



**ELECTRICAL / OPTICAL CHARACTERISTICS at T<sub>A</sub>=25°C**

Parameter	Symbol	Emitting Color	Value		Unit
			Typ.	Max.	
Wavelength at Peak Emission I <sub>F</sub> = 20mA	λ <sub>peak</sub>	Blue Hyper Red Green	465 640 520	-	nm
Dominant Wavelength I <sub>F</sub> = 20mA	λ <sub>dom</sub> <sup>[1]</sup>	Blue Hyper Red Green	470 625 525	-	nm
Spectral Bandwidth at 50% Φ REL MAX I <sub>F</sub> = 20mA	Δλ	Blue Hyper Red Green	22 25 35	-	nm
Capacitance	C	Blue Hyper Red Green	100 27 100	-	pF
Forward Voltage I <sub>F</sub> = 20mA	V <sub>F</sub> <sup>[2]</sup>	Blue Hyper Red Green	3.3 2.2 3.2	4.0 2.8 4.0	V
Reverse Current (V <sub>R</sub> = 5V)	I <sub>R</sub>	Blue Hyper Red Green	-	50 10 50	μA

**Notes:**

1. The dominant wavelength (λ<sub>d</sub>) above is the setup value of the sorting machine. (Tolerance λ<sub>d</sub>: ±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<sub>A</sub>=25°C**

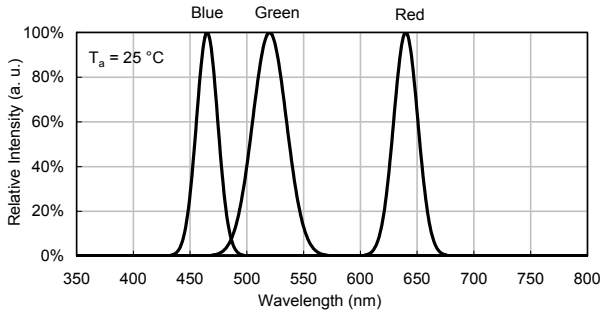
Parameter	Symbol	Value			Unit
		Blue	Hyper Red	Green	
Power Dissipation	P <sub>D</sub>	120	84	120	mW
Reverse Voltage	V <sub>R</sub>	5	5	5	V
Junction Temperature	T <sub>j</sub>	115	115	115	°C
Operating Temperature	T <sub>op</sub>	-40 to +85			°C
Storage Temperature	T <sub>stg</sub>	-40 to +85			°C
DC Forward Current	I <sub>F</sub>	30	30	30	mA
Peak Forward Current	I <sub>FM</sub> <sup>[1]</sup>	100	150	100	mA
Electrostatic Discharge Threshold (HBM)	-	250	3000	450	V

**Notes:**

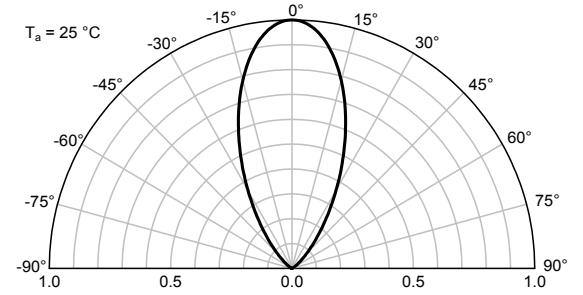
1. 1/10Duty Cycle, 0.1ms Pulse Width.
2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

