Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
KP-23ESGC	High Efficiency Red (GaAsP/GaP)	Water Clear	8	12	120°
			*3	*6	
	Super Bright Green (GaP)		5	12	
			*5	*12	

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 the CIE127-2007 compliant national standards.

Electrical / Optical Characteristics at TA=25°C

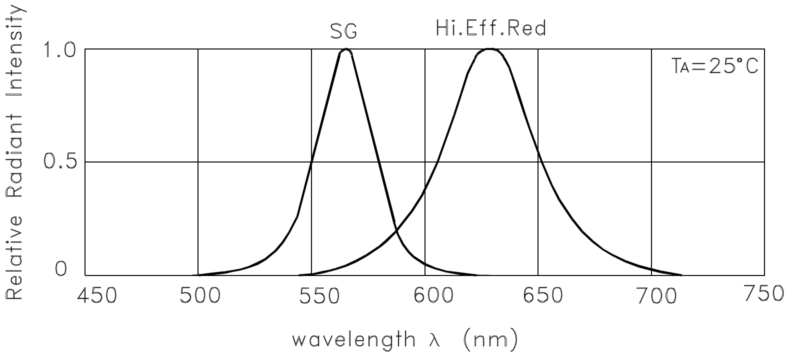
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	High Efficiency Red Super Bright Green	627 565		nm	I_F=20mA
λD [1]	Dominant Wavelength	High Efficiency Red Super Bright Green	617 568		nm	I_F=20mA
Δλ1/2	Spectral Line Half-width	High Efficiency Red Super Bright Green	45 30		nm	I_F=20mA
C	Capacitance	High Efficiency Red Super Bright Green	15 15		pF	V_F=0V;f=1MHz
V_F [2]	Forward Voltage	High Efficiency Red Super Bright Green	2 2.2	2.5 2.5	V	I_F=20mA
I_R	Reverse Current	High Efficiency Red Super Bright Green		10 10	uA	V_R = 5V

Notes:
1.Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
3.Wavelength value is traceable to the CIE127-2007 compliant national standards.

Absolute Maximum Ratings at TA=25°C

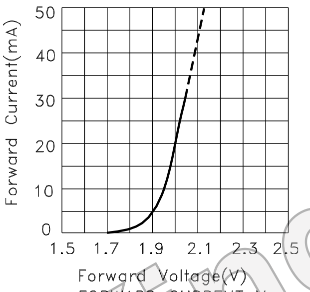
Parameter	High Efficiency Red	Super Bright Green	Units
Power dissipation	75	62.5	mW
DC Forward Current	30	25	mA
Peak Forward Current [1]	160	140	mA
Reverse Voltage	5		V
Operating Temperature	-40°C To +85°C		
Storage Temperature	-40°C To +85°C		

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

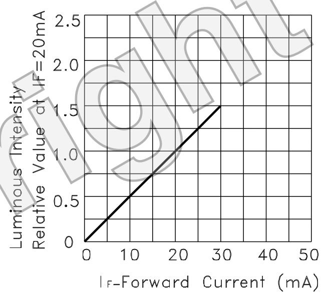


RELATIVE INTENSITY Vs. WAVELENGTH

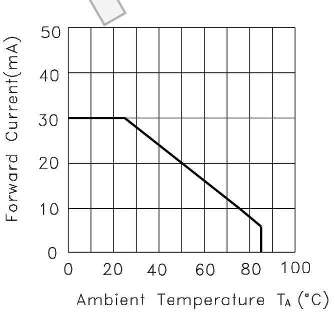
KP-23ESGC
High Efficiency Red



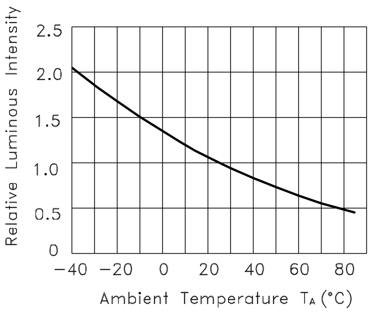
FORWARD CURRENT Vs.
FORWARD VOLTAGE



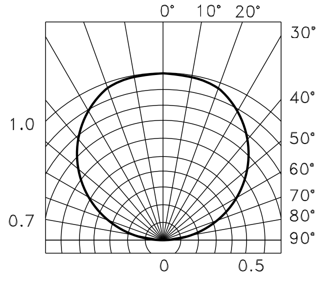
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE

