

Part Number: ACPSC04-41SRWA

Super Bright Red

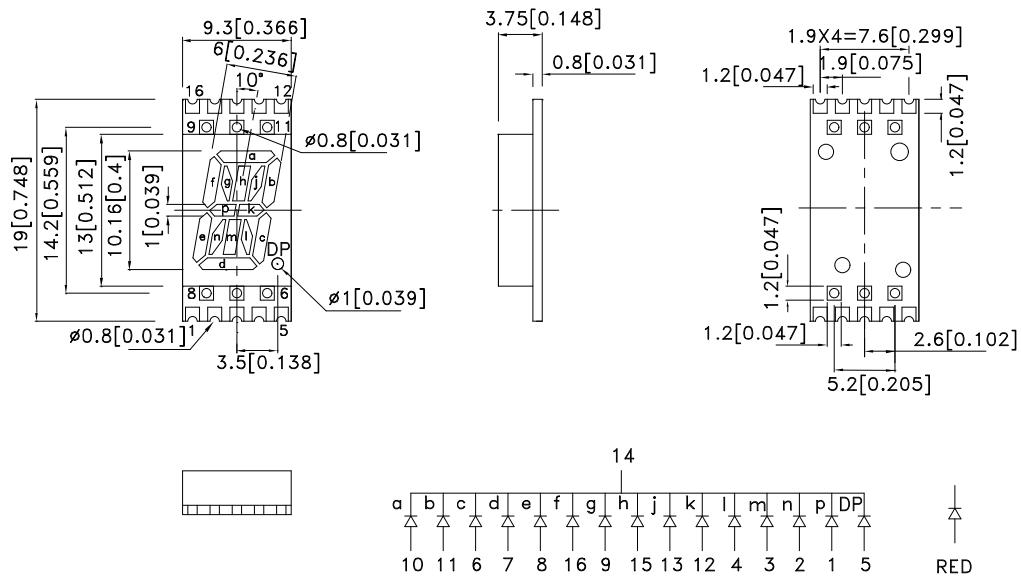
### Features

- 0.4 inch character height.
- Low current operation.
- High contrast and light output.
- Categorized for luminous intensity.
- Mechanically rugged.
- Gray face,white segment.
- Package : 400pcs / reel.
- Moisture sensitivity level : level 2a.
- RoHS compliant.

### Description

The Super Bright Red source color devices are made with Gallium Aluminum Arsenide Red Light Emitting Diode.

### Package Dimensions & Internal Circuit Diagram



Notes:

1. All dimensions are in millimeters (inches), Tolerance is  $\pm 0.25(0.01")$  unless otherwise noted.
2. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
3. The gap between the reflector and PCB shall not exceed 0.25mm.



# Kingbright

## Selection Guide

Part No.	Dice	Lens Type	I <sub>V</sub> (ucd) [1] @ 10mA		Description
			Min.	Typ.	
ACPSC04-41SRWA	Super Bright Red (GaAlAs)	White Diffused	3600	10000	Common Cathode, Rt. Hand Decimal.
			*1400	*2800	

Notes:

1. Luminous intensity/ luminous Flux: +/-15%.

\*Luminous intensity value is traceable to the CIE127-2007 compliant national standards.

## Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
$\lambda_{peak}$	Peak Wavelength	Super Bright Red	655		nm	I <sub>F</sub> =20mA
$\lambda_D$ [1]	Dominant Wavelength	Super Bright Red	640		nm	I <sub>F</sub> =20mA
$\Delta\lambda/2$	Spectral Line Half-width	Super Bright Red	20		nm	I <sub>F</sub> =20mA
C	Capacitance	Super Bright Red	45		pF	V <sub>F</sub> =0V;f=1MHz
V <sub>F</sub> [2]	Forward Voltage	Super Bright Red	1.85	2.5	V	I <sub>F</sub> =20mA
I <sub>R</sub>	Reverse Current	Super Bright Red		10	uA	V <sub>R</sub> =5V

