ELECTRICAL / OPTICAL CHARACTERISTICS at T_A=25°C

Parameter	Symbol	Emitting Color	Value		Unit
			Typ.	Max.	
Wavelength at Peak Emission I_F = 20mA	λ_{peak}	Infrared	940	-	nm
Spectral Bandwidth at 50% Φ REL MAX I_F = 20mA	Δλ	Infrared	50	-	nm
Capacitance	C	Infrared	90	-	pF
Forward Voltage I_F = 20mA	V_F [1]	Infrared	1.2	1.6	V
Reverse Current (V_R = 5V)	I_R	Infrared	-	10	μA
Temperature Coefficient of Wavelength I_F = 20mA, -10°C ≤ T ≤ 85°C	TC_λ	Infrared	0.3	-	nm/°C
Temperature Coefficient of V_F I_F = 20mA, -10°C ≤ T ≤ 85°C	TC_V	Infrared	-1.2	-	mV/°C

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

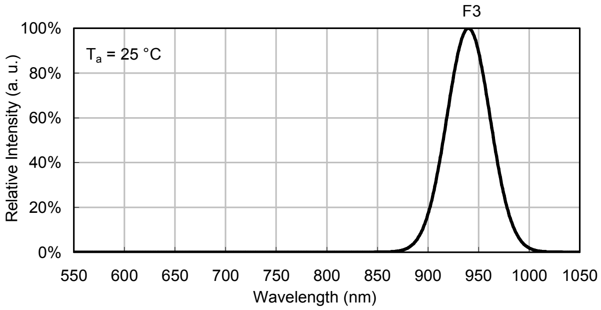
ABSOLUTE MAXIMUM RATINGS at T_A=25°C

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	90	mW
Reverse Voltage	V_R	5	V
Junction Temperature	T_j	115	°C
Operating Temperature	T_{op}	-40 to +85	°C
Storage Temperature	T_{stg}	-40 to +85	°C
DC Forward Current	I_F	50	mA
Peak Forward Current	I_{FM} [1]	1.2	A
Electrostatic Discharge Threshold (HBM)	-	8000	V
Thermal Resistance (Junction / Ambient)	$R_{th\ JA}$ [2]	470	°C/W
Thermal Resistance (Junction / Solder point)	$R_{th\ JS}$ [2]	330	°C/W

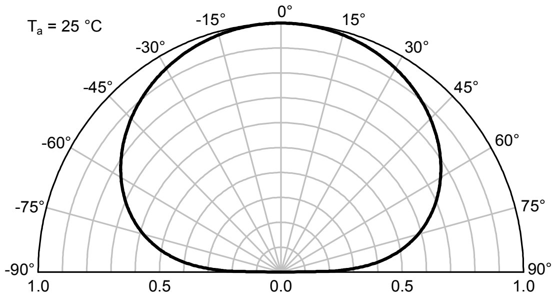
Notes:
1. 1/100 Duty Cycle, 10μs Pulse Width.
2. $R_{th\ JA}$,$R_{th\ JS}$ Results from mounting on PC board FR4 (pad size ≥ 16 mm^2 per pad).
3. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

TECHNICAL DATA

RELATIVE INTENSITY vs. WAVELENGTH

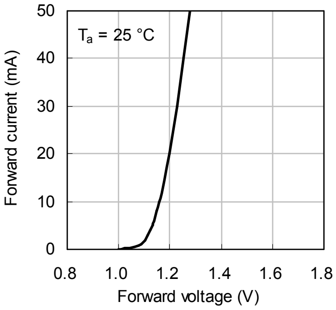


SPATIAL DISTRIBUTION

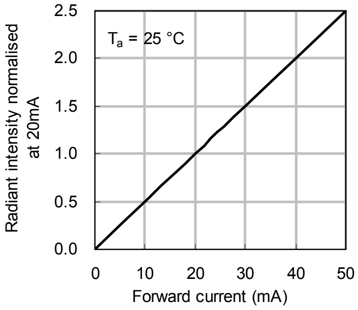


INFRARED

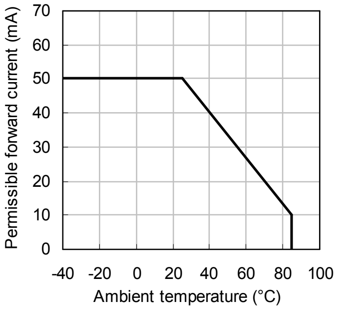
**Forward Current vs.
Forward Voltage**



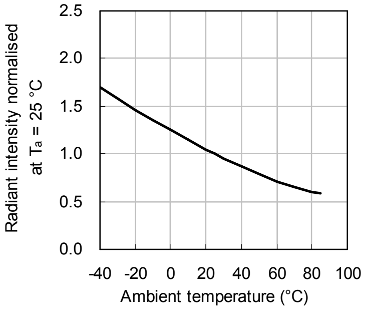
**Radiant Intensity vs.
Forward Current**



