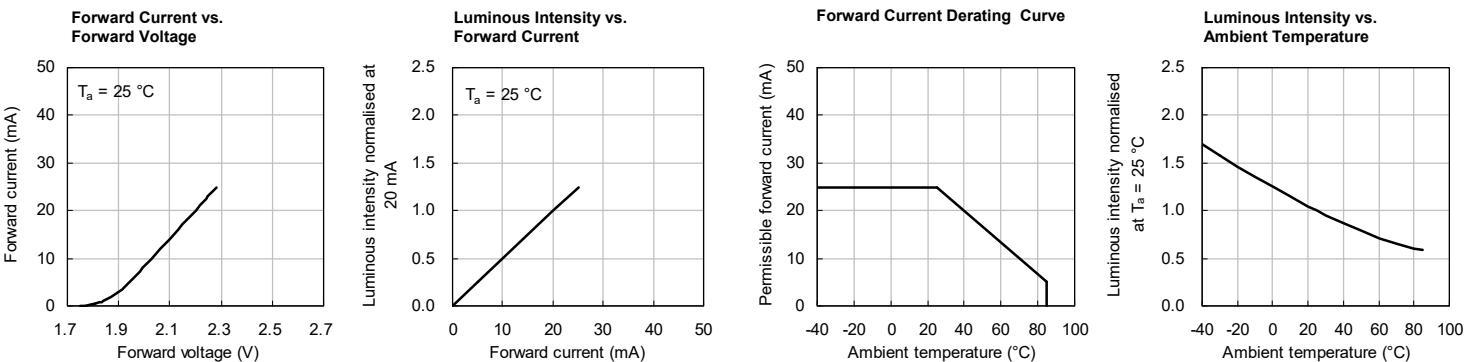
SPATIAL DISTRIBUTION



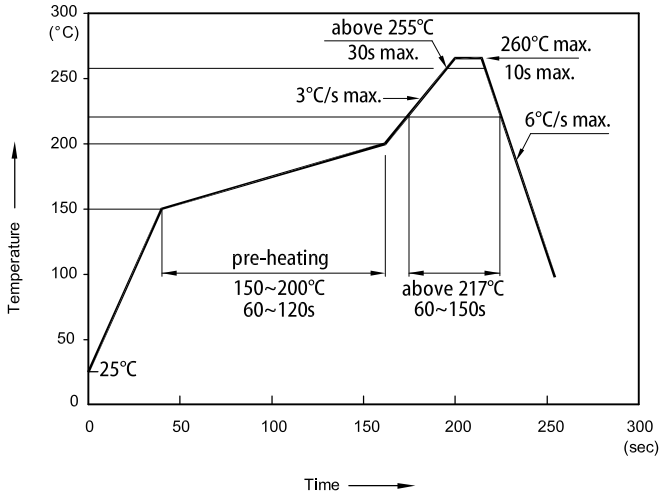
PURE ORANGE



SUPER BRIGHT GREEN

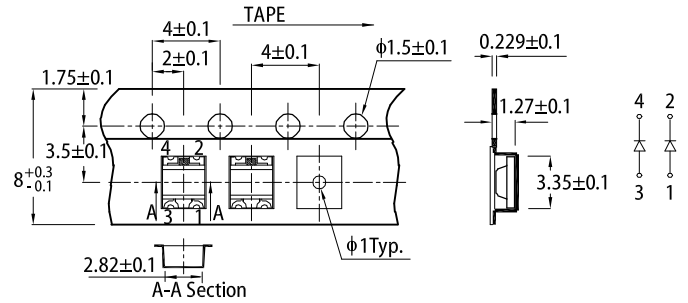


REFLOW SOLDERING PROFILE for LEAD-FREE SMD PROCESS

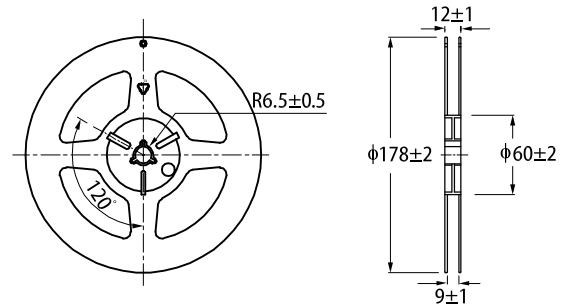


- Notes:
1. Don't cause stress to the LEDs while it is exposed to high temperature.
 2. The maximum number of reflow soldering passes is 2 times.
 3. Reflow soldering is recommended. Other soldering methods are not recommended as they might cause damage to the product.

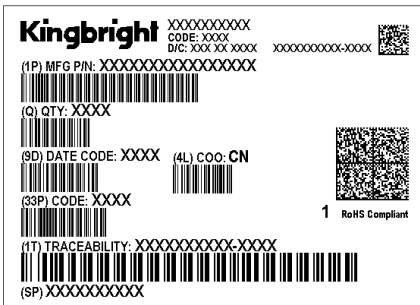
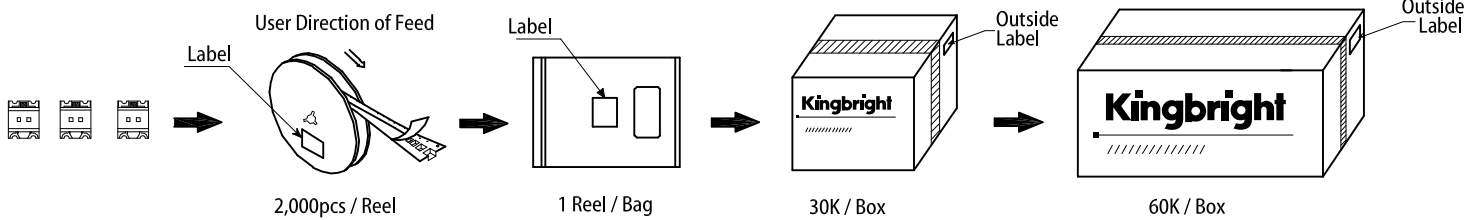
TAPE SPECIFICATIONS (units : mm)



REEL DIMENSION (units : mm)



PACKING & LABEL SPECIFICATIONS



PRECAUTIONARY 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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