### TECHNICAL DATA

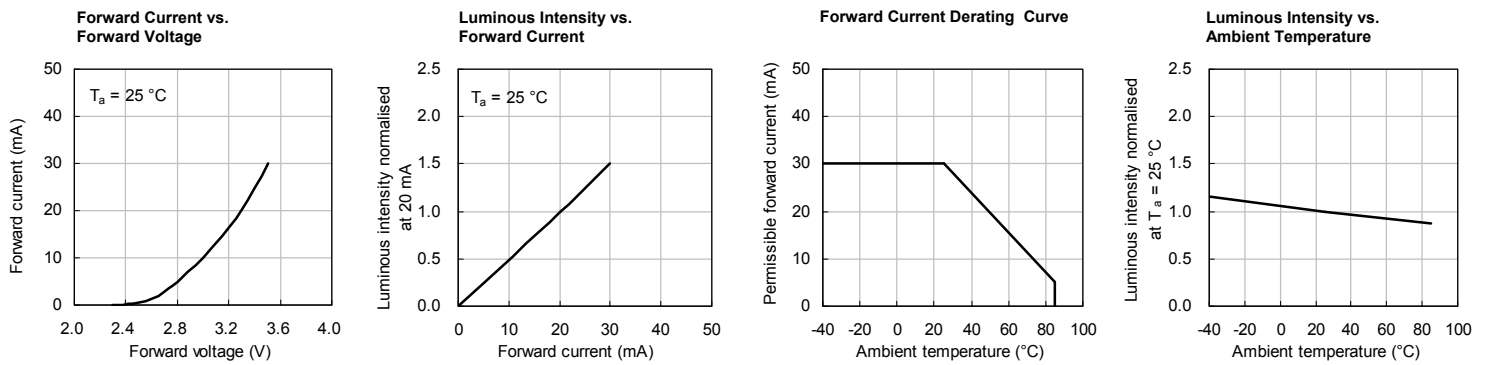
#### RELATIVE INTENSITY vs. WAVELENGTH



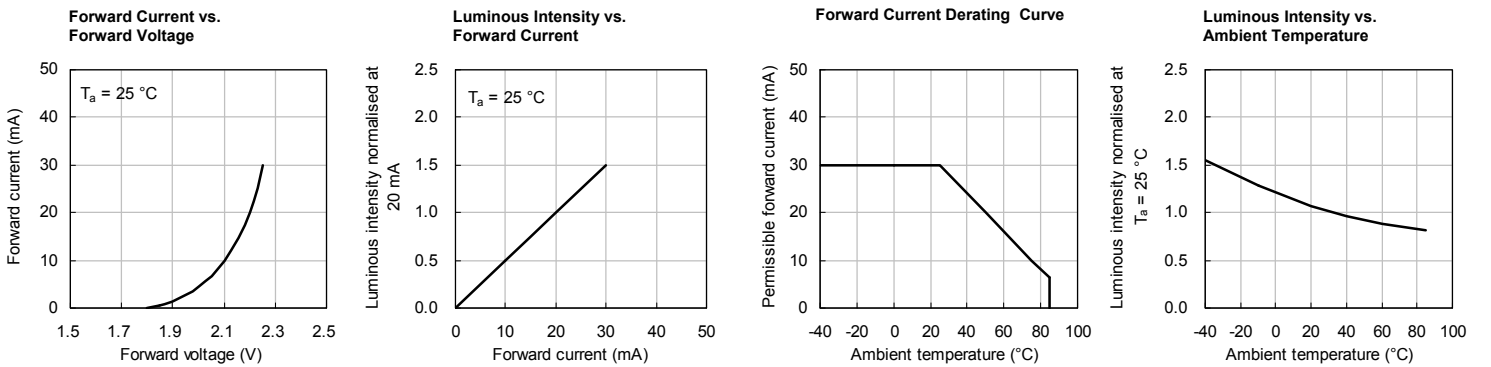
#### SPATIAL DISTRIBUTION



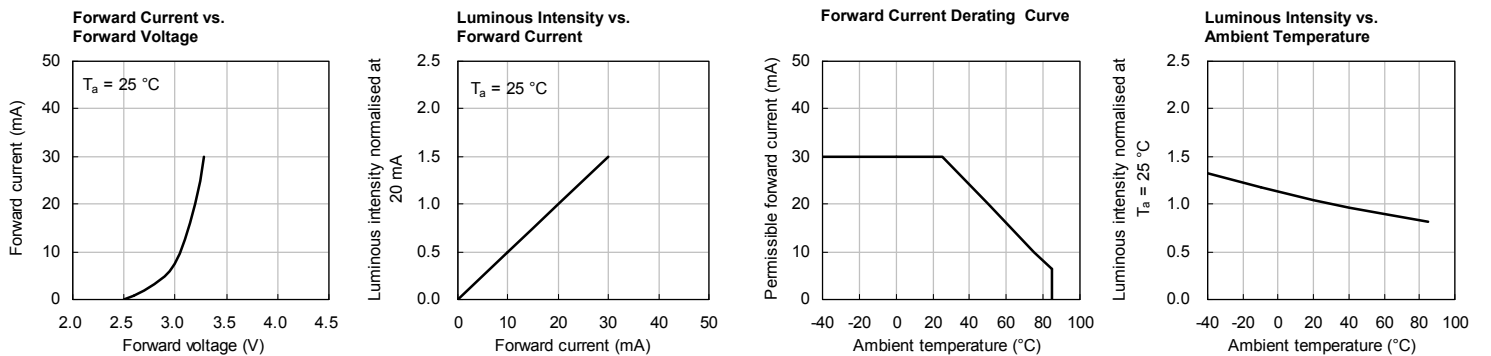
### BLUE



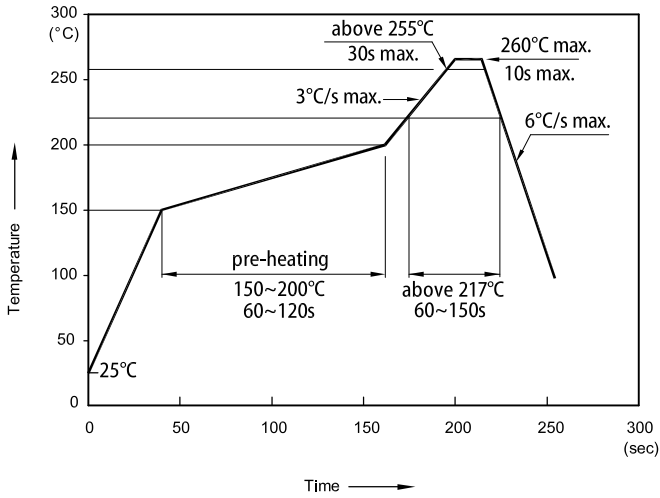
### HYPER RED



### GREEN

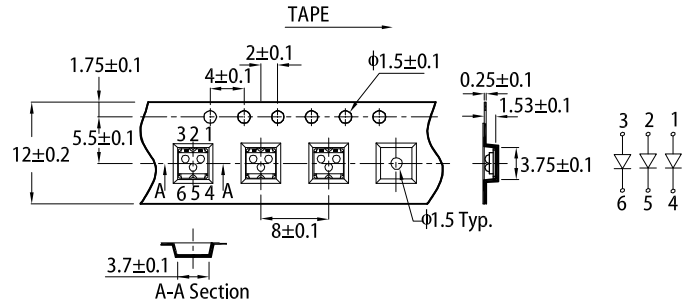


### REFLOW SOLDERING PROFILE for LEAD-FREE SMD PROCESS

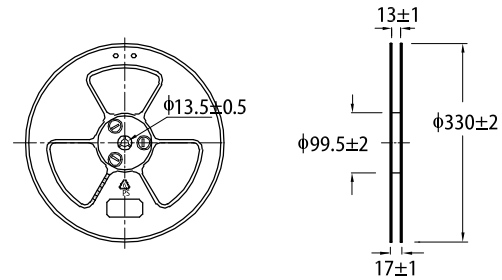


- Notes:
