

Part Number: APT2012SRCPRV

Super Bright Red

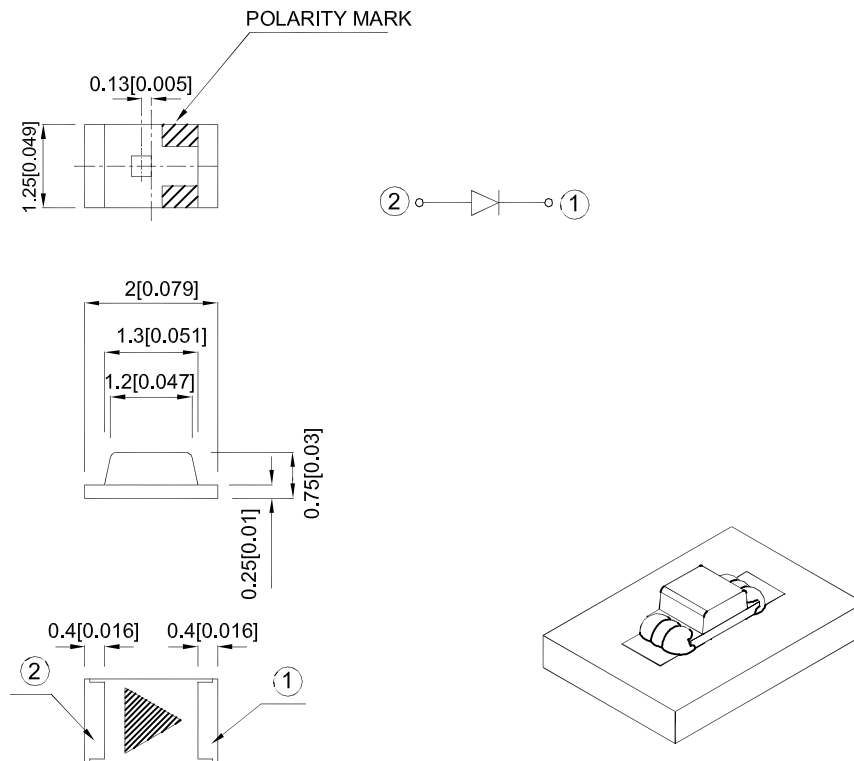
### Features

- 2.0mm x1.25mm SMT LED,0.75mm thickness.
- Low power consumption.
- Wide viewing angle.
- Ideal for backlight and indicator.
- Package : 2000pcs / reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

### Description

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

### Package Dimensions



#### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.1$  (0.004") 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.



## Selection Guide

| Part No.      | Dice                      | Lens Type   | Iv (mcd) [2]<br>@ 20mA |      | Viewing<br>Angle [1] |
|---------------|---------------------------|-------------|------------------------|------|----------------------|
|               |                           |             | Min.                   | Typ. | 2θ1/2                |
| APT2012SRCPRV | Super Bright Red (GaAlAs) | Water Clear | 55                     | 100  | 120°                 |
|               |                           |             | *12                    | *30  |                      |

### Notes:

1.  $\theta_{1/2}$  is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
2. Luminous intensity/ luminous Flux: +/-15%.
- \*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      |
| $\Delta\lambda_{1/2}$ | 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:

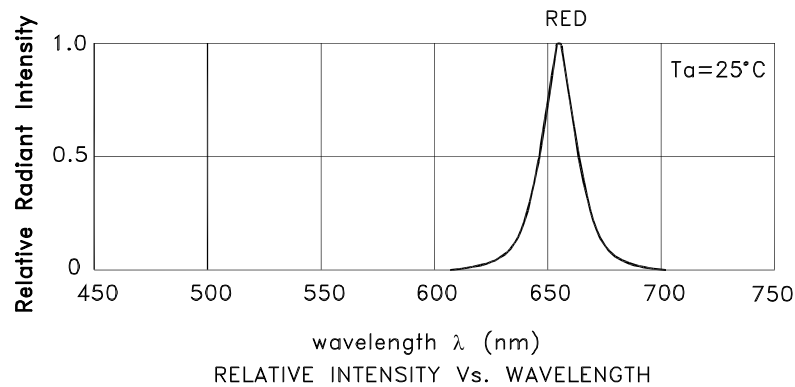
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
3. Wavelength value is traceable to the CIE127-2007 compliant national standards.
4. Excess driving current and/or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

