Kingbright®

1.6x0.8mm SMD CHIP LED LAMPS

KP-1608 SERIES

Features

- ●1.6mmx0.8mm SMT LED. 1.1mm THICKNESS.
- ●LOW POWER CONSUMPTION.
- ●WIDE VIEWING ANGLE.
- ●IDEAL FOR BACKLIGHT AND INDICATOR.
- ●VARIOUS COLORS AND LENS TYPES AVAILABLE.

Description

The Bright Red source color devices are made with Gallium Phosphide Red Light Emitting Diode.

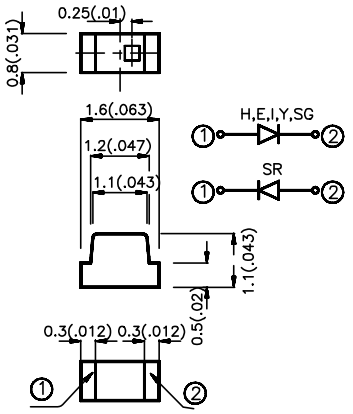
The Super Bright Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

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.

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
KP-1608HD	BRIGHT RED (GaP)	RED DIFFUSED	0.8	1.25	120°
KP-1608HC	BRIGHT RED (GaP)	WATER CLEAR	0.8	1.25	120°
KP-1608HT	BRIGHT RED (GaP)	RED TRAS.	0.8	1.25	120°
KP-1608ID	HIGH EFFICIENCY RED (GaAsP/GaP)	RED DIFFUSED	5	12.5	120°
KP-1608EC	HIGH EFFICIENCY RED (GaAsP/GaP)	WATER CLEAR	5	12.5	120°
KP-1608IT	HIGH EFFICIENCY RED (GaAsP/GaP)	RED TRANS.	5	12.5	120°
KP-1608YD	YELLOW (GaAsP/GaP)	YELLOW DIFFUSED	3.2	8	120°
KP-1608YC	YELLOW (GaAsP/GaP)	WATER CLEAR	3.2	8	120°
KP-1608YT	YELLOW (GaAsP/GaP)	YELLOW TRANS.	3.2	8	120°
KP-1608SRD	SUPER BRIGHT RED (GaAlAs)	RED DIFFUSED	40	70	120°
KP-1608SRC	SUPER BRIGHT RED (GaAlAs)	WATER CLEAR	40	70	120°
KP-1608SRT	SUPER BRIGHT RED (GaAlAs)	RED TRANS.	40	70	120°
KP-1608SGD	SUPER BRIGHT GREEN (GaP)	GREEN DIFFUSESD	3.2	12.5	120°
KP-1608SGC	SUPER BRIGHT GREEN (GaP)	WATER CLEAR	3.2	12.5	120°
KP-1608SGT	SUPER BRIGHT GREEN (GaP)	GREEN TRNS.	3.2	12.5	120°

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

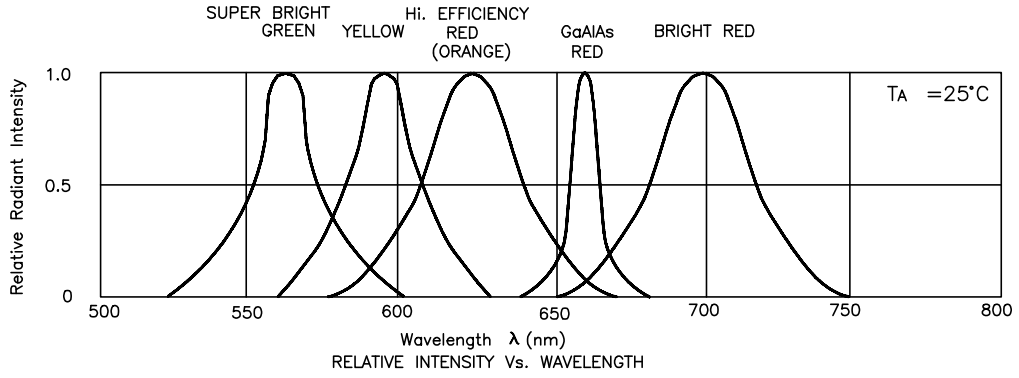
Electrical / Optical Characteristics at T_A=25°C

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

Absolute Maximum Ratings at T_A=25°C

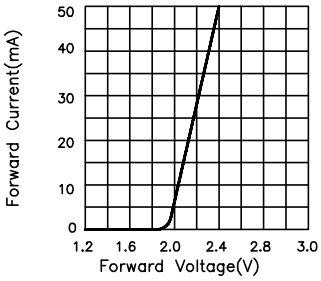
Parameter	Bright Red	High Efficiency Red	Yellow	Super Bright Red	Super Bright Green	Units
Power dissipation	105	105	105	100	105	mW
DC Forward Current	25	30	30	30	25	mA
Peak Forward Current [1]	150	150	150	150	150	mA
Reverse Voltage	5	5	5	5	5	V
Operating/Storage Temperature	-40°C To +85°C					
Lead Soldering Temperature [2]	230°C For 3 Seconds					

