Kingbright®

3.0x1.5mm SMD CHIP LED LAMPS

KPL-3015

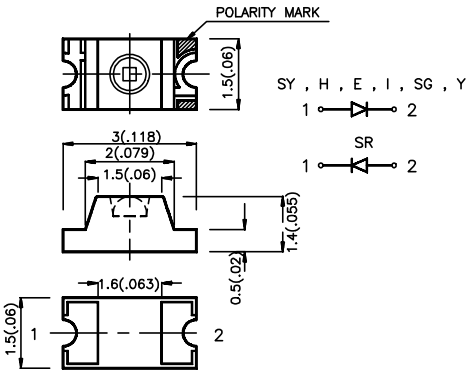
Features

- 3.0mmx1.5mm SMT LED. 1.1mm THICKNESS.
- LOW POWER CONSUMPTION.
- WIDE VIEWING ANGLE.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- VARIOUS COLORS AND LENS TYPES AVAILABLE.
- INNER LENS TYPE

Description

The Bright Red source color devices are made with Gallium Phosphide Red Light Emitting Diode.
The Super Bright Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.
The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.
The Yellow source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Yellow Light Emitting Diode.
The Super Bright Red source color devices are made with Gallium Aluminum Arsenide Red Light Emitting Diodes.
The Super Bright Yellow source color devices are made with DH InGaAlP on GaAs substrate Light Emitting Diode.

Package Dimensions



Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.1(0.004") unless otherwise noted.
3. Lead spacing is measured where the lead emerge package.
4. Specifications are subjected to change without notice.

Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) @ 20 mA		Viewing Angle
			Min.	Typ.	**2q1/2**
KPL-3015HD	BRIGHT RED (GaP)	RED DIFFUSED	0.8	2	90°
KPL-3015HC	BRIGHT RED (GaP)	WATER CLEAR	0.8	2	90°
KPL-3015HT	BRIGHT RED (GaP)	RED TRAS.	0.8	2	90°
KPL-3015ID	HIGH EFFICIENCY RED (GaAsP/GaP)	RED DIFFUSED	5	16	90°
KPL-3015EC	HIGH EFFICIENCY RED (GaAsP/GaP)	WATER CLEAR	5	16	90°
KPL-3015IT	HIGH EFFICIENCY RED (GaAsP/GaP)	RED TRANS.	5	16	90°
KPL-3015YD	YELLOW (GaAsP/GaP)	YELLOW DIFFUSED	5	16	90°
KPL-3015YC	YELLOW (GaAsP/GaP)	WATER CLEAR	5	16	90°
KPL-3015YT	YELLOW (GaAsP/GaP)	YELLOW TRANS.	5	16	90°
KPL-3015SRD	SUPER BRIGHT RED (GaAlAs)	RED DIFFUSED	3.2	12.5	90°
KPL-3015SRC	SUPER BRIGHT RED (GaAlAs)	WATER CLEAR	3.2	12.5	90°
KPL-3015SRT	SUPER BRIGHT RED (GaAlAs)	RED TRANS.	3.2	12.5	90°
KPL-3015SGD	SUPER BRIGHT GREEN (GaP)	GREEN DIFFUSESD	40	80	90°
KPL-3015SGC	SUPER BRIGHT GREEN (GaP)	WATER CLEAR	40	80	90°
KPL-3015SGT	SUPER BRIGHT GREEN (GaP)	GREEN TRNS.	40	80	90°
KPL-3015SYD	SUPER BRIGHT YELLOW (InGaAlP)	YELLOW DIFFUSESD	40	80	90°
KPL-3015SYC	SUPER BRIGHT YELLOW (InGaAlP)	WATER CLEAR	40	80	90°
KPL-3015SYT	SUPER BRIGHT YELLOW (InGaAlP)	YELLOW TRNS.	40	80	90°

