Kingbright

Part Number: APTB1612SURKSGC-F01

Hyper Red
Super Bright Green

Features

- 1.6mmx1.25mm SMT LED, 0.65mm thickness.
- Bi-color,low power consumption.
- Wide viewing angle.
- Ideal for backlight and indicator.
- Various colors and lens types available.
- Package : 2000pcs / reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

Description

The Hyper Red source color devices are made with
InGaAlP on GaAs substrate Light Emitting Diode.
The Super Bright Green source color devices are made with
Gallium Phosphide Green Light Emitting Diode.

Package Dimensions
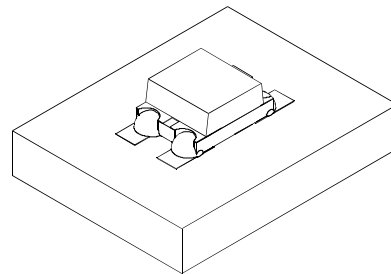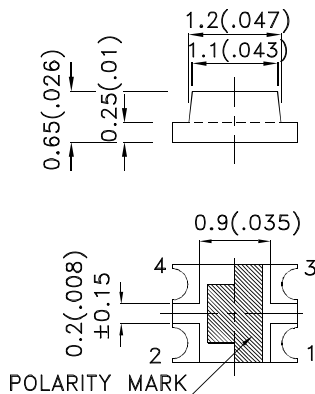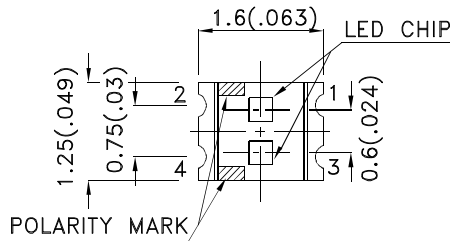
Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.2(0.008") unless otherwise noted.
3.Specifications are subject to change without notice.
4.The device has a single mounting surface. The device must be mounted according to the specifications.

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Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
APTB1612SURKSGC-F01	Hyper Red (InGaAlP)	WATER CLEAR	70	150	120°
	Super Bright Green (GaP)		4	12	

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 TA=25°C

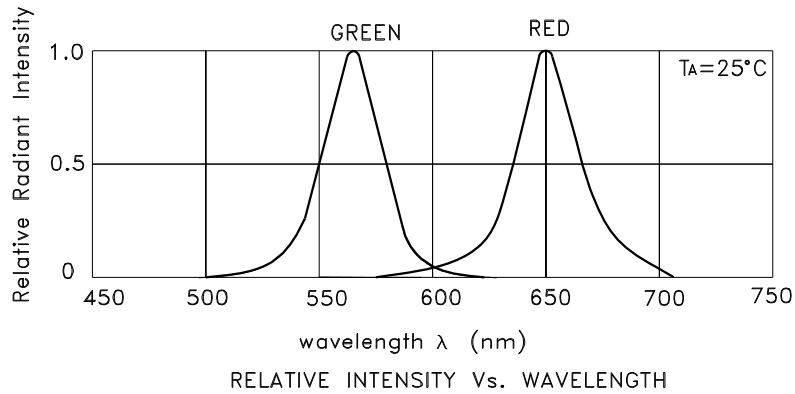| Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Hyper Red Super Bright Green	650 565		nm	I_F=20mA
λD [1]	Dominant Wavelength	Hyper Red Super Bright Green	635 568		nm	I_F=20mA
Δλ1/2	Spectral Line Half-width	Hyper Red Super Bright Green	28 30		nm	I_F=20mA
C	Capacitance	Hyper Red Super Bright Green	35 15		pF	V_F=0V;f=1MHz
V_F [2]	Forward Voltage	Hyper Red Super Bright Green	1.95 2.2	2.5 2.5	V	I_F=20mA
I_R	Reverse Current	Hyper Red Super Bright Green		10 10	uA	V_R = 5V

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

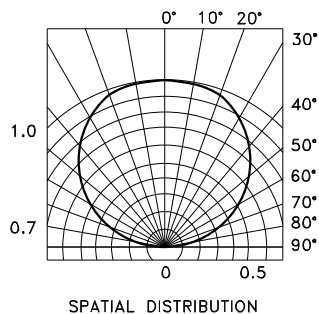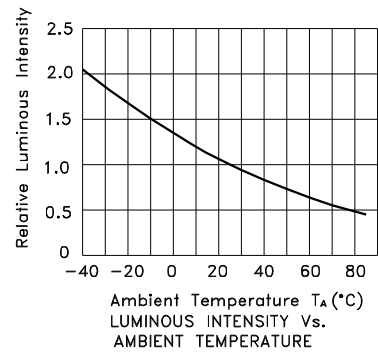## Absolute Maximum Ratings at TA=25°C

