KPK-3020EC HIGH EFFICIENCY RED
KPK-3020SGC SUPER BRIGHT GREEN
KPK-3020YC YELLOW

Features

- 3.0mmx2.0mm SMT LED, 1.3mm THICKNESS.
- LOW POWER CONSUMPTION.
- WIDE VIEWING ANGLE.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- VARIOUS COLORS AND LENS TYPES AVAILABLE.
- PACKAGE : 2000PCS / REEL.

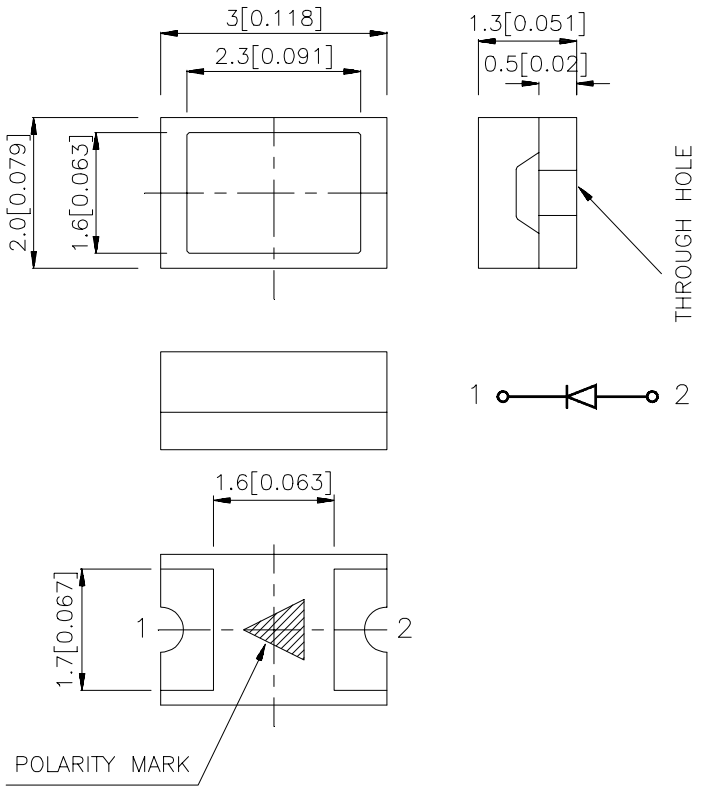
Description

The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.

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

The Yellow source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Yellow Light Emitting Diode.

Package Dimensions



Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.2(0.0079") unless otherwise noted.
3. Lead spacing is measured where the lead emerge package.
4. Specifications are subject to change without notice.

Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) @ 20 mA		Viewing Angle
			Min.	Typ.	2θ1/2
KPK-3020EC	HIGH EFFICIENCY RED(GaAsP/GaP)	WATER CLEAR	8	30	120°
KPK-3020SGC	SUPER BRIGHT GREEN (GaP)	WATER CLEAR	8	30	120°
KPK-3020YC	YELLOW (GaAsP/GaP)	WATER CLEAR	4	15	120°

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

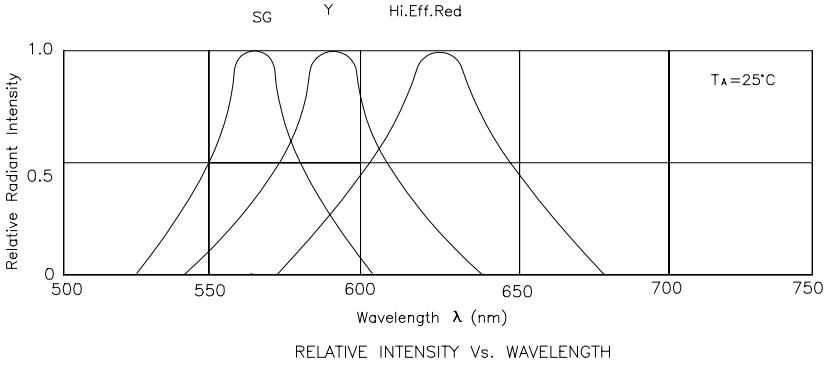
Electrical / Optical Characteristics at T_A=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	High Efficiency Red Super Bright Green Yellow	627 565 590		nm	IF=20mA
λ D	Dominate Wavelength	High Efficiency Red Super Bright Green Yellow	625 568 588		nm	IF=20mA
Δλ1/2	Spectral Line Halfwidth	High Efficiency Red Super Bright Green Yellow	45 30 35		nm	IF=20mA
C	Capacitance	High Efficiency Red Super Bright Green Yellow	15 15 20		pF	VF=0V;f=1MHz
V_F	Forward Voltage	High Efficiency Red Super Bright Green Yellow	2.0 2.2 2.1	2.5 2.5 2.5	V	IF=20mA
I_R	Reverse Current	High Efficiency Red Super Bright Green Yellow		10	uA	VR = 5V

