

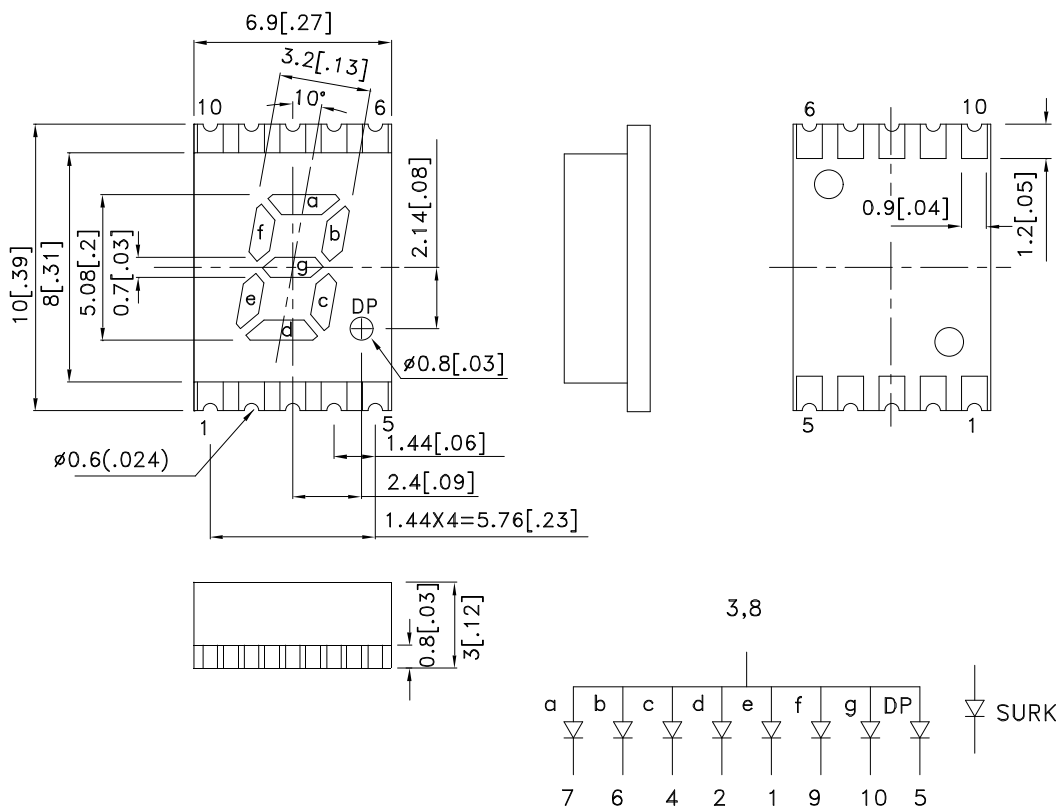
### Features

- 0.2inch digit height.
- Low current operation.
- Excellent character appearance.
- Mechanically rugged.
- Gray face,white segment.
- Package : 650pcs / reel.
- Moisture sensitivity level : level 2a.
- RoHS compliant.

### Description

The Hyper Red source color devices are made with Al-GaN on GaAs substrate 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.



## Selection Guide

| Part No.   | Dice                | Lens Type      | Iv (ucd) [1]<br>@ 10mA |       | Description                     |
|------------|---------------------|----------------|------------------------|-------|---------------------------------|
|            |                     |                | Min.                   | Typ.  |                                 |
| KCSA02-105 | Hyper Red (AlGaInP) | White Diffused | 14000                  | 30000 | Common Anode, Rt. Hand Decimal. |

Note:

