

# Kingbright

## 3.8x2.0mm DOME LENS SMD CHIP LED LAMP

APED3820SRC-F01

SUPER BRIGHT RED

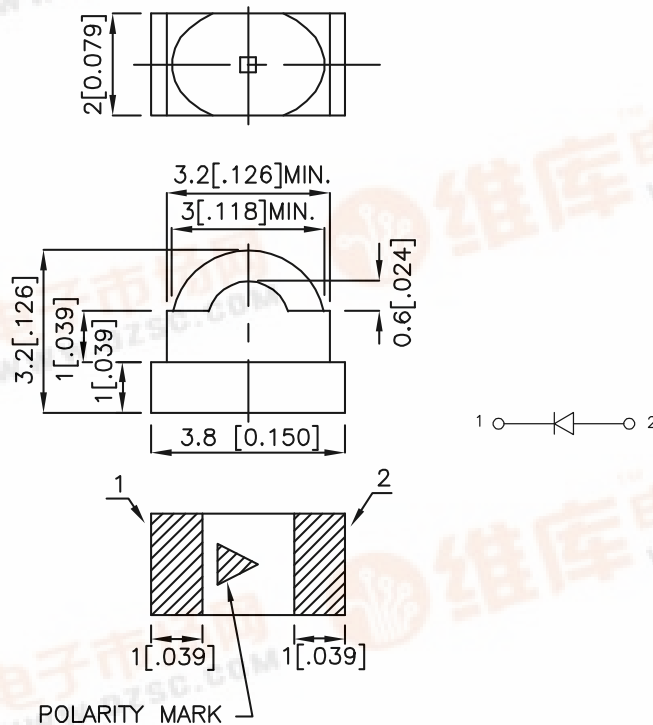
### Features

- 3.8mmx2.0mm SMT LED, 3.2mm THICKNESS.
- LOW POWER CONSUMPTION.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- VARIOUS COLORS AND LENS TYPES AVAILABLE.
- PACKAGE : 500PCS / REEL.
- 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  $\pm 0.2$  (0.008") unless otherwise noted.
3. Specifications are subject to change without notice.

## Selection Guide

| Part No.        | Dice                      | Lens Type   | Iv (mcd)<br>@ 20mA |      | Viewing<br>Angle |
|-----------------|---------------------------|-------------|--------------------|------|------------------|
|                 |                           |             | Min.               | Typ. | 2θ1/2            |
| APED3820SRC-F01 | SUPER BRIGHT RED (GaAlAs) | WATER CLEAR | 110                | 240  | 60°(H)<br>35°(V) |

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<sub>A</sub>=25°C

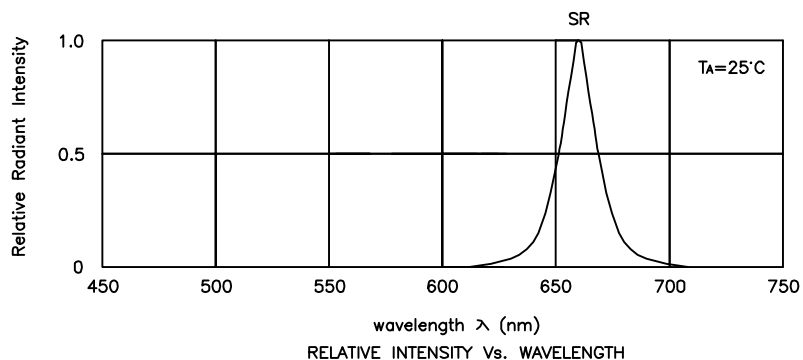
| Symbol            | Parameter                | Device           | Typ. | Max. | Units | Test Conditions            |
|-------------------|--------------------------|------------------|------|------|-------|----------------------------|
| λ <sub>peak</sub> | Peak Wavelength          | Super Bright Red | 660  |      | nm    | I <sub>F</sub> =20mA       |
| λ <sub>D</sub>    | Dominant Wavelength      | Super Bright Red | 640  |      | nm    | I <sub>F</sub> =20mA       |
| Δλ <sub>1/2</sub> | 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>    | 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   | μA    | V <sub>R</sub> = 5V        |

## Absolute Maximum Ratings at T<sub>A</sub>=25°C

| Parameter                       | Super Bright Red | Units |
|---------------------------------|------------------|-------|
| Power dissipation               | 100              | mW    |
| DC Forward Current              | 30               | mA    |
| Peak Forward Current [1]        | 155              | mA    |
| Reverse Voltage                 | 5                | V     |
| Operating / Storage Temperature | -40°C To +85°C   |       |