Note:
1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

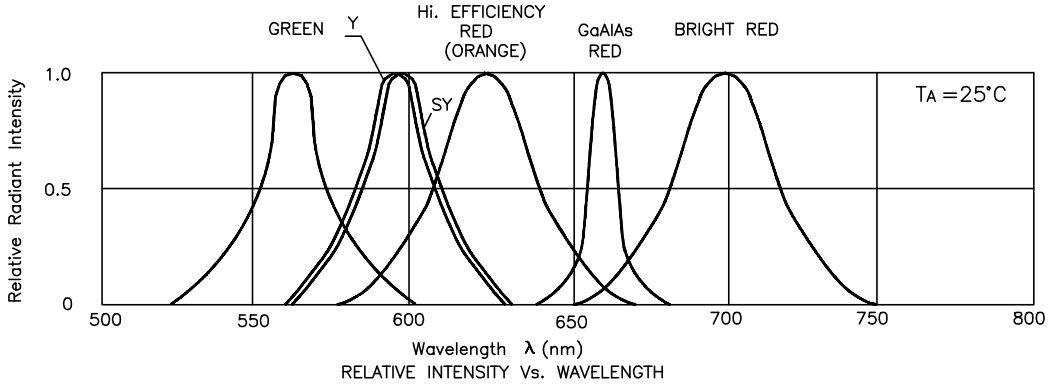
Electrical / Optical Characteristics at T_A=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Bright Red High Efficiency Red Yellow Super Bright Red Super Bright Green Super Bright Yellow	700 625 590 660 565 595		nm	IF=20mA
Δλ1/2	Spectral Line Halfwidth	Bright Red High Efficiency Red Yellow Super Bright Red Super Bright Green Super Bright Yellow	45 45 35 20 30 20		nm	IF=20mA
C	Capacitance	Bright Red High Efficiency Red Yellow Super Bright Red Super Bright Green Super Bright Yellow	40 12 10 95 45 33		pF	VF=0V;f=1MHz
V_F	Forward Voltage	Bright Red High Efficiency Red Yellow Super Bright Red Super Bright Green Super Bright Yellow	2.0 2.0 2.1 1.85 2.2 2.0	2.5 2.5 2.5 2.5 2.5 2.4	V	IF=20mA
I_R	Reverse Current	All	10		uA	VR = 5V

Absolute Maximum Ratings at T_A=25°C

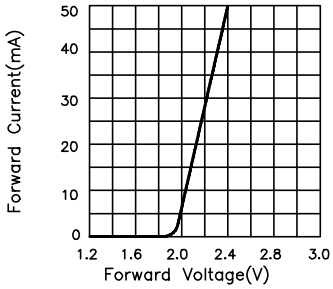
Parameter	Bright Red	High Efficiency Red	Yellow	Super Bright Red	Super Bright Green	Super Bright Yellow	Units
Power dissipation	105	105	105	100	105	125	mW
DC Forward Current	25	30	30	30	25	30	mA
Peak Forward Current [1]	150	150	150	150	150	150	mA
Reverse Voltage	5	5	5	5	5	5	V
Operating/Storage Temperature	-40 ° C To +85 ° C						

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

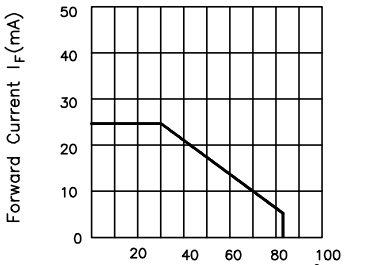


RELATIVE INTENSITY Vs. WAVELENGTH

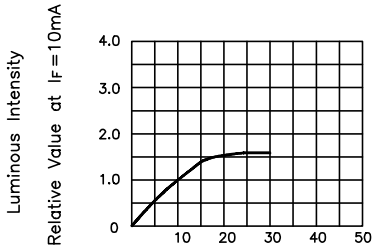
Bright Red KPL-3015HD, KLP-3015HC,KPL-3015HT



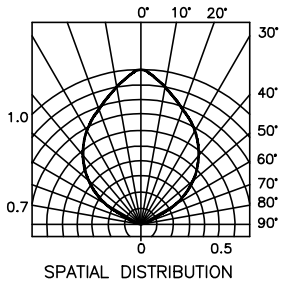
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