Notes:

1. Wavelength: +/-1nm.

2. Forward Voltage: +/-0.1V.

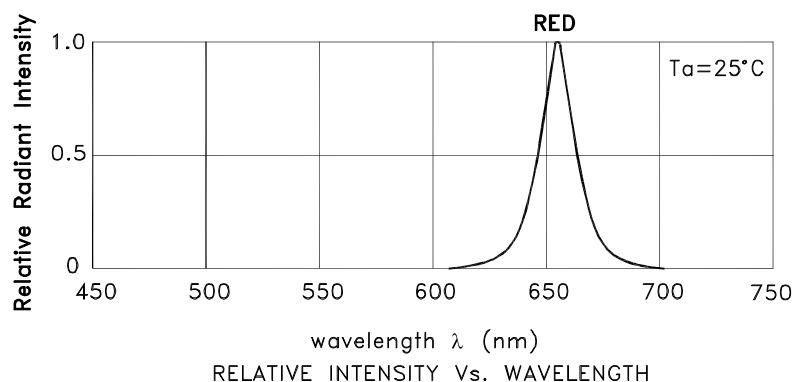
3. Wavelength value is traceable to the CIE127-2007 compliant national standards.

## Absolute Maximum Ratings at TA=25°C

Parameter	Super Bright Red	Units
Power dissipation	75	mW
DC Forward Current	30	mA
Peak Forward Current [1]	155	mA
Reverse Voltage	5	V
Operating / Storage Temperature	-40°C To +85°C	

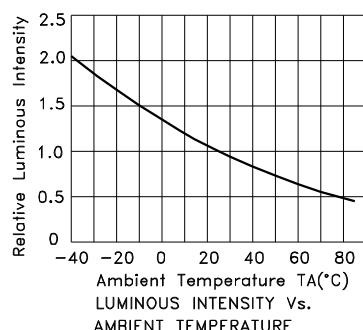
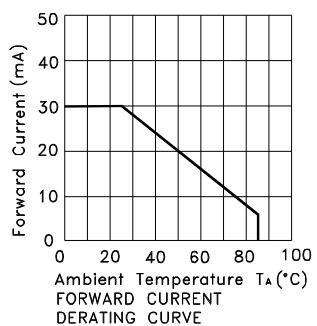
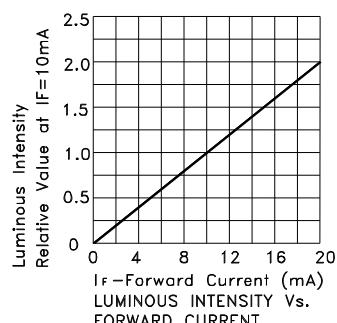
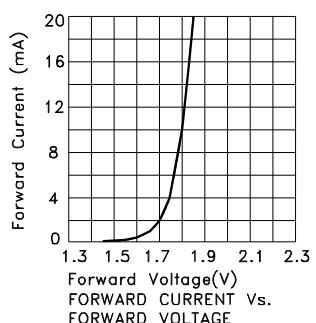
Note:

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



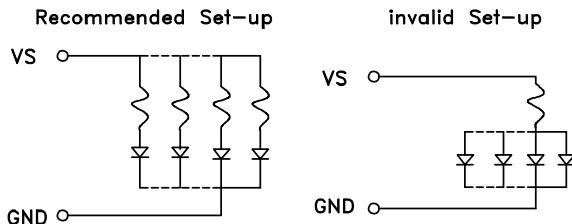
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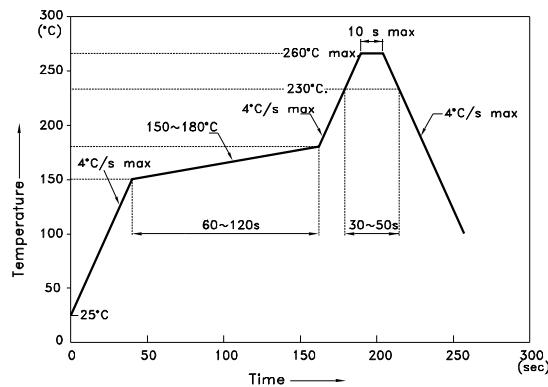
## CIRCUIT DESIGN NOTES

1. Protective current-limiting resistors may be necessary to operate the Displays.
2. LEDs mounted in parallel should each be placed in series with its own current-limiting resistor.



