Kingbright

2.0x1.25mm SMD CHIP LED LAMP

PRELIMINARY SPEC

Part Number: KPHBM-2012ETSGTC

HIGH EFFICIENCY RED

SUPER BRIGHT GREEN

Features

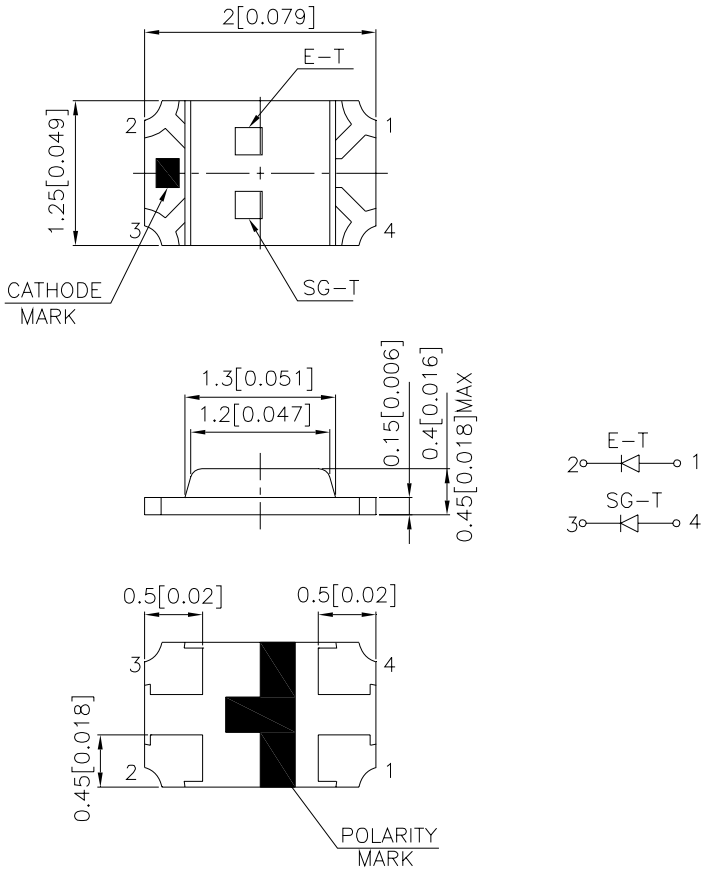
- ●2.0mmx1.25mm SMT LED, 0.45mm MAX. THICKNESS.
- ●BI -COLOR, LOW POWER CONSUMPTION.
- ●WIDE VIEWING ANGLE.
- ●IDEAL FOR BACKLIGHT AND INDICATOR.
- ●PACKAGE : 2000PCS / REEL.
- ●MOISTURE SENSITIVITY LEVEL : LEVEL 3.
- ●RoHS COMPLIANT.

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.

Package Dimensions



Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.1(0.004") unless otherwise noted.
3. Specifications are subject to change without notice.

Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2 θ 1/2
KPHBM-2012ETSGTC	HIGH EFFICIENCY RED (GaAsP/GaP)	WATER CLEAR	4	17	120°
	SUPER BRIGHT GREEN (GaP)		7	20	

Notes:
1. θ1/2 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 T_A=25°C

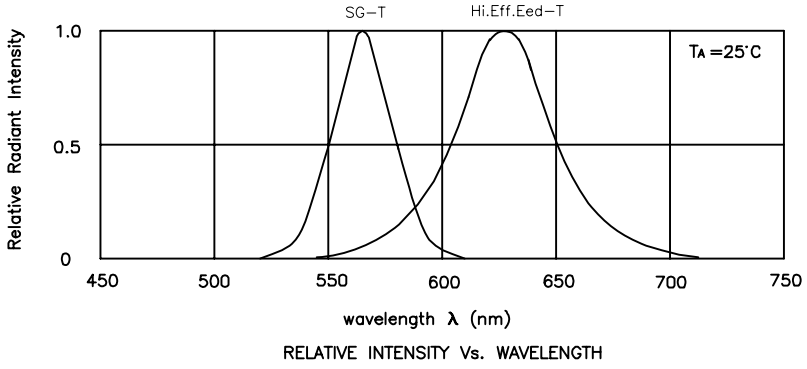
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	High Efficiency Red Super Bright Green	627 565		nm	I_F=20mA
λD [1]	Dominant Wavelength	High Efficiency Red Super Bright Green	625 568		nm	I_F=20mA
Δλ1/2	Spectral Line Half-width	High Efficiency Red Super Bright Green	45 30		nm	I_F=20mA
C	Capacitance	High Efficiency Red Super Bright Green	15 15		pF	V_F=0V;f=1MHz
V_F [2]	Forward Voltage	High Efficiency Red Super Bright Green	2.0 2.2	2.5 2.5	V	I_F=20mA
I_R	Reverse Current	High Efficiency Red Super Bright Green		10 10	uA	V_R = 5V

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

Absolute Maximum Ratings at T_A=25°C

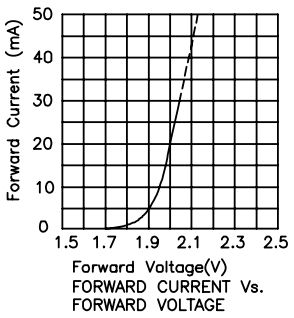
Parameter	High Efficiency Red	Super Bright Green	Units
Power dissipation	75	62.5	mW
DC Forward Current	30	25	mA
Peak Forward Current [1]	160	140	mA
Reverse Voltage	5		V
Operating / Storage Temperature	-40°C To +85°C		