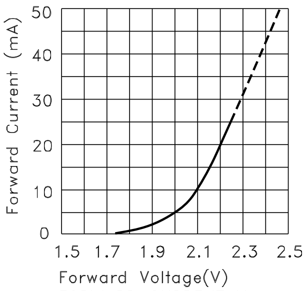


LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

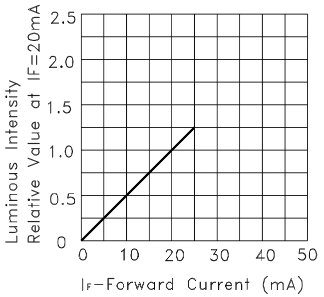


SPATIAL DISTRIBUTION

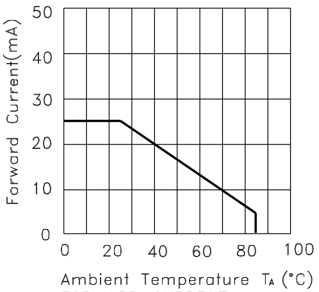
Super Bright Green



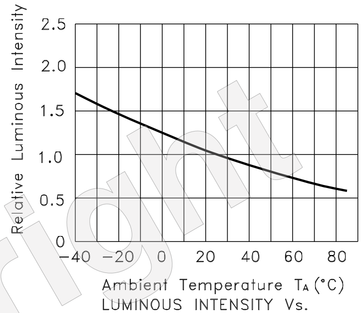
FORWARD CURRENT Vs.
FORWARD VOLTAGE



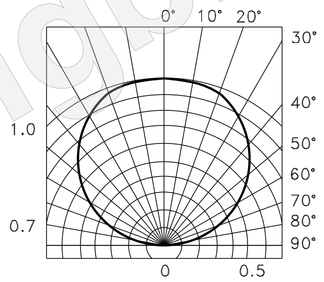
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE



LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

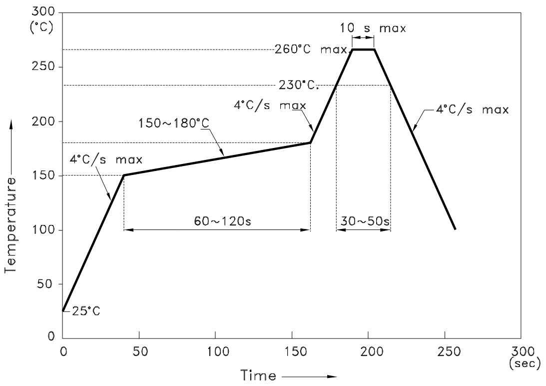


SPATIAL DISTRIBUTION

KP-23ESGC

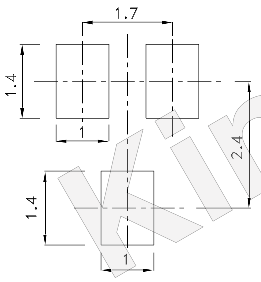
Reflow soldering is recommended and the soldering profile is shown below.
Other soldering methods are not recommended as they might cause damage to the product.

Reflow Soldering Profile For Lead-free SMT Process.

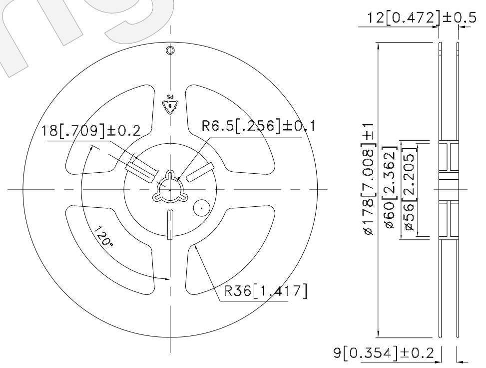


NOTES:
1.We recommend the reflow temperature 245°C(+/−5°C).The maximum soldering temperature should be limited to 260°C.
2.Don't cause stress to the epoxy resin while it is exposed to high temperature.
3.Number of reflow process shall be 2 times or less.

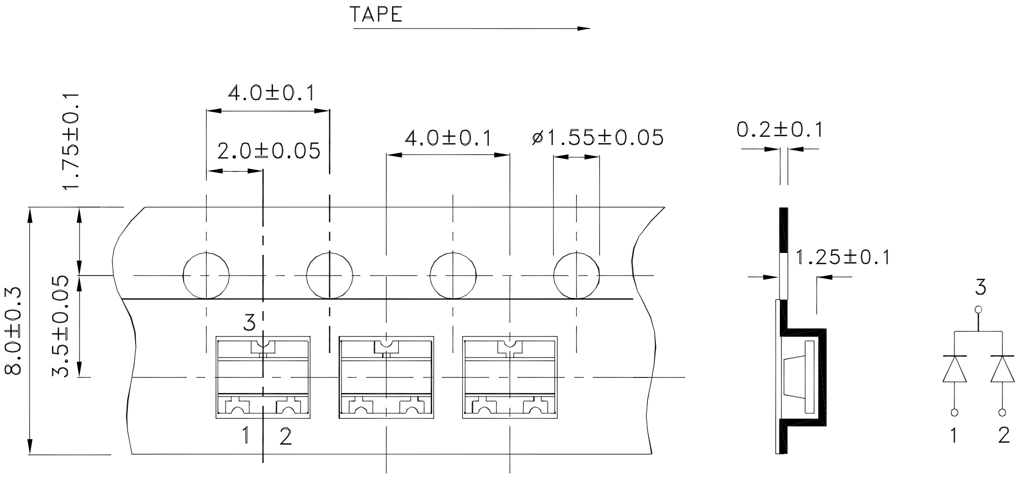
Recommended Soldering Pattern
(Units : mm; Tolerance: ± 0.1)