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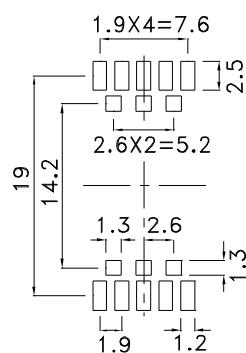
Reflow Soldering Profile For Lead-free SMT Process.



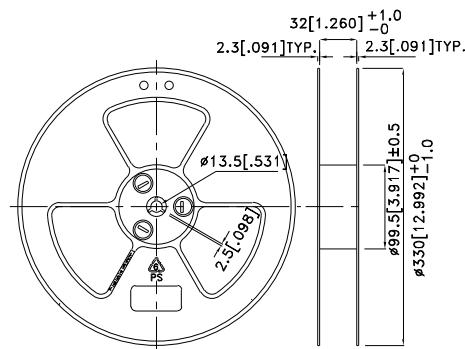
NOTES:

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.

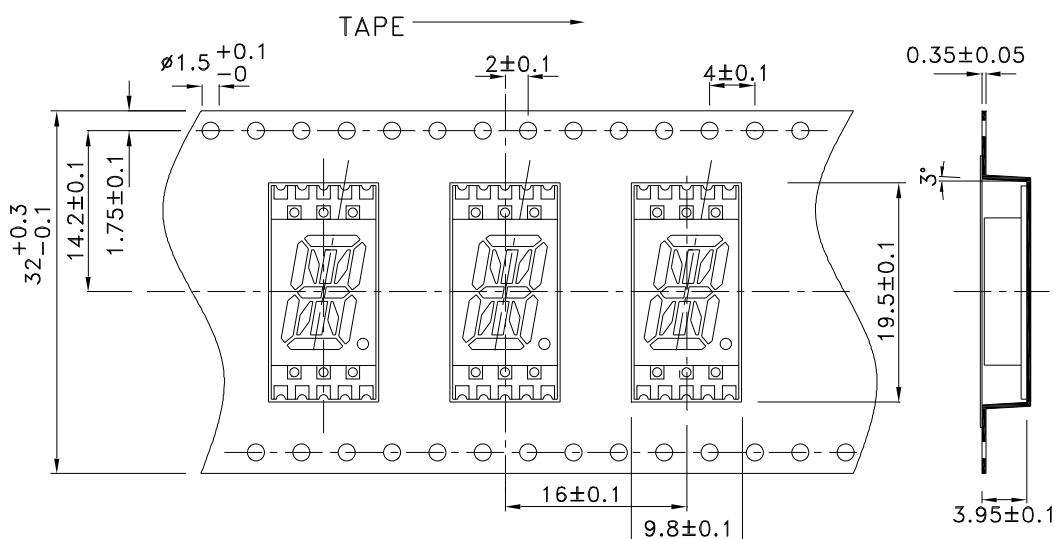
### Recommended Soldering Pattern (Units : mm; Tolerance: $\pm 0.15$ )