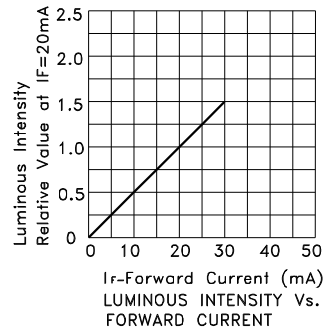| Parameter	Hyper Red	Super Bright Green	Units
Power dissipation	75	62.5	mW
DC Forward Current	30	25	mA
Peak Forward Current [1]	185	140	mA
Reverse Voltage	5		V
Operating Temperature	-40°C To +85°C		
Storage Temperature	-40°C To +85°C		

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

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RELATIVE INTENSITY Vs. WAVELENGTH

APTB1612SURKSGC-F01
Hyper Red

FORWARD CURRENT Vs.
FORWARD VOLTAGE

LUMINOUS INTENSITY Vs.
FORWARD CURRENT

FORWARD CURRENT
DERATING CURVE

LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

SPATIAL DISTRIBUTION
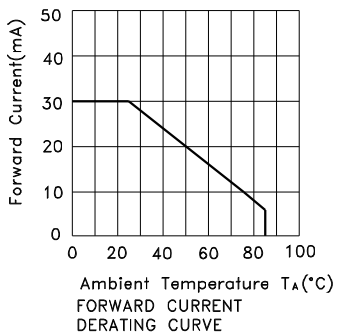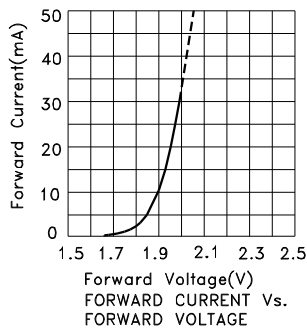
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Super Bright Green

FORWARD CURRENT Vs.
FORWARD VOLTAGE

Forward Current (mA) vs Forward Voltage(V)

LUMINOUS INTENSITY Vs.
FORWARD CURRENT

Luminous Intensity Relative Value at IF=20mA vs IF-Forward Current (mA)

FORWARD CURRENT
DERATING CURVE

Forward Current(mA) vs Ambient Temperature T_A (°C)

LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

Relative Luminous Intensity vs Ambient Temperature T_A (°C)

SPATIAL DISTRIBUTION
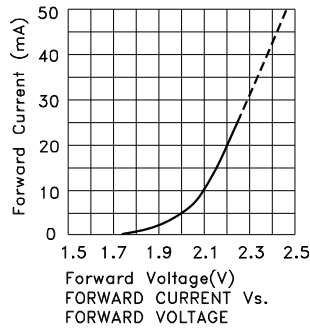
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APTB1612SURKSGC-F01

Reflow soldering is recommended and the soldering profile is shown below.
Other soldering methods are not recommended as they might cause damage to the product.
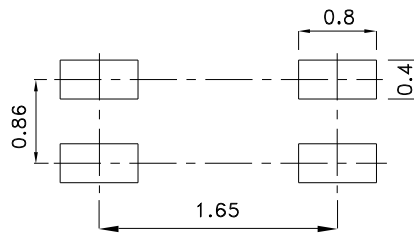
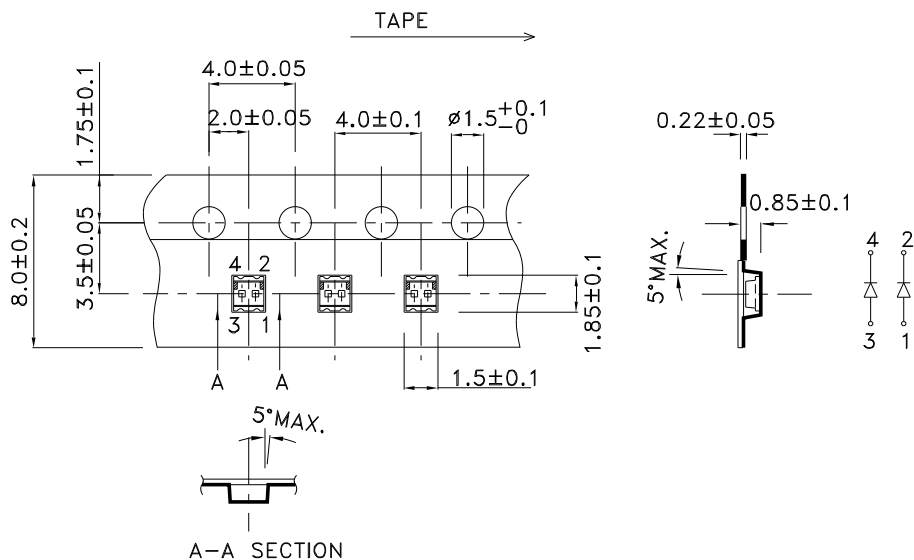Reflow Soldering Profile For Lead-free SMT Process.

