Kingbright

Part Number: KP-3216EC   High Efficiency Red

Features

● 3.2mmx1.6mm SMT LED, 1.1mm thickness.

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

Package Dimensions

POLARITY MARK

1.6(.063)

3.2(.126)
2(.079)
1.9(.075)
1.1(.043) MAX.
0.5(.02)

1 ▷|— 2

0.5(.02)

1   2
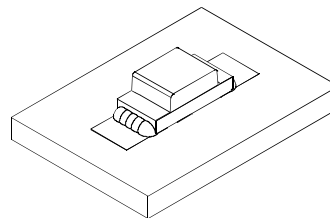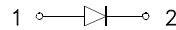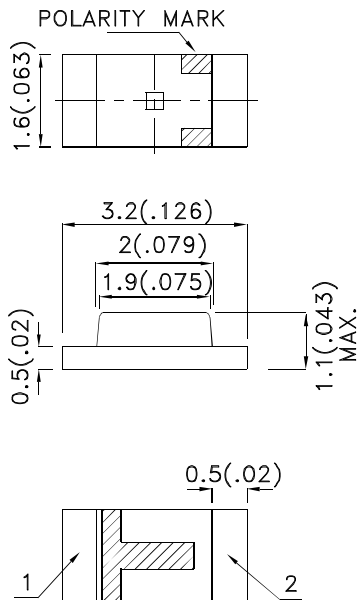
Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.2(0.0079") unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
4.The device has a single mounting surface. The device must be mounted 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
KP-3216EC	High Efficiency Red (GaAsP/GaP)	WATER CLEAR	4	15	120°

Notes:
1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
2. Luminous intensity/ luminous Flux: +/-15%.

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
$\lambda peak$	Peak Wavelength	High Efficiency Red	627		nm	I_F=20mA
λD [1]	Dominant Wavelength	High Efficiency Red	625		nm	I_F=20mA
$\Delta\lambda 1/2$	Spectral Line Half-width	High Efficiency Red	45		nm	I_F=20mA
C	Capacitance	High Efficiency Red	15		pF	V_F=0V;f=1MHz
V_F [2]	Forward Voltage	High Efficiency Red	2	2.5	V	I_F=20mA
I_R	Reverse Current	High Efficiency Red		10	uA	V_R=5V

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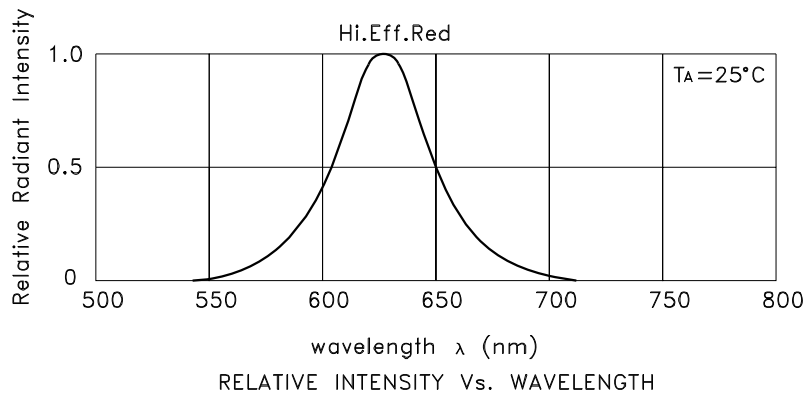1. Wavelength: +/-1nm.
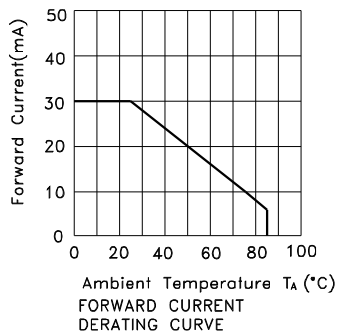2. Forward Voltage: +/-0.1V.

Absolute Maximum Ratings at TA=25°C

Parameter	High Efficiency Red	Units
Power dissipation	75	mW
DC Forward Current	30	mA
Peak Forward Current [1]	160	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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Hi.Eff.Red

RELATIVE INTENSITY Vs. WAVELENGTH

$T_A = 25°C$

Relative Radiant Intensity

wavelength λ (nm)

High Efficiency Red   KP-3216EC

Forward Current(mA)

Forward Voltage(V)
FORWARD CURRENT Vs.
FORWARD VOLTAGE

Luminous Intensity
Relative Value at IF=20mA

Ir-Forward Current (mA)
LUMINOUS INTENSITY Vs.
FORWARD CURRENT

Forward Current(mA)

Ambient Temperature T_A (°C)
FORWARD CURRENT
DERATING CURVE

Relative Luminous Intensity

Ambient Temperature T_A (°C)
LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

0° 10° 20°
30°
40°
50°
60°
70°
80°
90°

1.0

0.7

0   0.5

SPATIAL DISTRIBUTION

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KP-3216EC

Reflow soldering is recommended and the soldering profile is shown below.
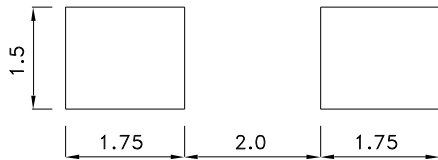**Other soldering methods are not recommended as they might cause damage to the product.**

