# Kingbright

KP-23SURC-F   HYPER RED

Features

- 3mmx2.4mm SMT LED, 1.05mm THICKNESS.
- LOW POWER CONSUMPTION.
- WIDE VIEWING ANGLE.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- VARIOUS COLORS AND LENS TYPES AVAILABLE.
- PACKAGE : 2000PCS / REEL.

Description

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

Package Dimensions

1. ANODE
2. N.C
3. CATHODE
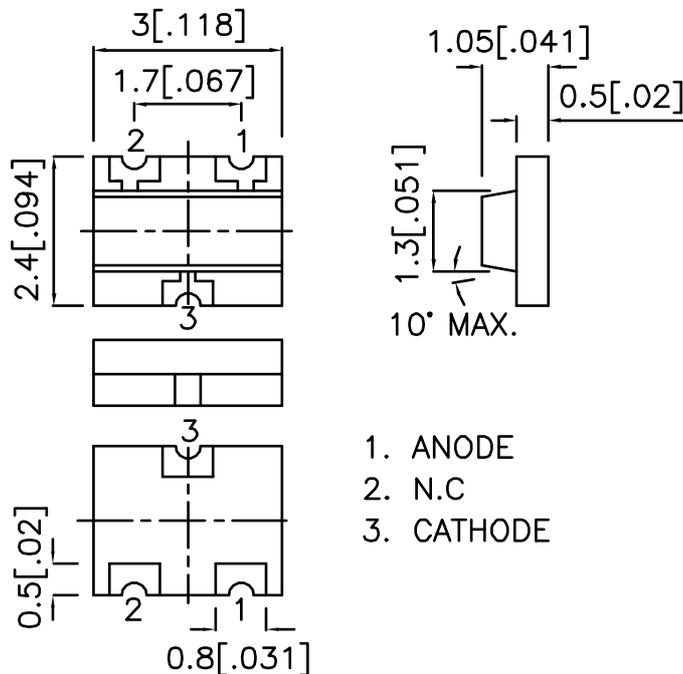
Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.2(0.008") unless otherwise noted.
3. Specifications are subject to change without notice.

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Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) @ 20mA		Viewing Angle
			Min.	Typ.	2θ1/2
KP-23SURC-F	HYPER RED (InGaAlP)	WATER CLEAR	110	250	120°

Note:
1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
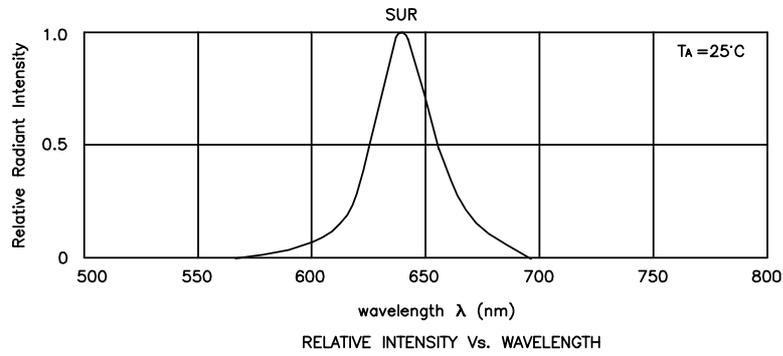
Electrical / Optical Characteristics at T_A=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Hyper Red	640		nm	I_F=20mA
λD	Dominant Wavelength	Hyper Red	628		nm	I_F=20mA
$\Delta\lambda$1/2	Spectral Line Half-width	Hyper Red	27		nm	I_F=20mA
C	Capacitance	Hyper Red	45		pF	V_F=0V;f=1MHz
V_F	Forward Voltage	Hyper Red	1.9	2.5	V	I_F=20mA
I_R	Reverse Current	Hyper Red		10	uA	V_R = 5V