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

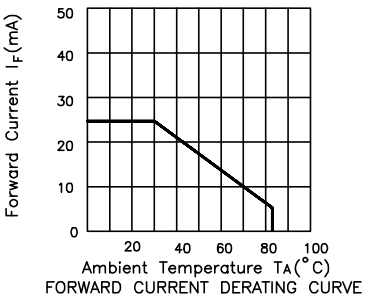


RELATIVE INTENSITY Vs. WAVELENGTH

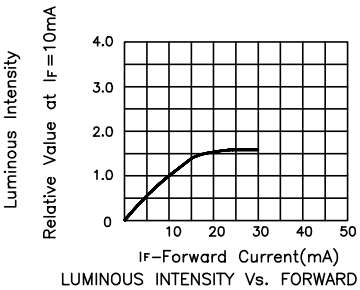
Bright Red KP-1608HD, KP-1608HC,KP-1608HT



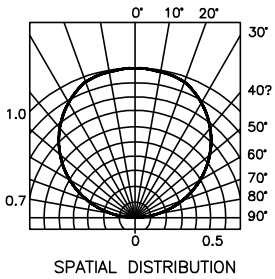
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

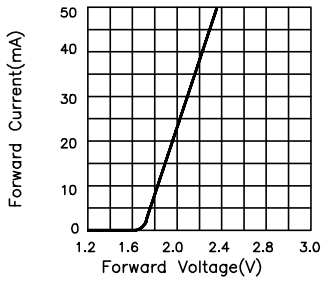


LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION

High Efficiency Red KP-1608ID, KP-1608EC, KP-1608IT



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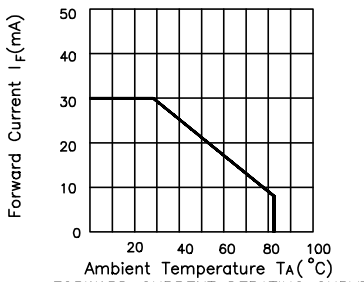

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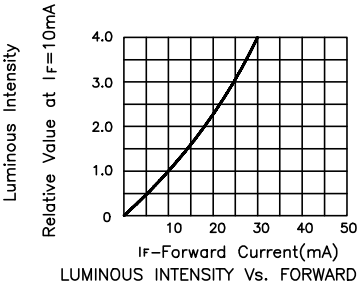
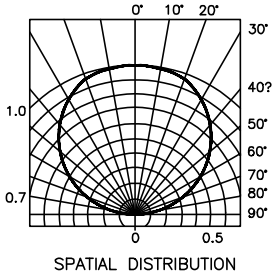
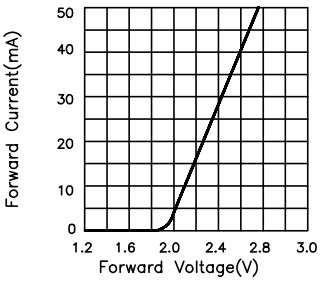


LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION

Yellow KP-1608YD, KP-1608YC, KP-1608YT



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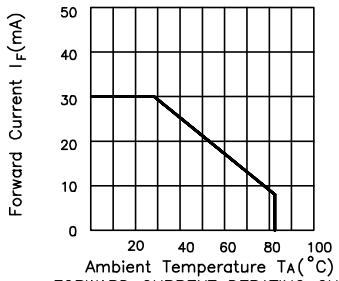

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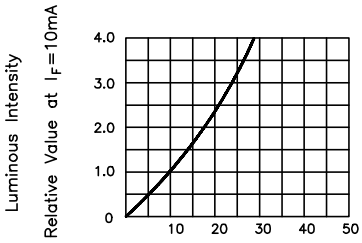
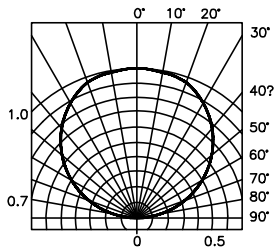
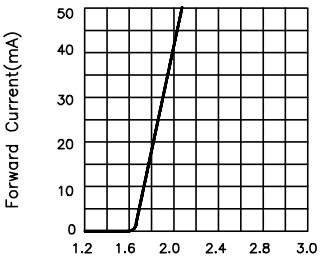


LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION

Super Bright Red KP-1608SRD, KP-1608SRC, KP-1608SRT



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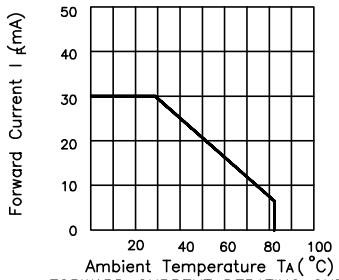