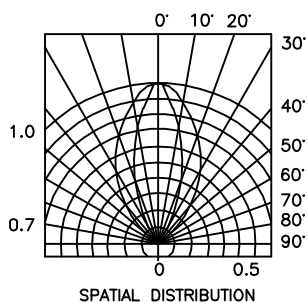
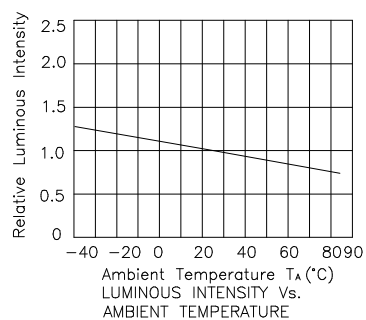
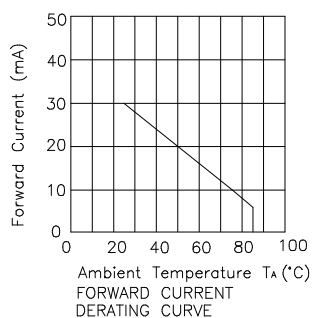
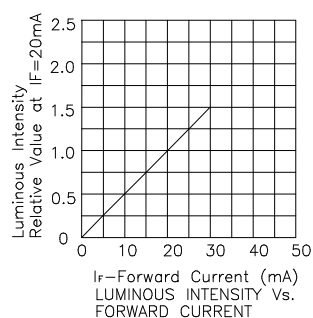
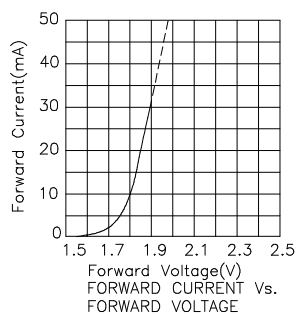
Note:

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



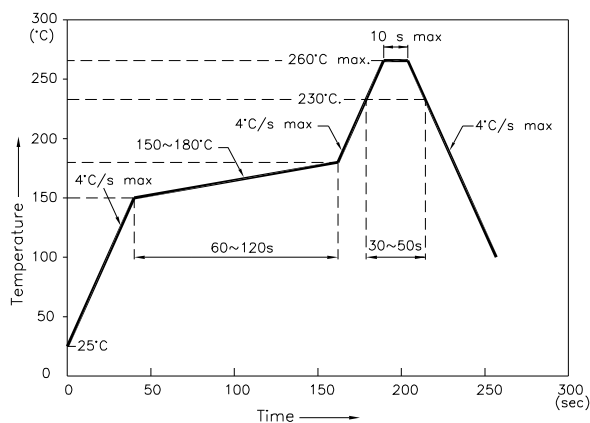
## Super Bright Red

## APED3820SRC-F01



**APED3820SRC-F01**

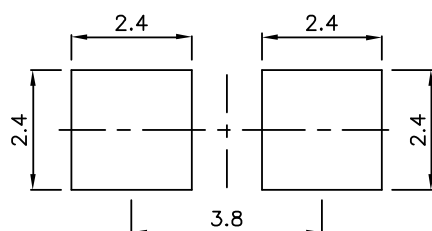
### Reflow Soldering Profile For Lead-free SMT Process.



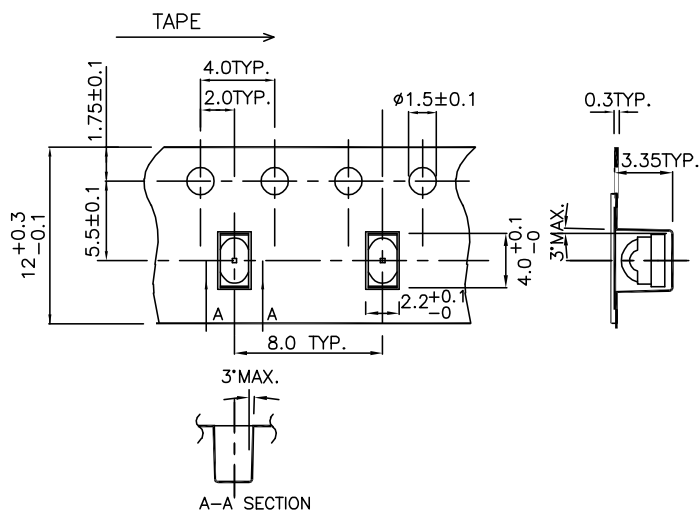
## NOTES:

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)



### 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:  $\pm 1\text{nm}$
2. Luminous Intensity:  $\pm 15\%$
3. Forward Voltage:  $\pm 0.1\text{V}$

Note: Accuracy may depend on the sorting parameters.