KPHF-1612QBDSURKZGC BLUE / HYPER RED / GREEN

ATTENTION

OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC DISCHARGE SENSITIVE DEVICES

PRELIMINARY SPEC

Features

- 1.6x1.26mm SMT LED, 0.52mm THICKNESS.
- LOW POWER CONSUMPTION.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- VARIOUS COLORS AND LENS TYPES AVAILABLE.
- PACKAGE : 2000PCS / REEL.

Description

The Blue source color devices are made with GaN on Sapphire Light Emitting Diode.

The Hyper Red source color devices are made with DH InGaAlP on GaAs substrate Light Emitting Diode.

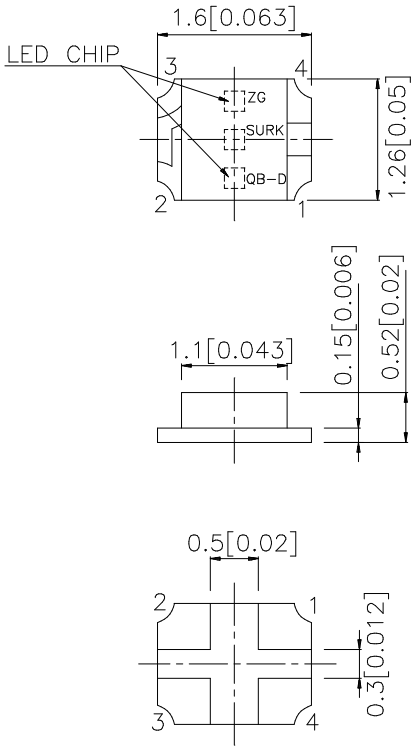
The Green source color devices are made with InGaN on SiC Light Emitting Diode.

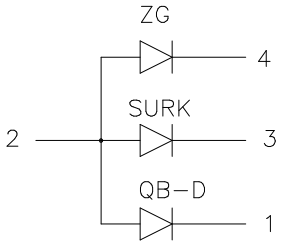
Static electricity and surge damage the LEDS.

It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.

All devices, equipment and machinery must be electrically grounded.

Package Dimensions





Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.2(0.0079") unless otherwise noted.
3. Specifications are subject to change without notice.

Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) @ 20 mA		Viewing Angle
			Min.	Typ.	2θ1/2
KPHF-1612QBDSURKZGC	BLUE (GaN)	WATER CLEAR	50	90	120°
	HYPER RED (InGaAlP)		70	150	
	GREEN (InGaN)		70	180	

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

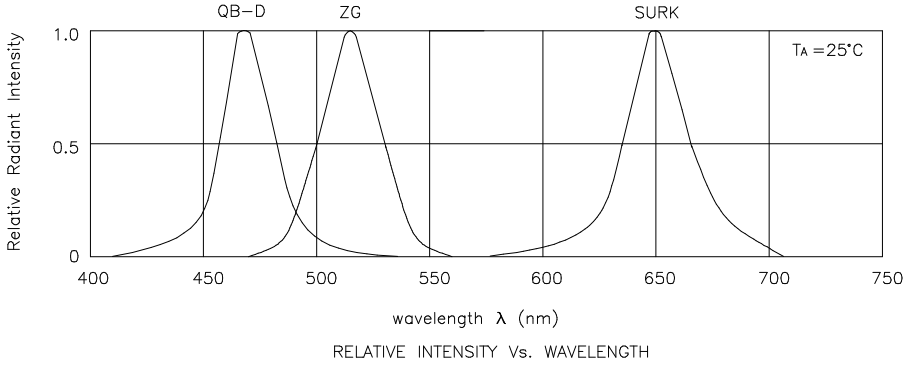
Electrical / Optical Characteristics at T_A=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Blue Hyper Red Green	468 650 515		nm	I_F=20mA
λD	Dominate Wavelength	Blue Hyper Red Green	470 635 525		nm	I_F=20mA
Δλ1/2	Spectral Line Half-width	Blue Hyper Red Green	25 28 30		nm	I_F=20mA
C	Capacitance	Blue Hyper Red Green	100 35 45		pF	V_F=0V;f=1MHz
V_F	Forward Voltage	Blue Hyper Red Green	3.5 1.95 3.3	4.0 2.5 4.1	V	I_F=20mA
I_R	Reverse Current	All		10	uA	V_R = 5V

