

Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
WP819SURKMGKW	Hyper Red (InGaAlP)	WHITE DIFFUSED	380	750	50°
	Mega Green (InGaAlP)		50	130	

Notes:

1. $\theta_{1/2}$ is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
2. Luminous intensity/ luminous Flux: +/-15%.

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ_{peak}	Peak Wavelength	Hyper Red Mega Green	650 574		nm	I _F =20mA
λ_D [1]	Dominant Wavelength	Hyper Red Mega Green	635 570		nm	I _F =20mA
$\Delta\lambda_{1/2}$	Spectral Line Half-width	Hyper Red Mega Green	28 20		nm	I _F =20mA
C	Capacitance	Hyper Red Mega Green	35 15		pF	V _F =0V;f=1MHz
V _F [2]	Forward Voltage	Hyper Red Mega Green	1.95 2.1	2.5 2.5	V	I _F =20mA
I _R	Reverse Current	Hyper Red Mega Green		10 10	uA	V _R = 5V

Notes:

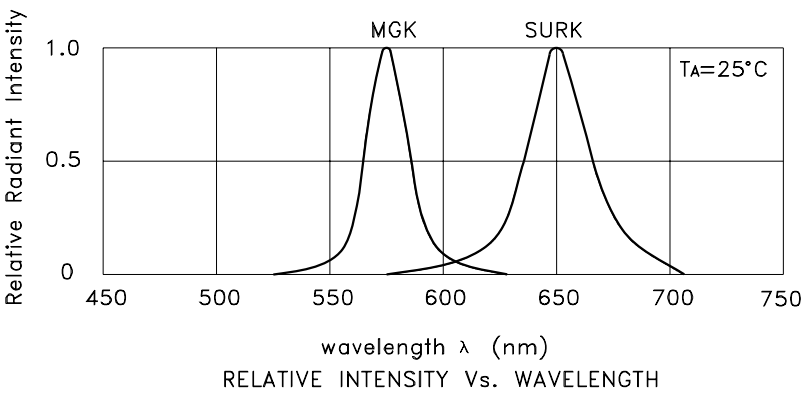
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

Absolute Maximum Ratings at TA=25°C

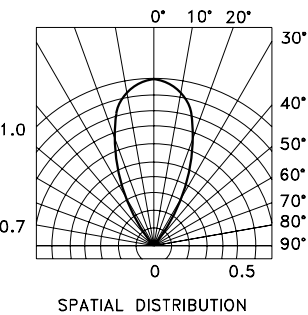
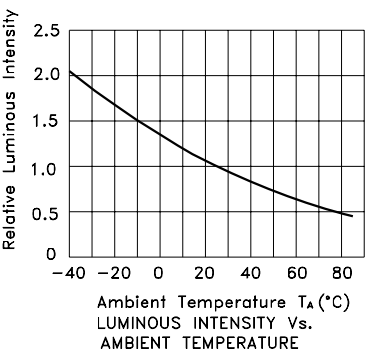
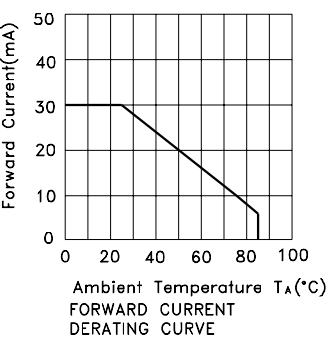
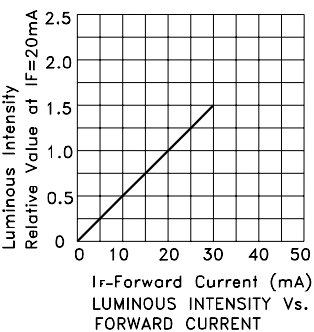
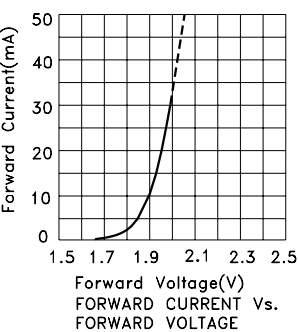
Parameter	Hyper Red	Mega Green	Units
Power dissipation	75	75	mW
DC Forward Current	30	30	mA
Peak Forward Current [1]	185	150	mA
Reverse Voltage	5		V
Operating / Storage Temperature	-40°C To +85°C		
Lead Solder Temperature [2]	260°C For 3 Seconds		
Lead Solder Temperature [3]	260°C For 5 Seconds		

Notes:

1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 2mm below package base.
3. 5mm below package base.