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

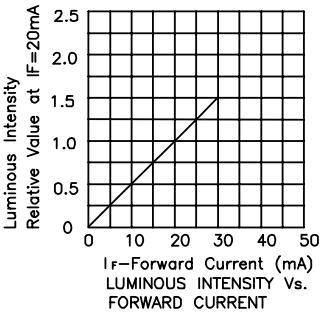


RELATIVE INTENSITY Vs. WAVELENGTH

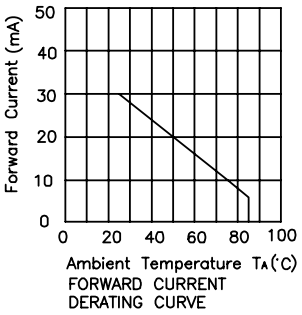
KPHBM-2012ETSGTC
High Efficiency Red



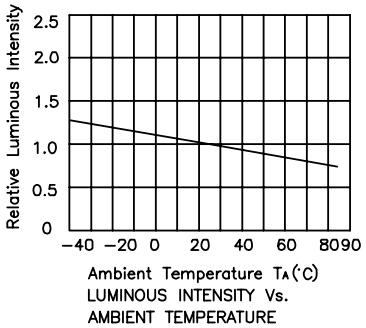
FORWARD CURRENT Vs.
FORWARD VOLTAGE



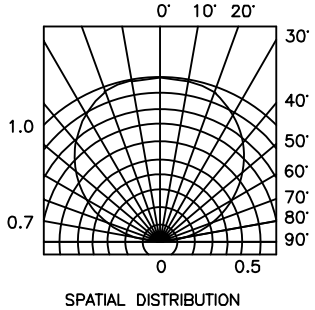
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE

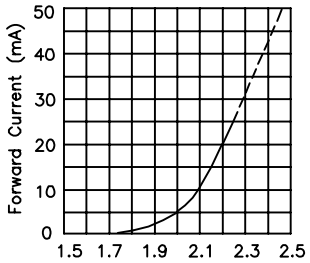


LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

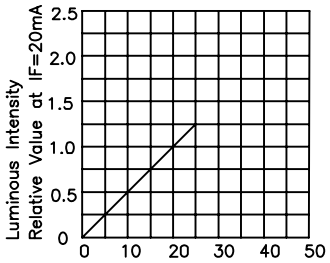


SPATIAL DISTRIBUTION

Super Bright Green

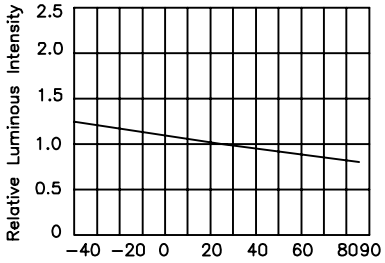


FORWARD CURRENT Vs.
FORWARD VOLTAGE

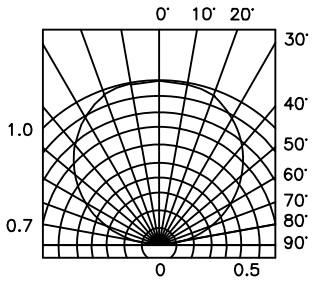


LUMINOUS INTENSITY Vs.
FORWARD CURRENT

FORWARD CURRENT
DERATING CURVE



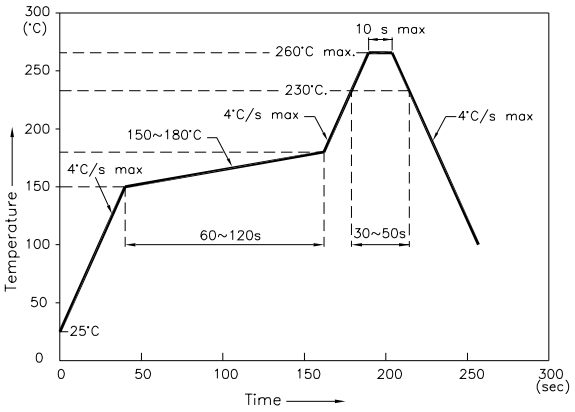
LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE



SPATIAL DISTRIBUTION

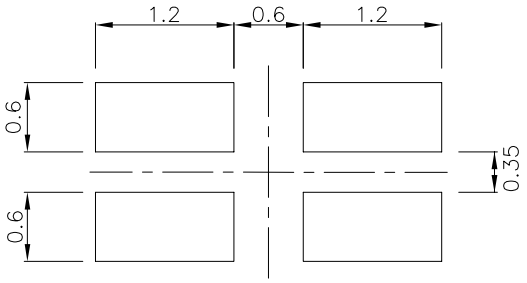
KPHBM-2012ETSGTC

Reflow Soldering Profile For Lead-free SMT Process.



NOTES:
1. We recommend the reflow temperature 245°C(+/−5°C).The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

Recommended Soldering Pattern
(Units : mm; Tolerance: ±0.1)



Tape Specifications
(Units : mm)