## 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 Temperature    | -40°C To +85°C   |       |
| Storage Temperature      | -40°C To +85°C   |       |

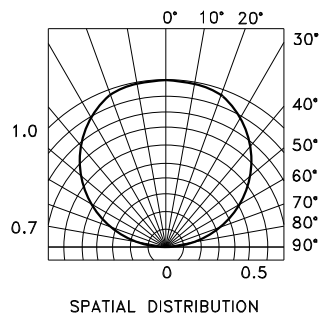
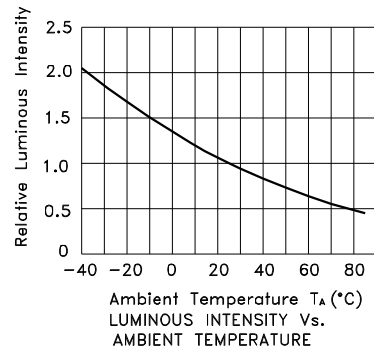
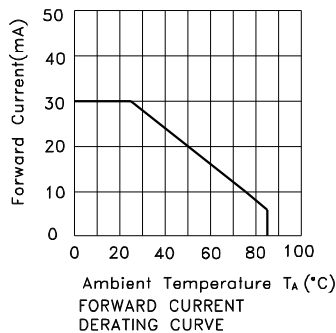
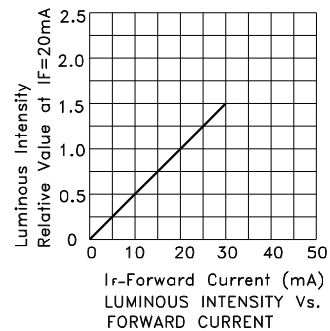
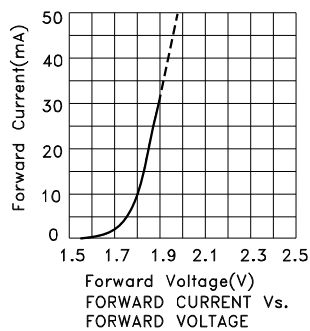
### Note:

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



## Super Bright Red

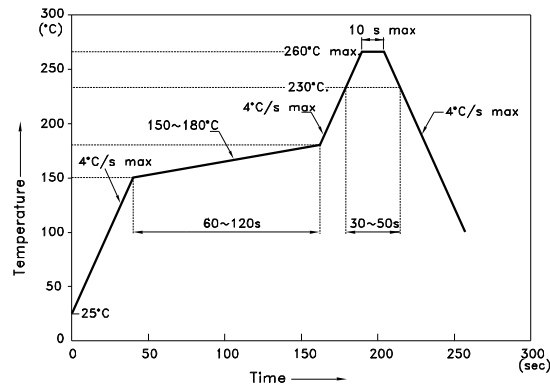
## APT2012SRCPRV



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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.

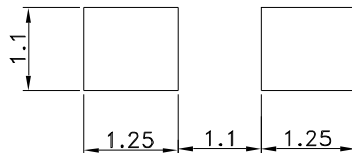
Reflow Soldering Profile For Lead-free SMT Process.



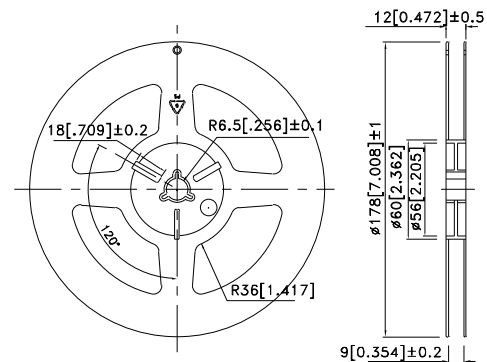
### NOTES:

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.