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.

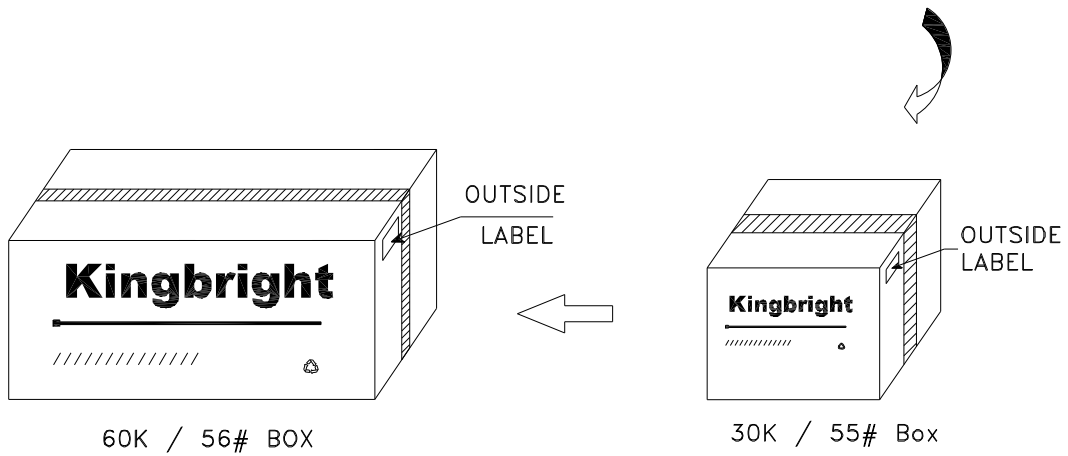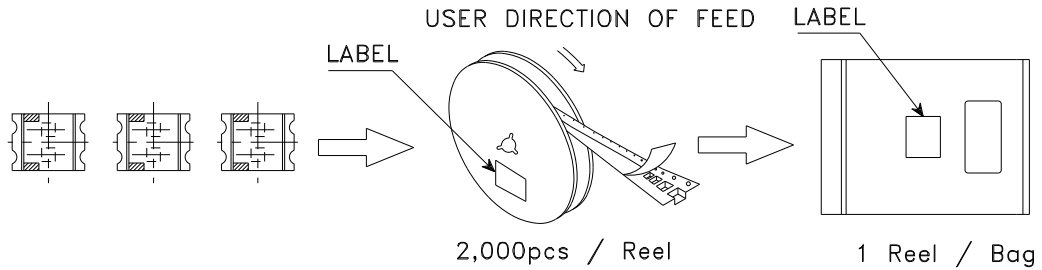### Recommended Soldering Pattern
(Units : mm; Tolerance: ± 0.1)

Tape Dimensions
(Units : mm)

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USER DIRECTION OF FEED   LABEL

LABEL

2,000pcs / Reel

1 Reel / Bag

OUTSIDE LABEL

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60K / 56# BOX

OUTSIDE LABEL

Kingbright

30K / 55# Box

Kingbright

P/NO: APTB1612xxx

QTY: 2,000 pcs   Q.C.

S/N: XXXX

CODE: XXX

Q C
xx xx xxxx
PASSED

LOT NO:

xxxxxxxxxxxxxxxxxxxxxxx

RoHS Compliant