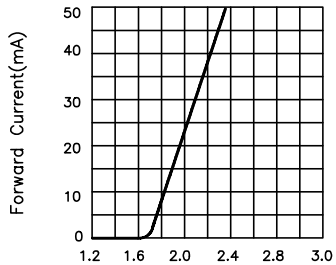


LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION

High Efficiency Red KPL-3015ID, KPL-3015EC, KPL-3015IT



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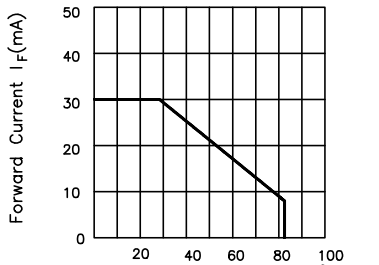

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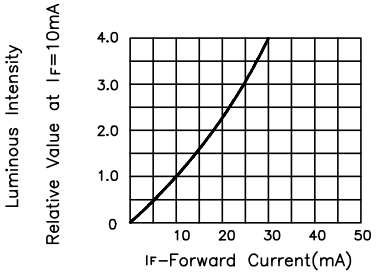
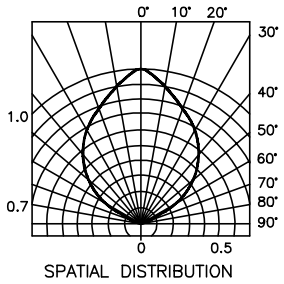
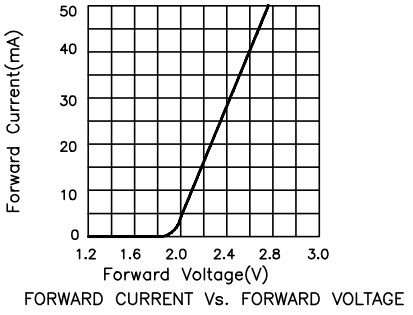


LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION

Yellow KPL-3015YD, KPL-3015YC, KPL-3015YT



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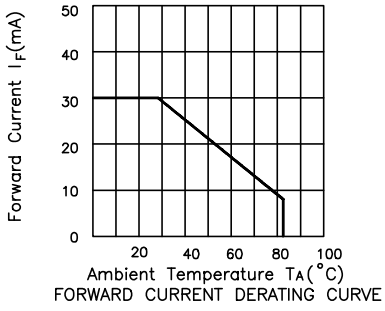

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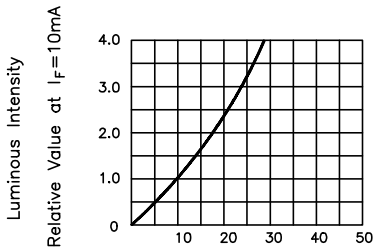

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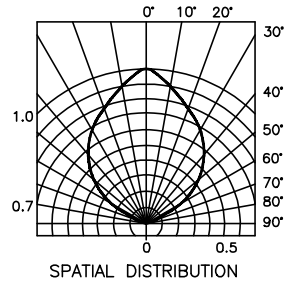
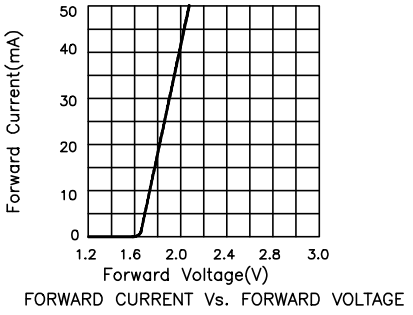


SPATIAL DISTRIBUTION

Super Bright Red KP-L3015SRD, KPL-3015SRC, KPL-3015SRT



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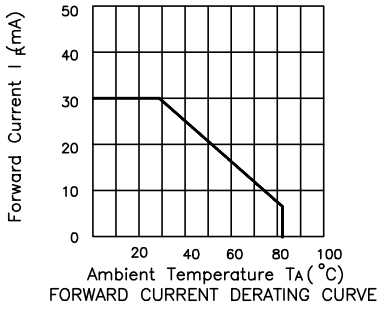

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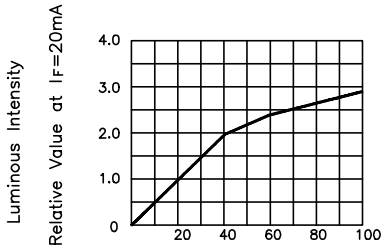