### Reel Dimension



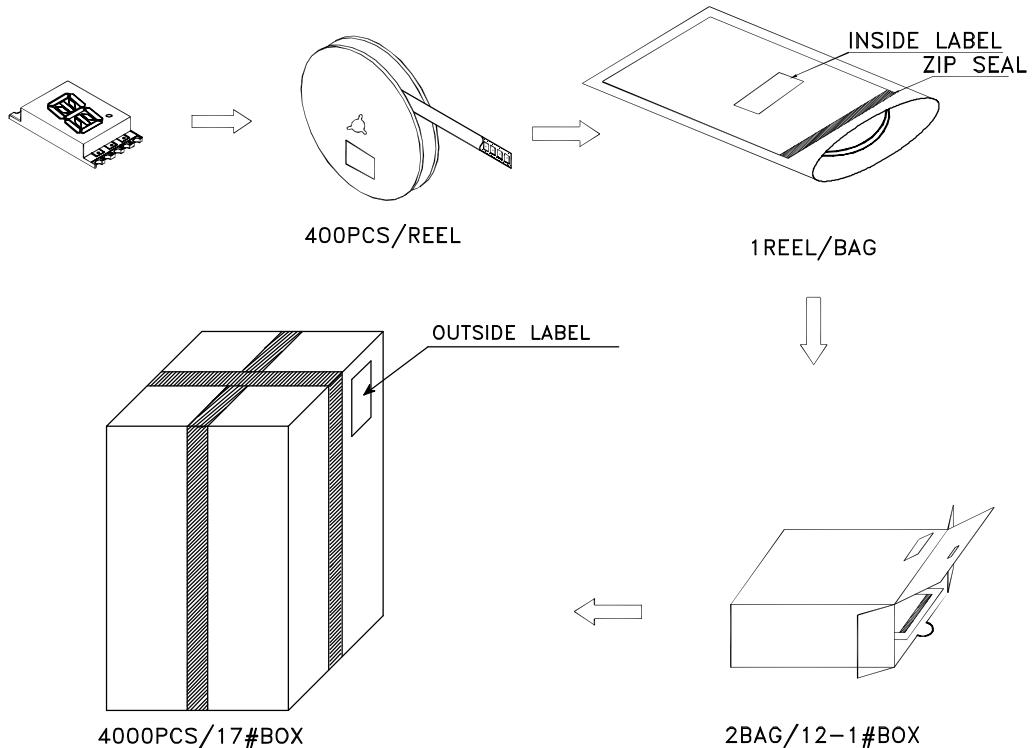
### Tape Specifications (Units : mm)



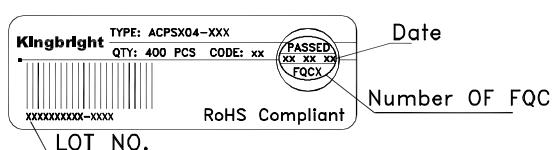
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## PACKING & LABEL SPECIFICATIONS

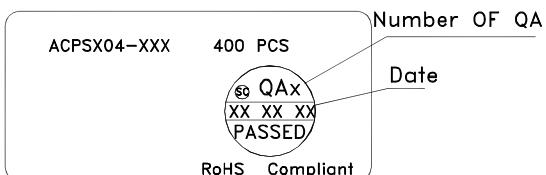
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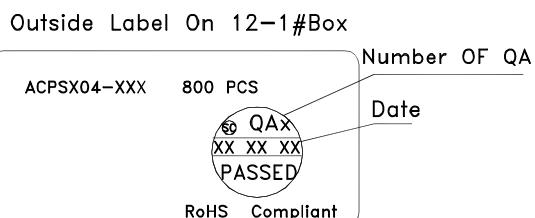
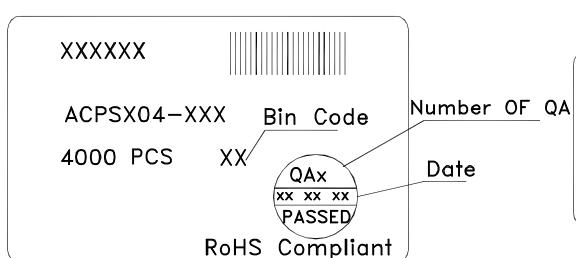
Inside Label On Tape



Outside Label On Bag



Outside Label On 17#Box



All design applications should refer to Kingbright application notes available at  
<http://www.KingbrightUSA.com/ApplicationNotes>

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