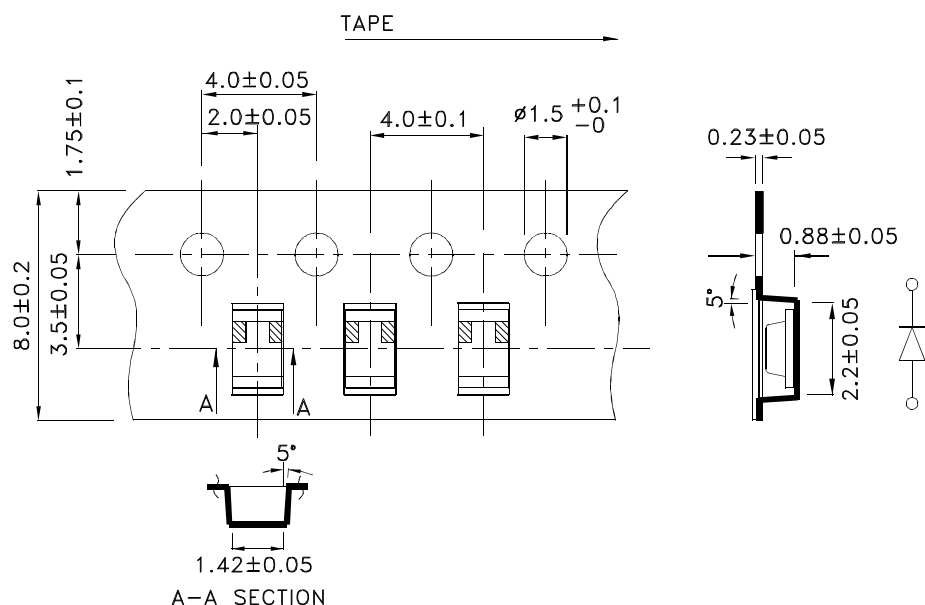
## Recommended Soldering Pattern (Units : mm; Tolerance: $\pm 0.1$ )



## Reel Dimension

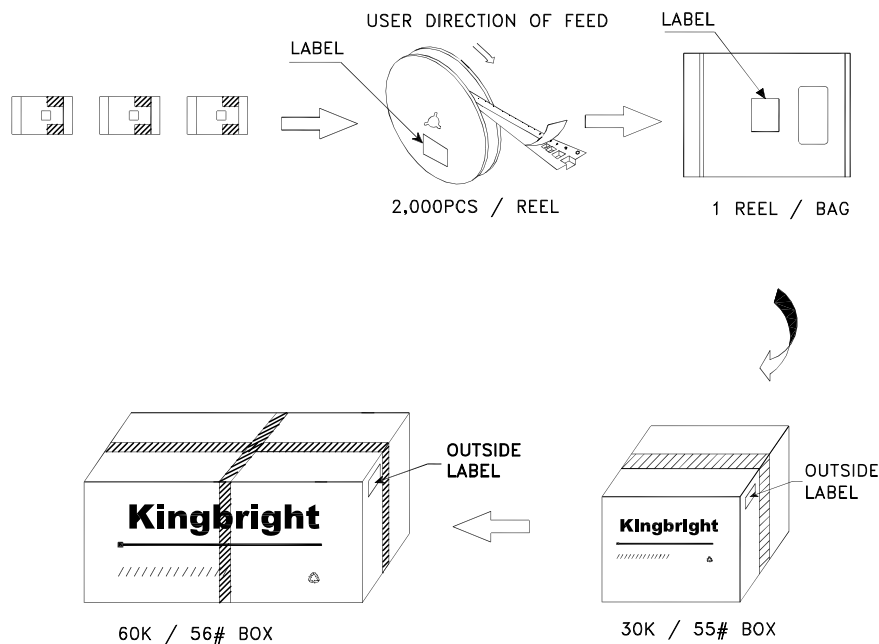


## Tape Dimensions (Units : mm)



## PACKING & LABEL SPECIFICATIONS

APT2012SRCPRV



|                                                                                     |                             |
|-------------------------------------------------------------------------------------|-----------------------------|
| <b>Kingbright</b>                                                                   |                             |
| P/NO: APT2012xxx                                                                    |                             |
| QTY: 2,000 pcs                                                                      | Q.C.                        |
| S/N: XXXX                                                                           | Q C<br>XX XX XXXX<br>PASSED |
| CODE: XXX                                                                           |                             |
| LOT NO:                                                                             |                             |
|  |                             |
| RoHS Compliant                                                                      |                             |

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