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.
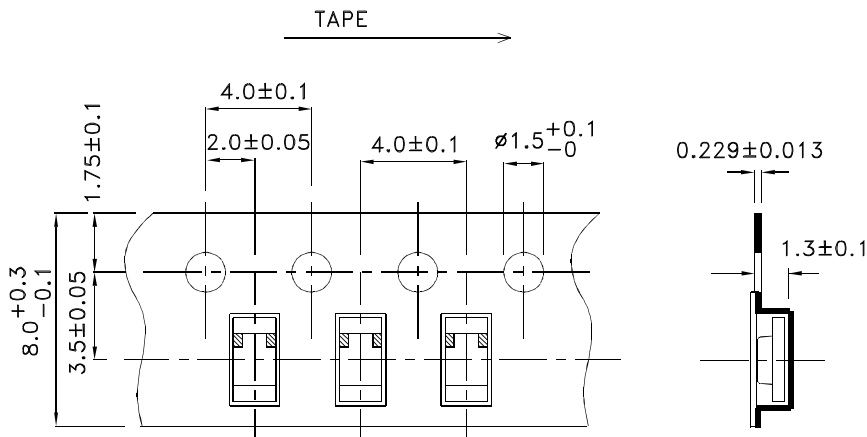3. Number of reflow process shall be 2 times or less.

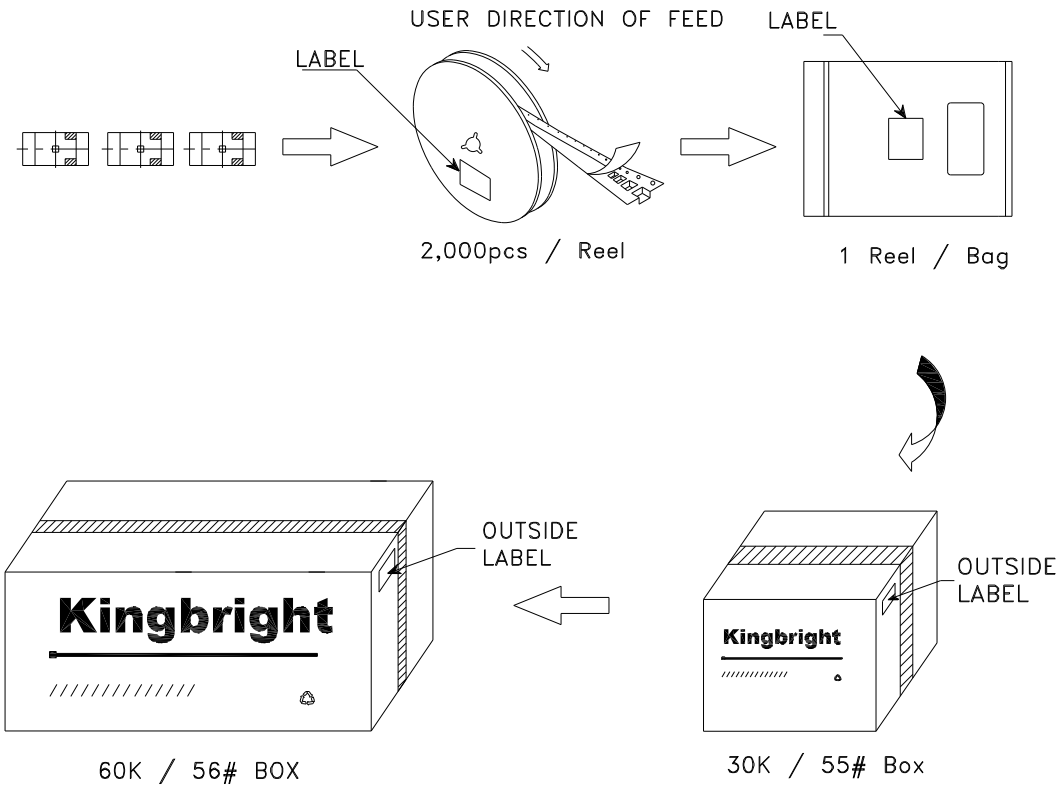### Recommended Soldering Pattern
(Units : mm; Tolerance: ± 0.1)

1.5
1.75 2.0 1.75

Reel Dimension

18[.709]±0.2   R6.5[.256]±0.1
120°
R36[1.417]

12[0.472]±0.5
ø178[7.008]±1
ø60[2.362]
ø56[2.205]
9[0.354]±0.2

Tape Dimensions
(Units : mm)

TAPE

1.75±0.1
8.0 +0.3 −0.1
3.5±0.05
4.0±0.1
2.0±0.05
4.0±0.1
ø1.5 +0.1 −0

0.229±0.013
1.3±0.1

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PACKING & LABEL SPECIFICATIONS   **KP-3216EC**

USER DIRECTION OF FEED   LABEL

LABEL

2,000pcs / Reel

1 Reel / Bag

OUTSIDE LABEL

OUTSIDE LABEL

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60K / 56# BOX

30K / 55# Box

Kingbright

P/NO: KP-3216XXX

QTY: 2,000 pcs   Q.C.

S/N: XXXX

CODE: XXX

LOT NO:

xxxxxxxxxxxxxxxxxxxxxxxx

Q C
XX XX XXXX
PASSED

RoHS Compliant