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

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

| Symbol                | Parameter                | Device    | Typ. | Max. | Units | Test Conditions           |
|-----------------------|--------------------------|-----------|------|------|-------|---------------------------|
| $\lambda_{peak}$      | Peak Wavelength          | Hyper Red | 650  |      | nm    | I <sub>F</sub> =20mA      |
| $\lambda_D$ [1]       | Dominant Wavelength      | Hyper Red | 630  |      | nm    | I <sub>F</sub> =20mA      |
| $\Delta\lambda_{1/2}$ | Spectral Line Half-width | Hyper Red | 28   |      | nm    | I <sub>F</sub> =20mA      |
| C                     | Capacitance              | Hyper Red | 35   |      | pF    | V <sub>F</sub> =0V;f=1MHz |
| V <sub>F</sub> [2]    | Forward Voltage          | Hyper Red | 1.95 | 2.5  | V     | I <sub>F</sub> =20mA      |
| I <sub>R</sub>        | Reverse Current          | Hyper Red |      | 10   | uA    | V <sub>R</sub> =5V        |

Notes:

1. Wavelength: +/-1nm.

2. Forward Voltage: +/-0.1V.

## Absolute Maximum Ratings at TA=25°C

| Parameter                       | Hyper Red      | Units |
|---------------------------------|----------------|-------|
| Power dissipation               | 75             | 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.



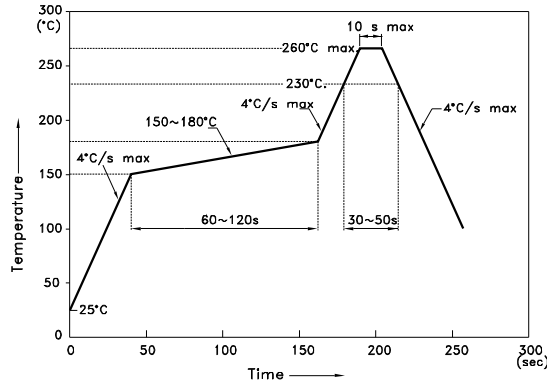
## Hyper Red

### KCSA02-105



## KCSA02-105

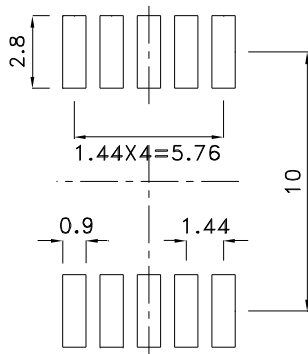
Reflow Soldering Profile For Lead-free SMT Process.



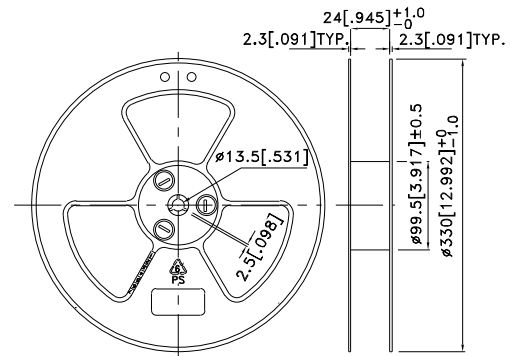
NOTES:

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.

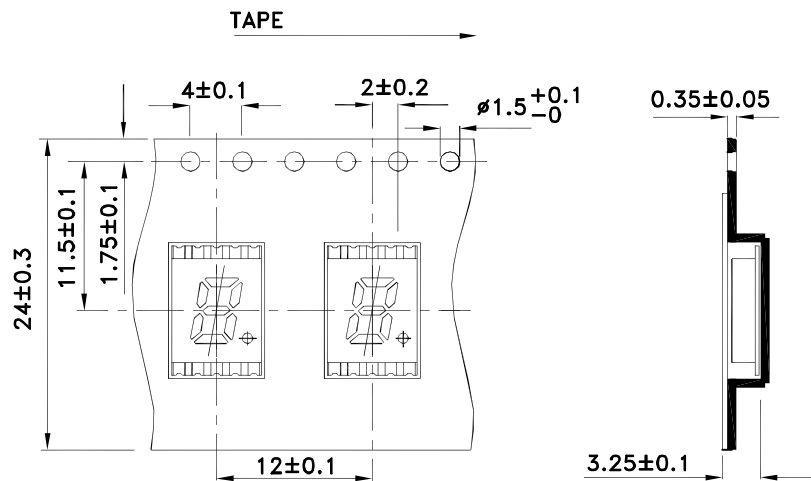
### Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.15)