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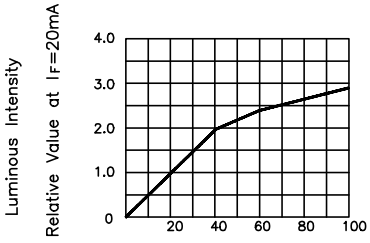
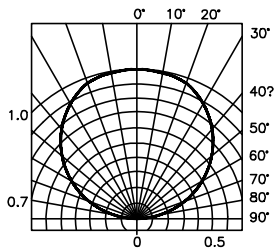
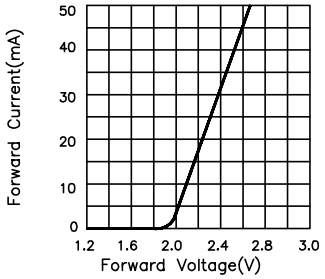


LUMINOUS INTENSITY Vs. FORWARD CURRENT

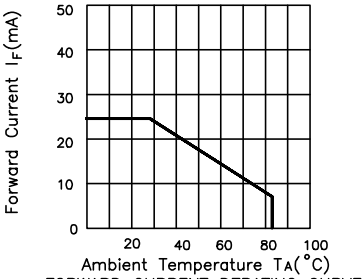


SPATIAL DISTRIBUTION

Super Bright Green KP-1608SGD, KP-1608SGC, KP-1608SGT



FORWARD CURRENT Vs. FORWARD VOLTAGE



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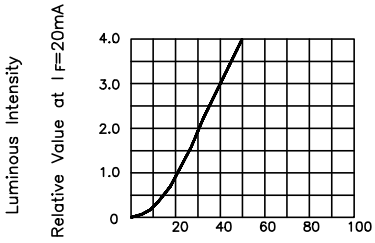
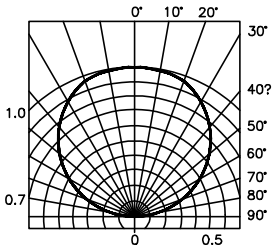
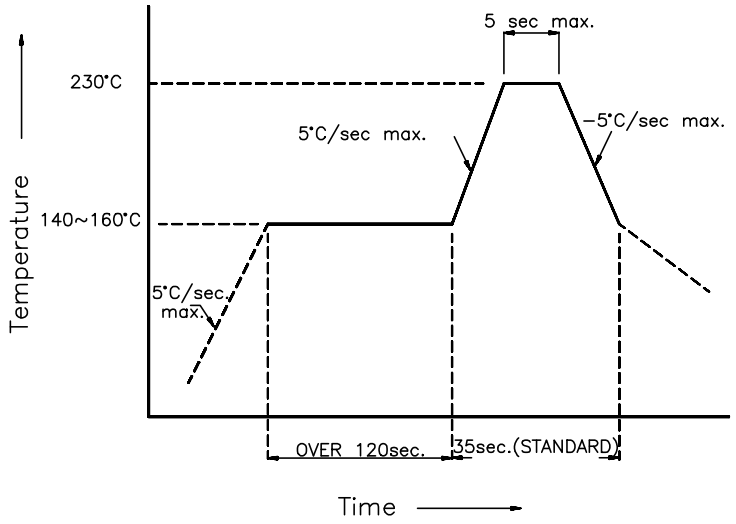


LUMINOUS INTENSITY Vs. FORWARD CURRENT



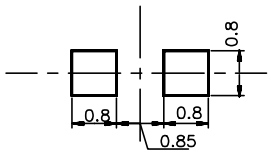
SPATIAL DISTRIBUTION

KP-1608 Series SMT Reflow Soldering Instructions

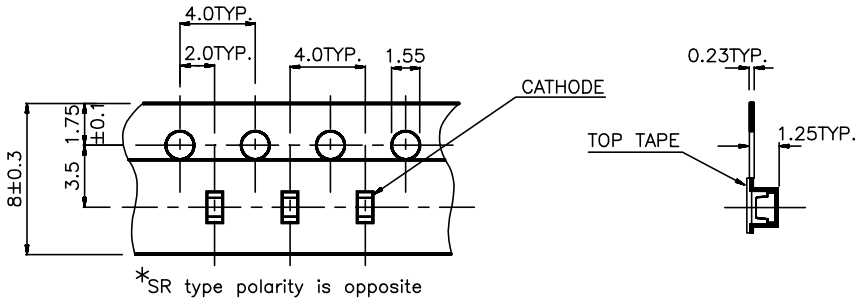


KP-1608 Series Recommended Soldering Pattern

FOR REFLOW SOLDERING



KP-1608 Series Tape Specifications



(Units : mm)