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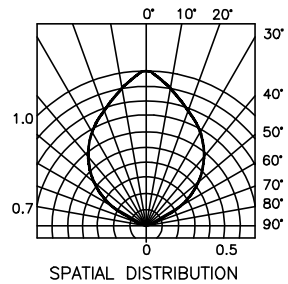
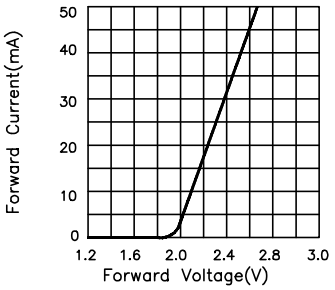


SPATIAL DISTRIBUTION

Super Bright Green KPL-3015SGD, KPL-3015SGC, KPL-3015SGT



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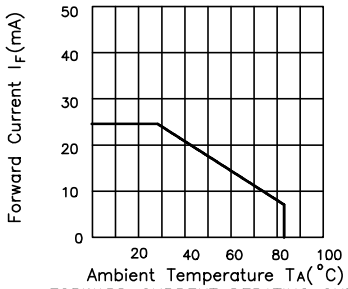

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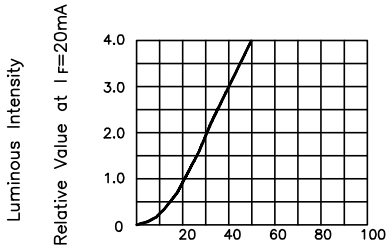

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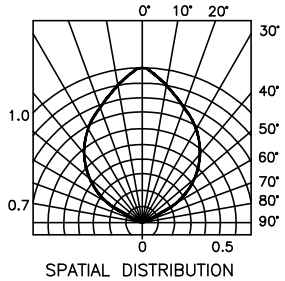
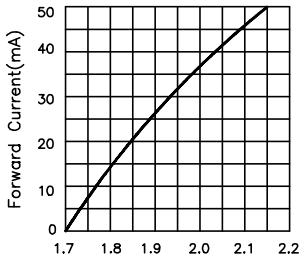


SPATIAL DISTRIBUTION

Super Bright Yellow KPL-3015SYD, KP;-3015SYC, KPL-3015SYT



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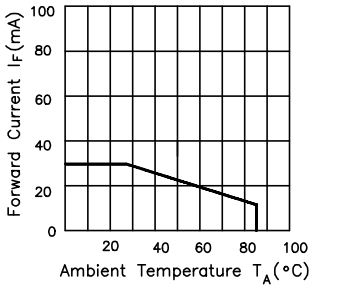

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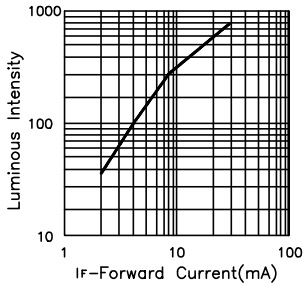

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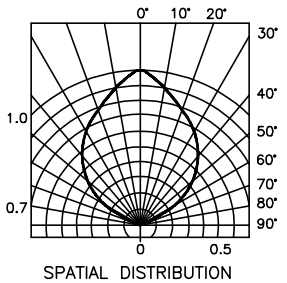
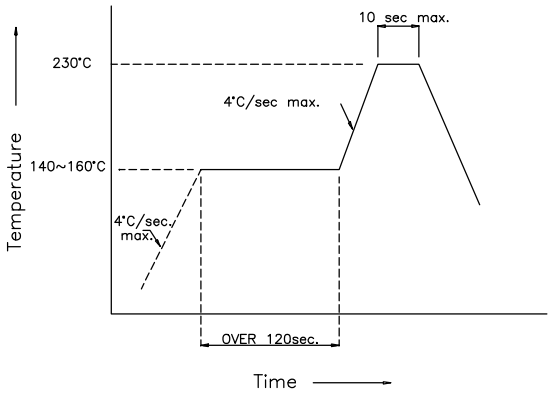


SPATIAL DISTRIBUTION

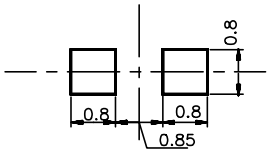
KPL-3015 Series SMT Reflow Soldering Instructions



KPL-3015 Series Recommended Soldering Pattern

FOR REFLOW SOLDERING

(Units : mm)



KPL-3015 Series Tape Specifications