Absolute Maximum Ratings at T_A=25°C

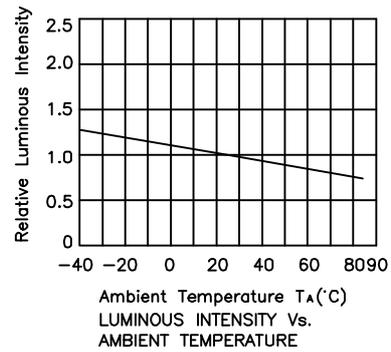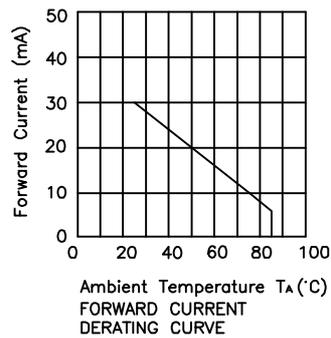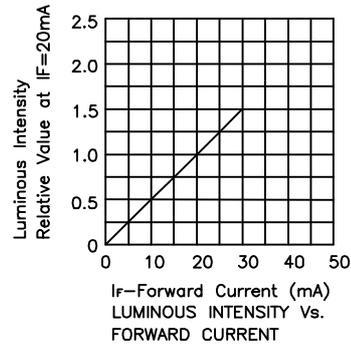| Parameter	Hyper Red	Units
Power dissipation	170	mW
DC Forward Current	30	mA
Peak Forward Current [1]	185	mA
Reverse Voltage	5	V
Operating/Storage Temperature	-40°C To +85°C	

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

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Relative Radiant Intensity

RELATIVE INTENSITY Vs. WAVELENGTH

wavelength λ (nm)

T_A = 25°C

Hyper Red   **KP-23SURC-F**

Forward Current (mA)

Forward Voltage(V)
FORWARD CURRENT Vs.
FORWARD VOLTAGE

Luminous Intensity
Relative Value at IF=20mA

I_F—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

SPATIAL DISTRIBUTION

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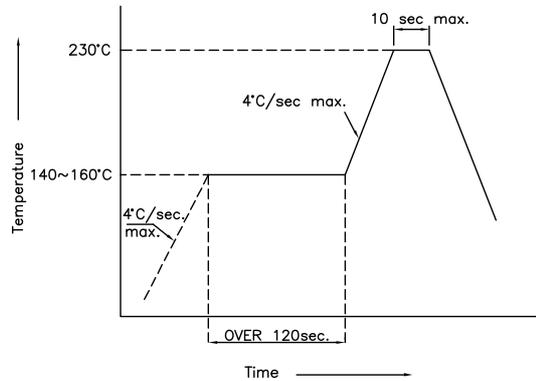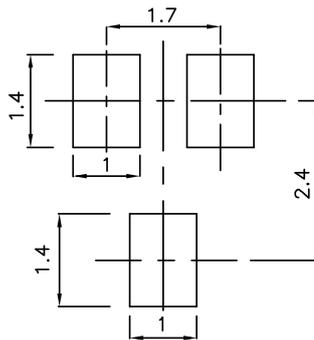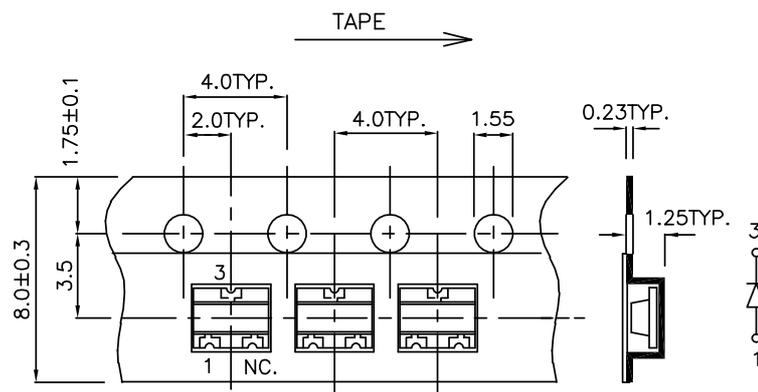**KP-23SURC-F**
SMT Reflow Soldering Instructions

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

Recommended Soldering Pattern
(Units : mm)

Tape Specifications
(Units : mm)

Remarks:

If special sorting is required (e.g. binning based on forward voltage, luminous intensity, or wavelength),

the typical accuracy of the sorting process is as follows:

1. Wavelength: +/-1nm

2. Luminous Intensity: +/-15%

3. Forward Voltage: +/-0.1V

Note: Accuracy may depend on the sorting parameters.