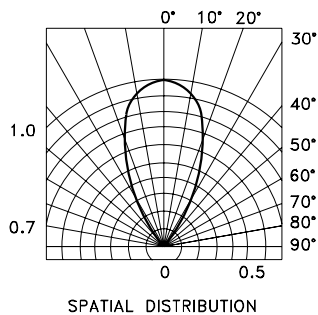
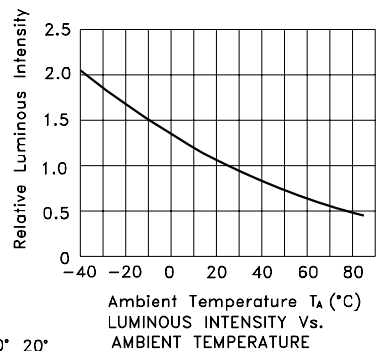
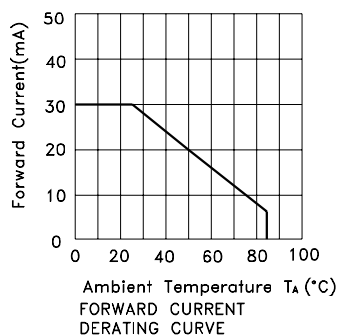
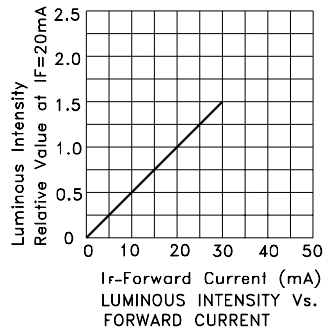
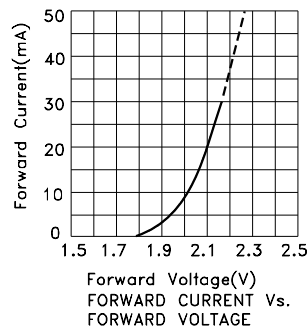


WP819SURKMGKW
Hyper Red



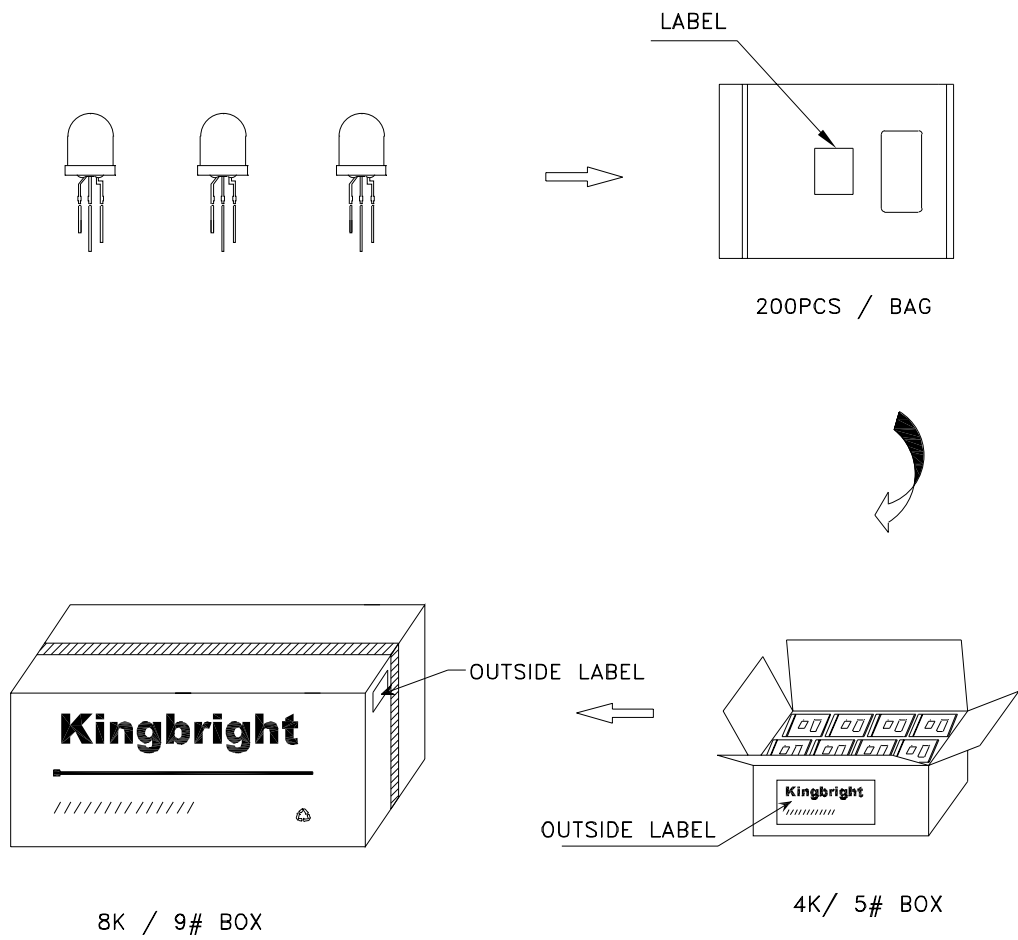
Kingbright

Mega Green



PACKING & LABEL SPECIFICATIONS

WP819SURKMGKW



Kingbright	
Q.C.	
TYPE NO : WP819XXX	
QUANTITY : 200 pcs	
S/N : XXX	CODE: XX
LOT NO: 	
RoHS Compliant	

LED MOUNTING METHOD

1. The lead pitch of the LED must match the pitch of the mounting holes on the PCB during component placement. Lead-forming may be required to insure the lead pitch matches the hole pitch. Refer to the figure below for proper lead forming procedures.