1. Don't cause stress to the LEDs while it is exposed to high temperature.
  2. The maximum number of reflow soldering passes is 2 times.
  3. Reflow soldering is recommended. Other soldering methods are not recommended as they might cause damage to the product.

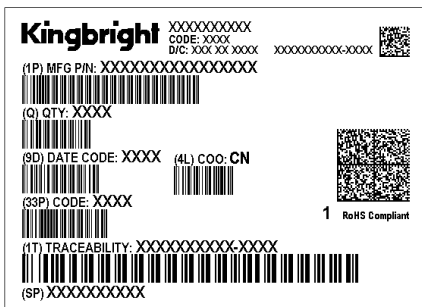
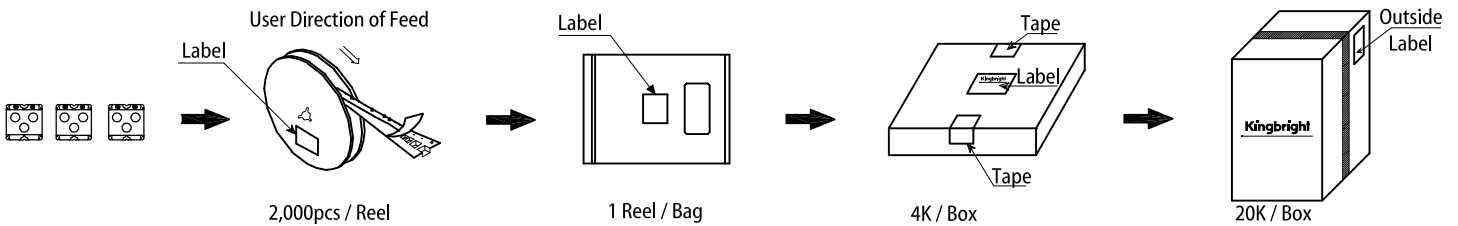
### TAPE SPECIFICATIONS (units : mm)



### 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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