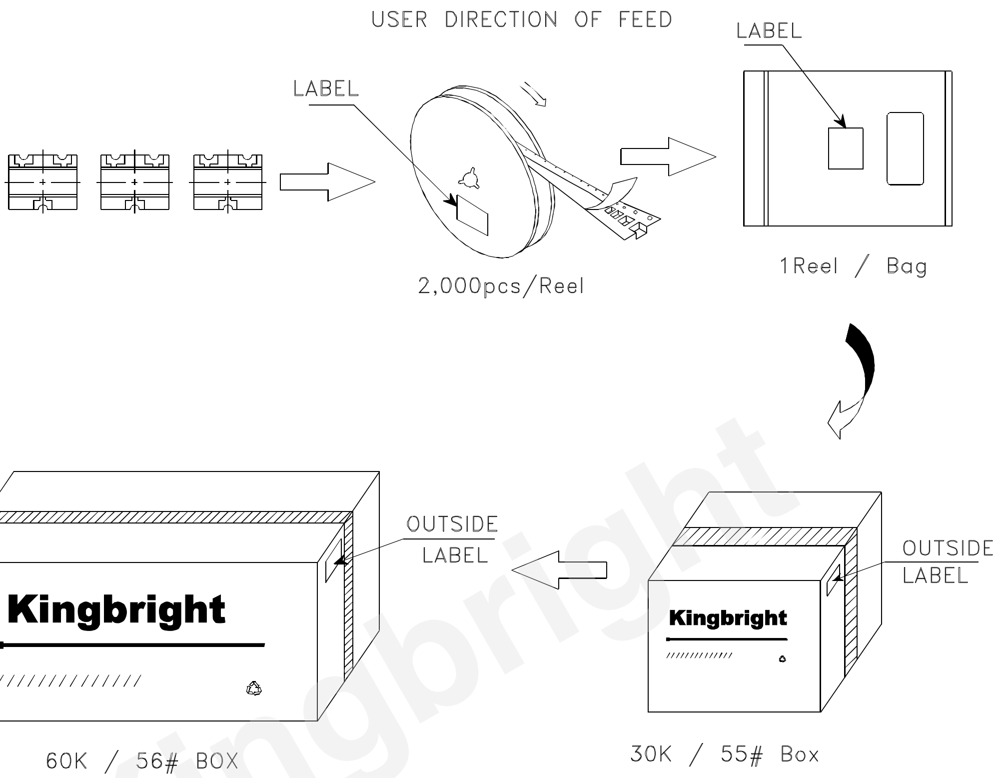
Reel Dimension

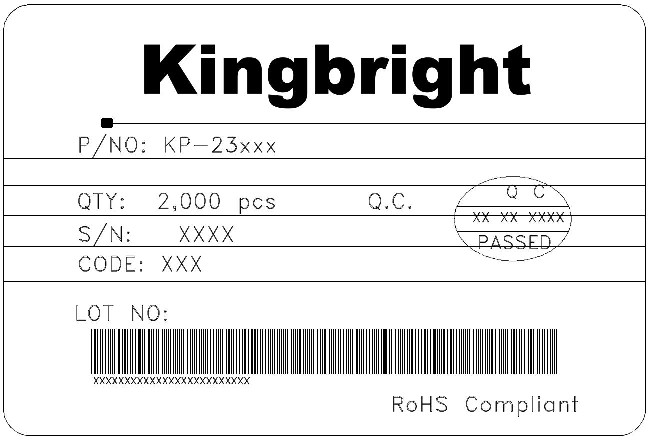


Tape Dimensions
(Units : mm)



PACKING & LABEL SPECIFICATIONS **KP-23ESGC**





Kingbright

P/NO: KP-23xxx

QTY: 2,000 pcs Q.C.

S/N: XXXX

CODE: XXX

Q C
XX XX XXXX
PASSED

LOT NO:

XXXXXXXXXXXXXXXXXXXXXXXXX

RoHS Compliant

Detailed application notes are listed on our website.
http://www.kingbright.com/application_notes