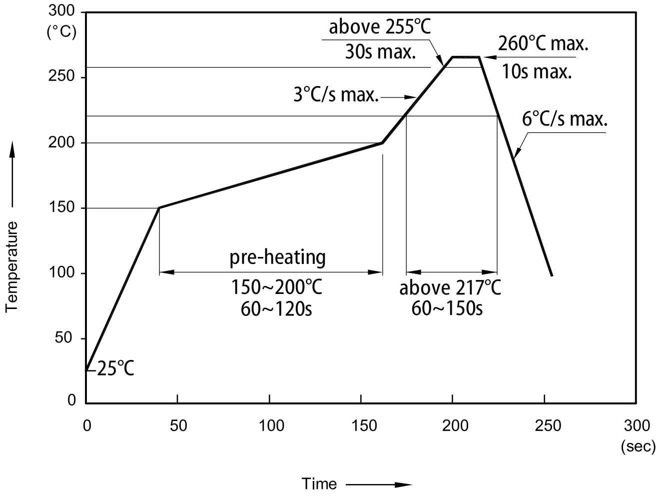
Forward Current Derating Curve



**Radiant Intensity vs.
Ambient Temperature**



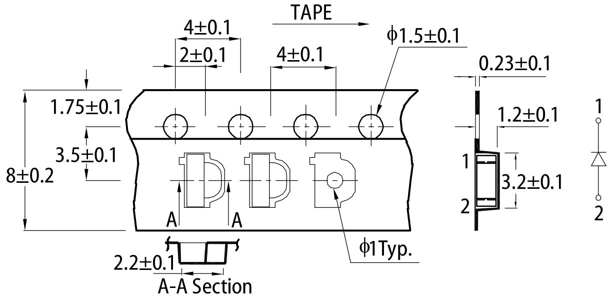
REFLOW SOLDERING PROFILE for LEAD-FREE SMD PROCESS



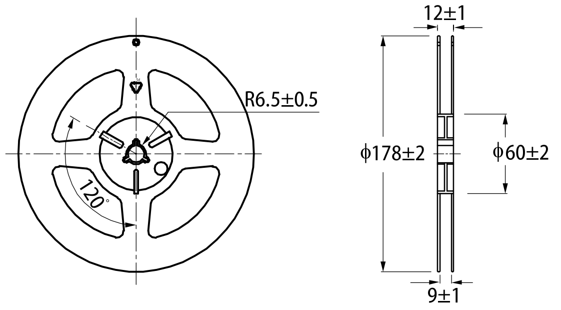
Notes:

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.

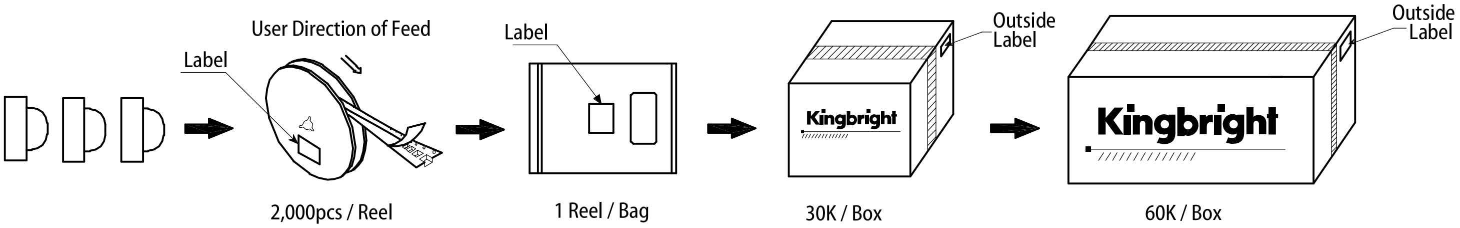
TAPE SPECIFICATIONS (units : mm)

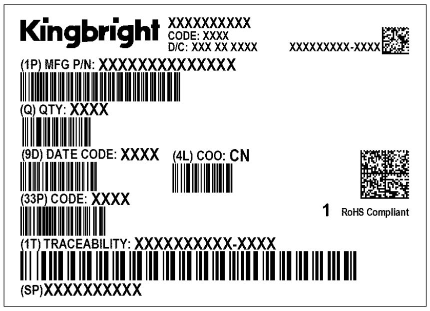


REEL DIMENSION (units : mm)



PACKING & LABEL SPECIFICATIONS




Kingbright XXXXXXXXXX
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D/C: XXX XX XXXX
XXXXXXXXX-XXXX
(1P) MFG P/N: XXXXXXXXXXXXXX
(Q) QTY: XXXX
(9D) DATE CODE: XXXX (4L) COO: CN
(33P) CODE: XXXX
1 RoHS Compliant
(1T) TRACEABILITY: XXXXXXXXXX-XXXX
(SP)XXXXXXXXXX

PRECAUTIONARY NOTES

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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.
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