### Reel Dimension

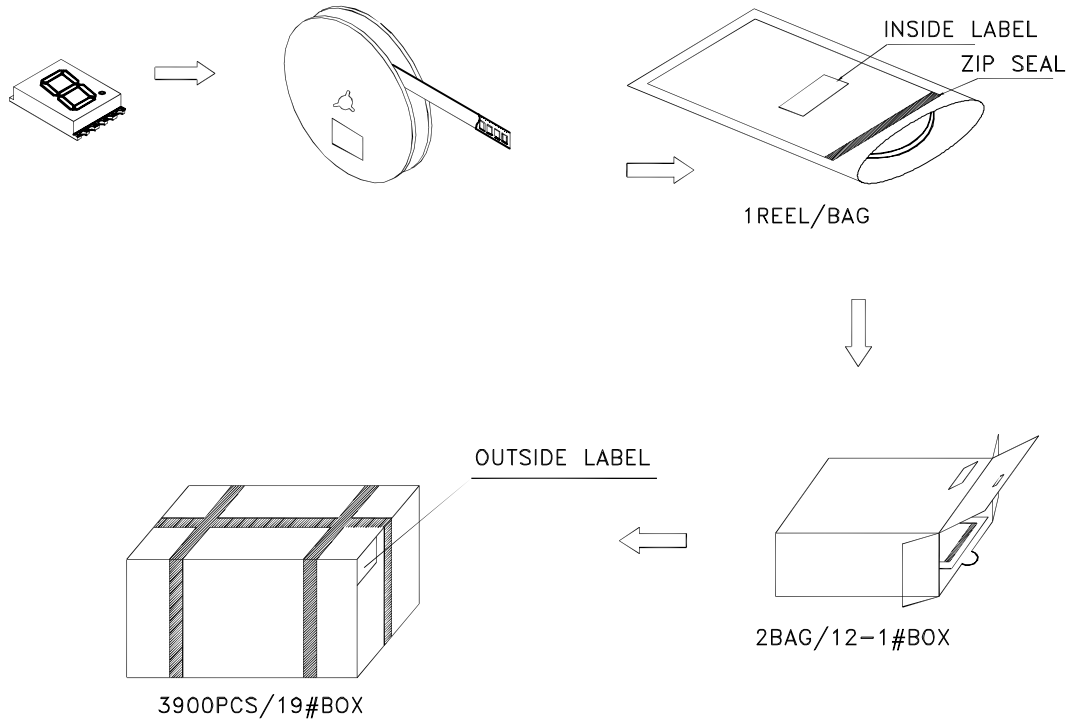


### Tape Specifications (Units : mm)

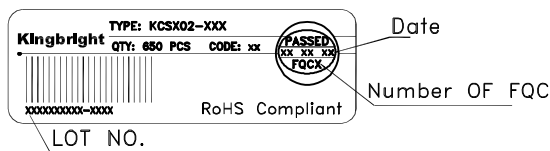


## PACKING & LABEL SPECIFICATIONS

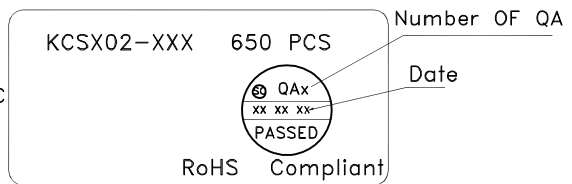
## KCSA02-105



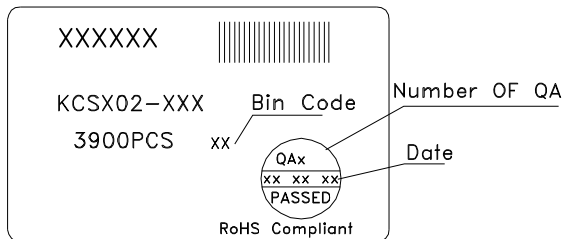
Inside Label On Tape



Outside Label On BAG



Outside Label On 19#Box



Outside Label On 12-1#Box