Absolute Maximum Ratings at T_A=25°C

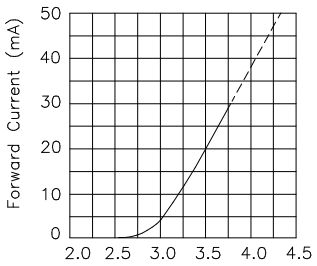
Parameter	Blue	Hyper Red	Green	Units
Power dissipation	105	170	105	mW
DC Forward Current	30	30	25	mA
Peak Forward Current [1]	180	185	150	mA
Reverse Voltage	5	5	5	V
Operating Temperature	-40°C To +85°C			
Storage Temperature	-40°C To +85°C			

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

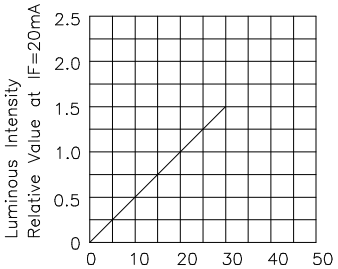


RELATIVE INTENSITY Vs. WAVELENGTH

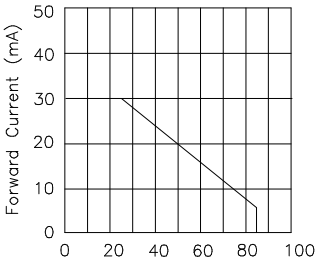
KPHF-1612QBDSURKZGC
Blue



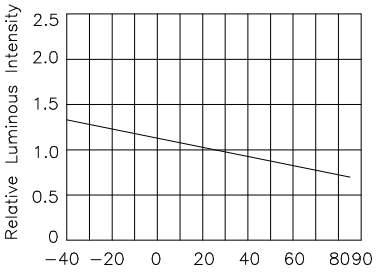
FORWARD CURRENT Vs.
FORWARD VOLTAGE



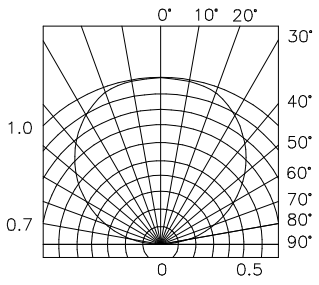
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE

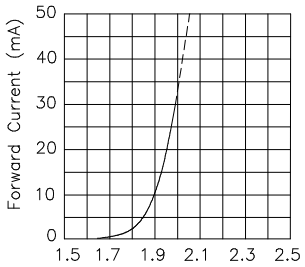


LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

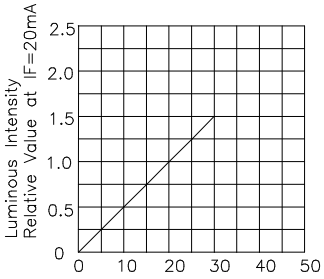


SPATIAL DISTRIBUTION

Hyper Red



FORWARD CURRENT Vs.
FORWARD VOLTAGE



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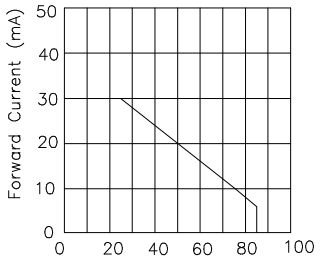
FORWARD CURRENT



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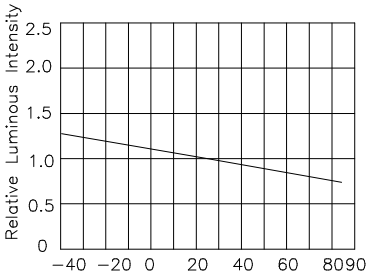
DERATING CURVE



