Kingbright

ELECTRICAL / OPTICAL CHARACTERISTICS at T_A=25°C

Parameter	Symbol	Emitting Color	Value Typ.	Value Max.	Unit
Wavelength at Peak Emission I_F = 20mA	λ_{peak}	Super Bright Green	565	-	nm
Dominant Wavelength I_F = 20mA	λ_{dom} [1]	Super Bright Green	568	-	nm
Spectral Bandwidth at 50% Φ REL MAX I_F = 20mA	Δλ	Super Bright Green	30	-	nm
Capacitance	C	Super Bright Green	15	-	pF
Forward Voltage I_F = 20mA	V_F [2]	Super Bright Green	2.2	2.5	V
Reverse Current (V_R = 5V)	I_R	Super Bright Green	-	10	µA
Temperature Coefficient of λ_{peak} I_F = 20mA, -10°C $\leq$ T $\leq$ 85°C	$TC_{\lambda peak}$	Super Bright Green	0.12	-	nm/°C
Temperature Coefficient of λ_{dom} I_F = 20mA, -10°C $\leq$ T $\leq$ 85°C	$TC_{\lambda dom}$	Super Bright Green	0.08	-	nm/°C
Temperature Coefficient of V_F I_F = 20mA, -10°C $\leq$ T $\leq$ 85°C	TC_V	Super Bright Green	-2	-	mV/°C

Notes:
1. The dominant wavelength (λd) above is the setup value of the sorting machine. (Tolerance λd : ±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.
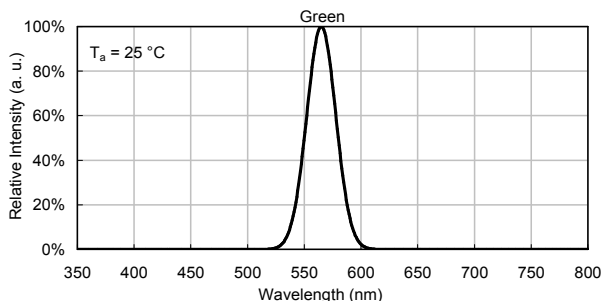
ABSOLUTE MAXIMUM RATINGS at T_A=25°C

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	62.5	mW
Reverse Voltage	V_R	5	V
Junction Temperature	T_j	110	°C
Operating Temperature	T_{op}	-40 to +85	°C
Storage Temperature	T_{stg}	-40 to +85	°C
DC Forward Current	I_F	25	mA
Peak Forward Current	I_{FM} [1]	140	mA
Electrostatic Discharge Threshold (HBM)	–	8000	V
Thermal Resistance (Junction / Ambient)	$R_{th\ JA}$ [2]	500	°C/W
Thermal Resistance (Junction / Solder point)	$R_{th\ JS}$ [2]	310	°C/W

Notes:
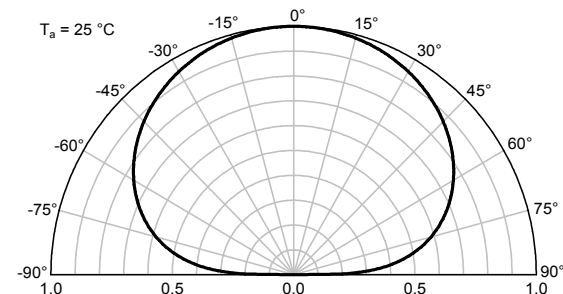*1. 1/10 Duty Cycle, 0.1ms Pulse Width.*
2. $R_{th\ JA}$,$R_{th\ JS}$ Results from mounting on PC board FR4 (pad size ≥ 16 mm² per pad).
3. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.
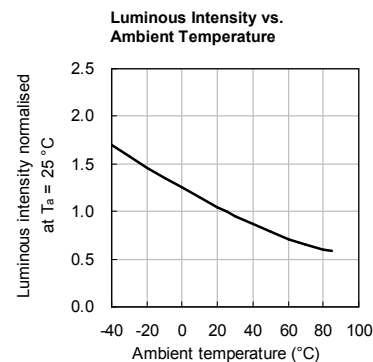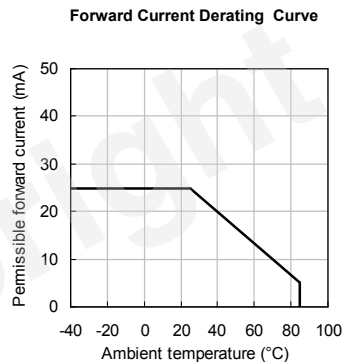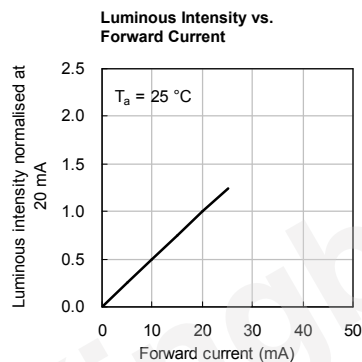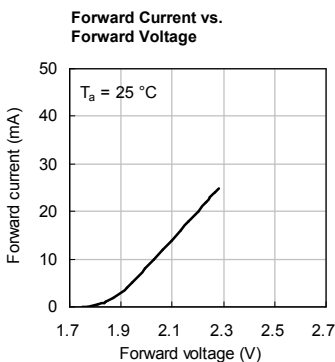
TECHNICAL DATA