(Fig. 1)

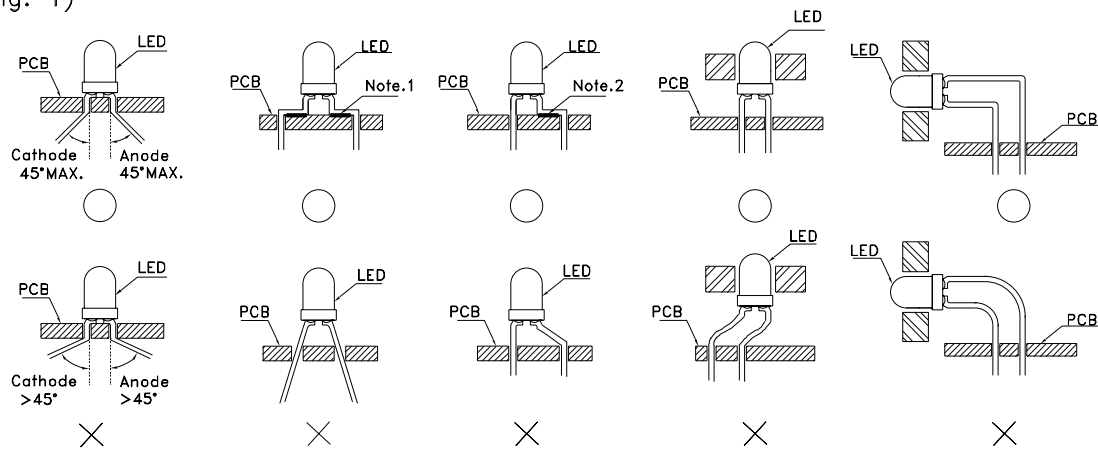


Fig.1

“○” Correct mounting method “×” Incorrect mounting method
 Note 1-2 : Do not route PCB trace in the contact area between the leadframe and the PCB to prevent short-circuits.

2. When soldering wire to the LED, use individual heat-shrink tubing to insulate the exposed leads to prevent accidental contact short-circuit.

(Fig. 2)

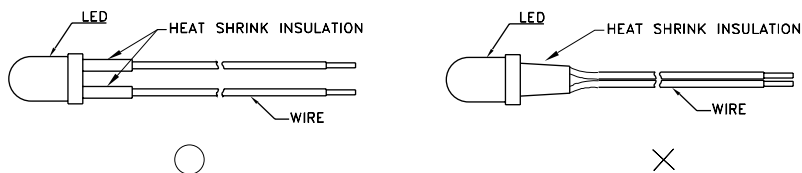


Fig. 2

3. Use stand-offs (Fig. 3) or spacers (Fig. 4) to securely position the LED above the PCB.

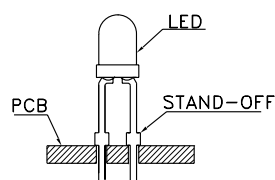


Fig. 3

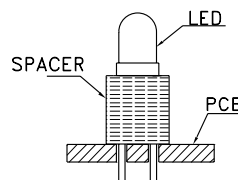


Fig. 4

LEAD FORMING PROCEDURES

1. Maintain a minimum of 2mm clearance between the base of the LED lens and the first lead bend. (Fig. 5 and 6)

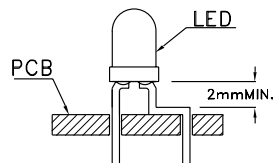


Fig. 5

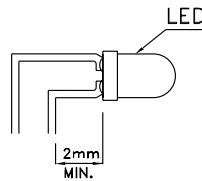


Fig. 6

2. Lead forming or bending must be performed before soldering, never during or after Soldering.
3. Do not stress the LED lens during lead-forming in order to fractures in the lens epoxy and damage the internal structures.
4. During lead forming, use tools or jigs to hold the leads securely so that the bending force will not be transmitted to the LED lens and its internal structures. Do not perform lead forming once the component has been mounted onto the PCB. (Fig. 7)
5. Do not bend the leads more than twice. (Fig. 8)

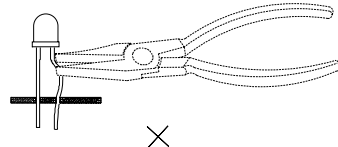


Fig. 7

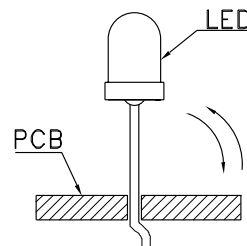


Fig. 8

6. After soldering or other high-temperature assembly, allow the LED to cool down to 50°C before applying outside force (Fig. 9). In general, avoid placing excess force on the LED to avoid damage. For any questions please consult with Kingbright representative for proper handling procedures.

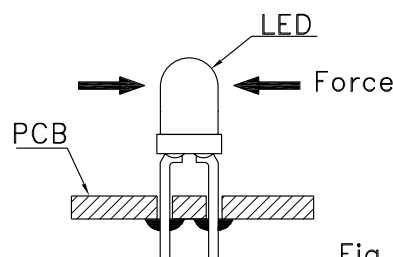


Fig. 9