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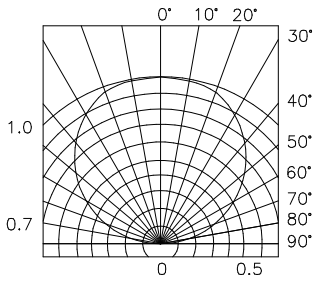
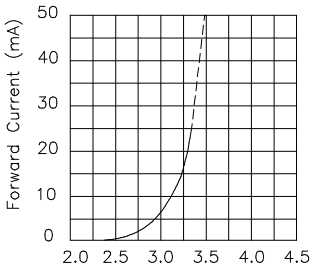
AMBIENT TEMPERATURE

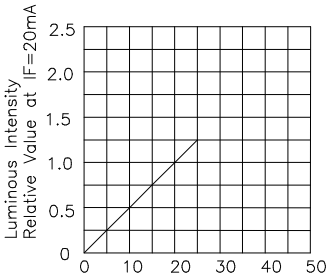


SPATIAL DISTRIBUTION

Green



FORWARD CURRENT Vs.
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
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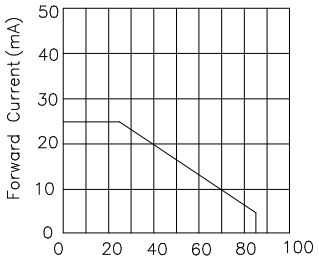

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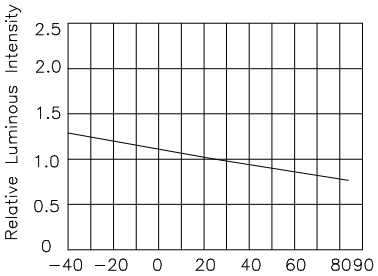

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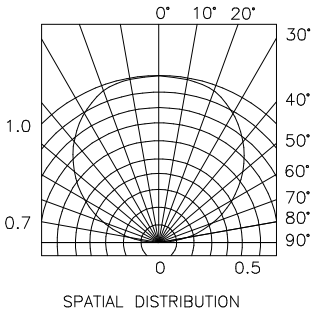
AMBIENT TEMPERATURE



SPATIAL DISTRIBUTION

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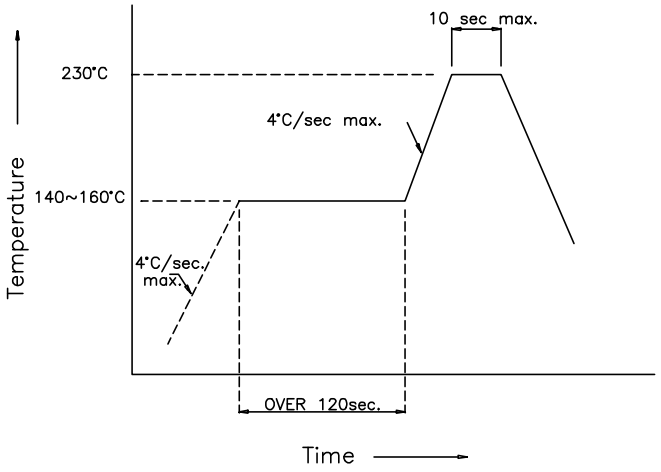
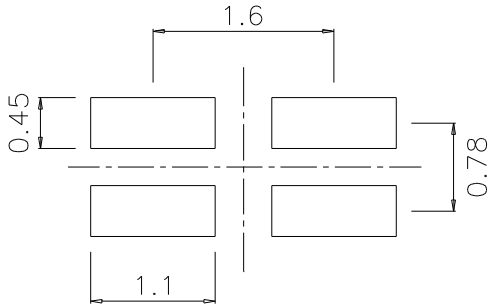
SMT Reflow Soldering Instruction

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)