RELATIVE INTENSITY vs. WAVELENGTH

SPATIAL DISTRIBUTION

SUPER BRIGHT GREEN

Forward Current vs. Forward Voltage

Luminous Intensity vs. Forward Current

Forward Current Derating Curve

Luminous Intensity vs. Ambient Temperature

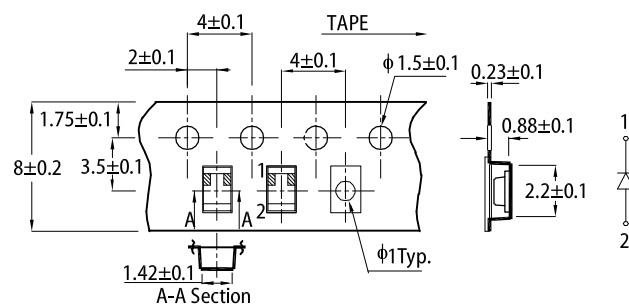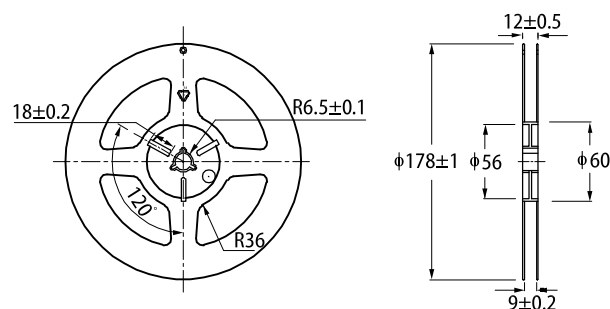### REFLOW SOLDERING PROFILE for LEAD-FREE SMD PROCESS
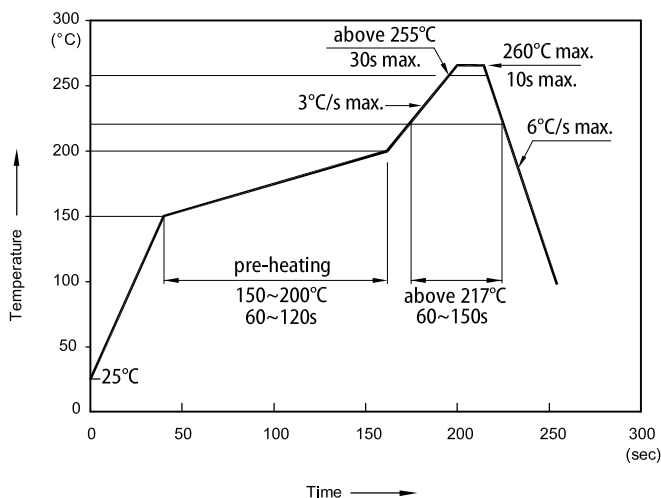
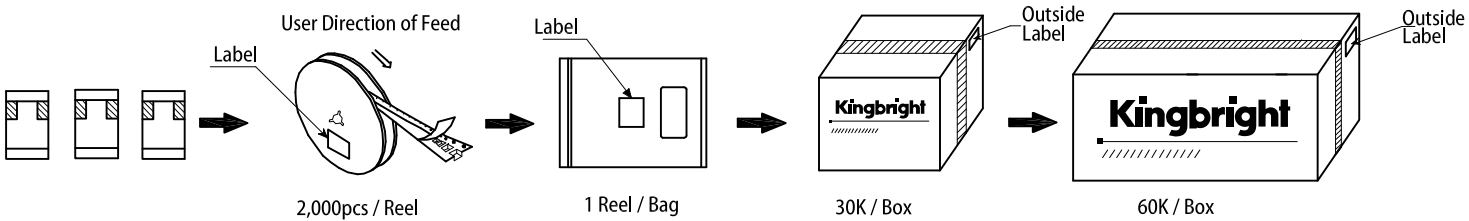### TAPE SPECIFICATIONS (units : mm)

REEL DIMENSION (units : mm)

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.

PACKING & LABEL SPECIFICATIONS

User Direction of Feed

Label

Label

Outside Label

Outside Label

2,000pcs / Reel

1 Reel / Bag

30K / Box

60K / Box

Kingbright

XXXXXXXXXX-XXXX

P/NO: XXXXXXXX

QTY: XXXXXpcs

S/N: XXXX

CODE: XX

COUNTRY: CN   QC DATE: XXX XX XXXX   PASSED

LOT NO:

XXXXXXXXXX-XXXX

(SP)XXXXXXXXXX

RoHS Compliant

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.
4. The information in this document applies to typical usage in consumer electronics applications. If customer's application has special reliability requirements or have life-threatening liabilities, such as automotive or medical usage, please consult with Kingbright representative for further assistance.
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