Absolute Maximum Ratings at T_A=25°C

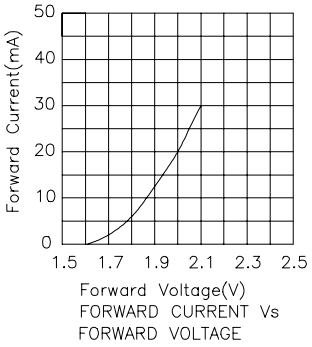
Parameter	High Efficiency red	Super Bright Green	Yellow	Units
Power dissipation	105	105	105	mW
DC Forward Current	30	25	30	mA
Peak Forward Current [1]	160	140	140	mA
Reverse Voltage	5	5	5	V
Operating Temperature	-40°C To +85°C			
Storage Temperature	-40°C To +85°C			

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

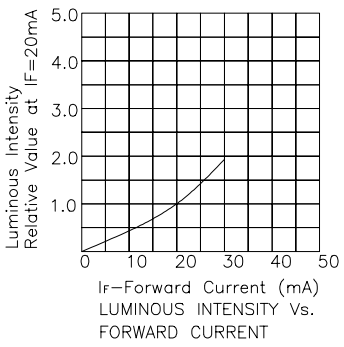


RELATIVE INTENSITY Vs. WAVELENGTH

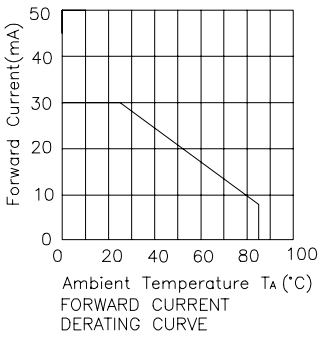
High Efficiency Red KPK-3020EC



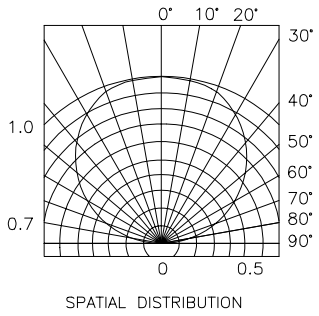
FORWARD CURRENT Vs
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT

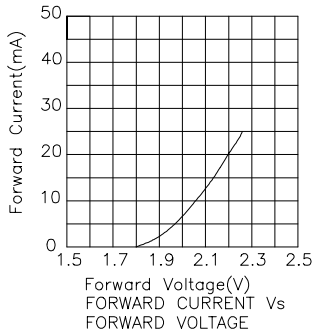


FORWARD CURRENT
DERATING CURVE

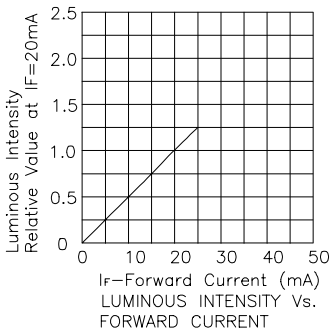


SPATIAL DISTRIBUTION

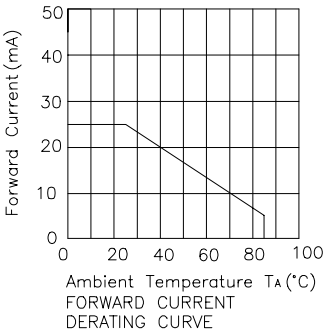
Super Bright Green KPK-3020SGC



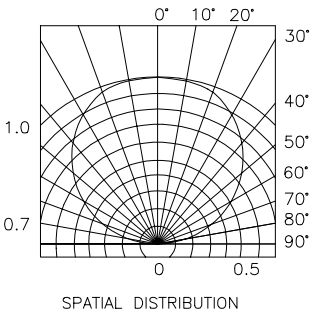
FORWARD CURRENT Vs
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT

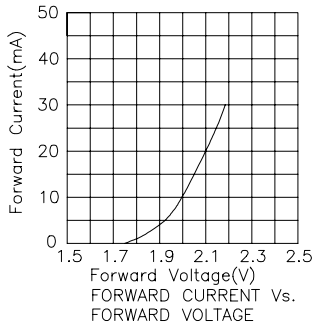


FORWARD CURRENT
DERATING CURVE

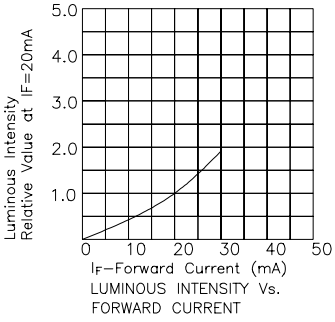


SPATIAL DISTRIBUTION

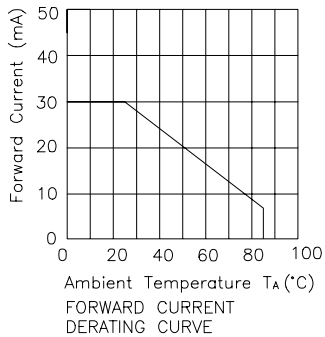
Yellow KPK-3020YC



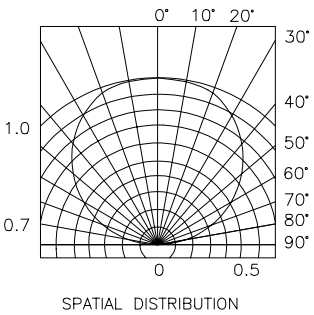
FORWARD CURRENT Vs.
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT



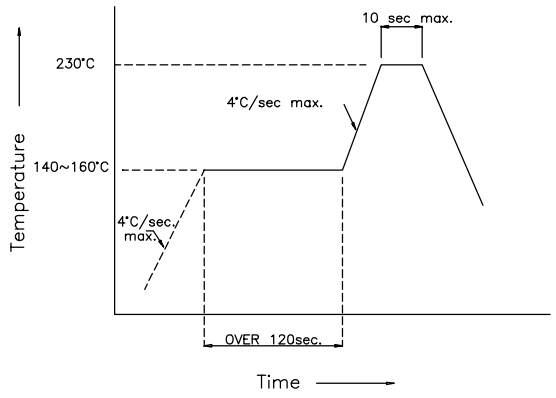
FORWARD CURRENT
DERATING CURVE



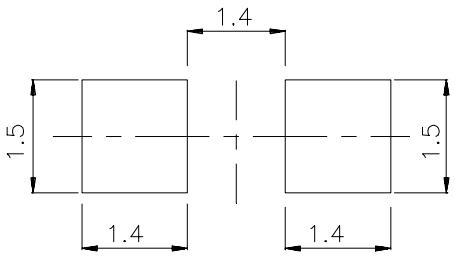
SPATIAL DISTRIBUTION

KPK-3020
SMT Reflow Soldering Instructions

Number of reflow process shall be less than 2 times and cooling process to normal temperature is required between first and second soldering process.



Recommended Soldering Pattern
(Units : mm)



Tape Specifications
(Units : mm)

