

Part Number: APGA1602SEC/E/KA

Hyper Red

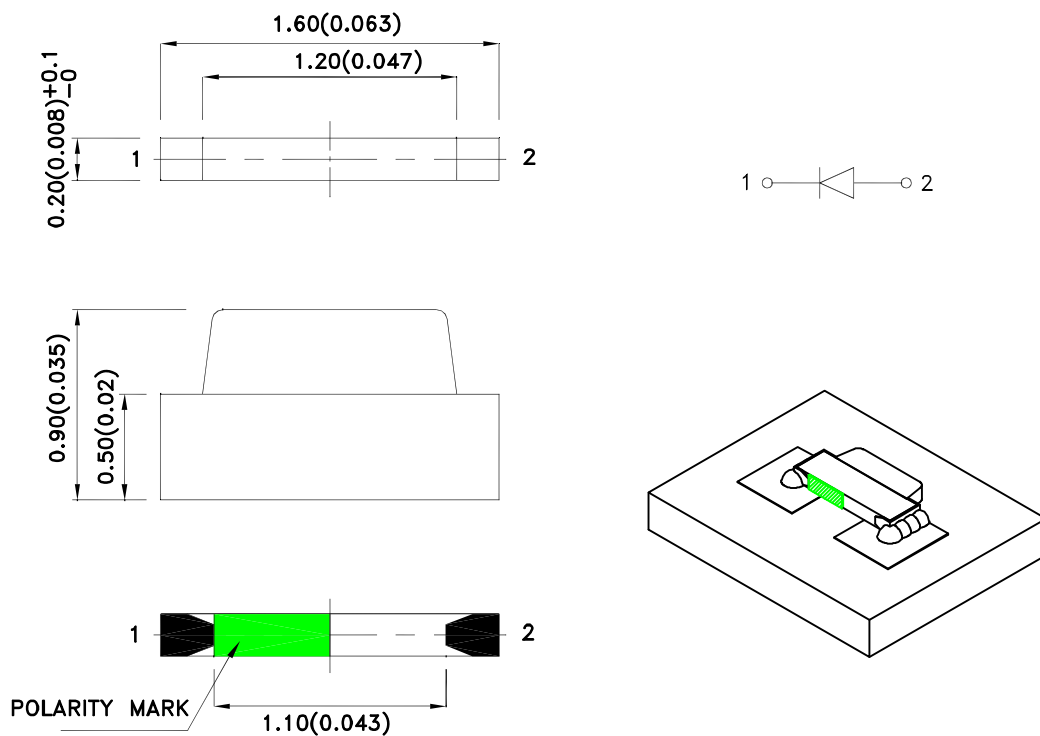
### Features

- 1.6mmx0.2mm right angle SMT LED,0.2mm thickness.
- Low power consumption.
- Wide viewing angle.
- Ideal for backlight and indicator.
- Moisture sensitivity level : level 3.
- Package :2000pcs / reel.
- Tinned pads for improved solderability.
- RoHS compliant.

### Description

The Hyper Red source color devices are made with Al-GaN on GaAs substrate 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                |
| APGA1602SEC/E/KA | Hyper Red (AlGaInP) | Water Clear | 80                     | 200  | 150°(H)              |
|                  |                     |             | *55                    | *120 | 120°(V)              |

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          | Hyper Red | 632  |      | nm    | I <sub>F</sub> =20mA |
| $\lambda_D$ [1]       | Dominant Wavelength      | Hyper Red | 624  |      | nm    | I <sub>F</sub> =20mA |
| $\Delta\lambda_{1/2}$ | Spectral Line Half-width | Hyper Red | 20   |      | nm    | I <sub>F</sub> =20mA |
| V <sub>F</sub> [2]    | Forward Voltage          | Hyper Red | 2.05 | 2.4  | 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.

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

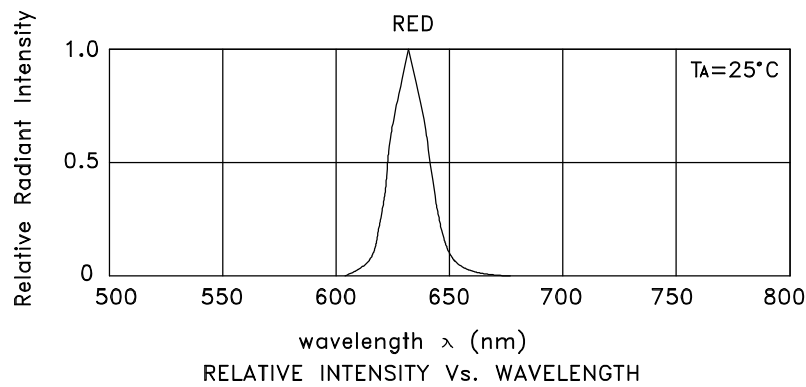
4. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

## Absolute Maximum Ratings at TA=25°C

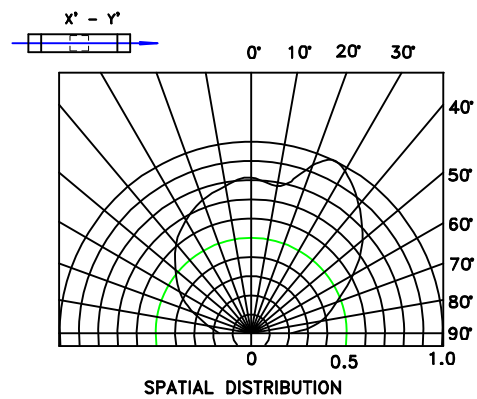
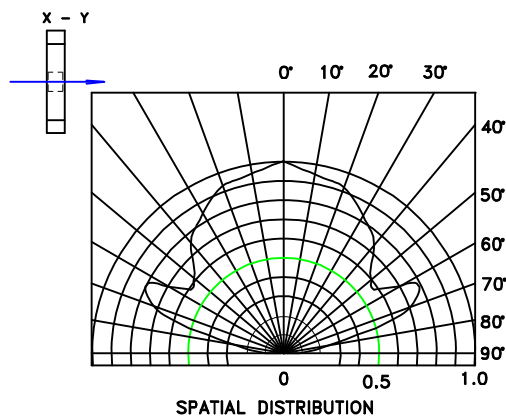
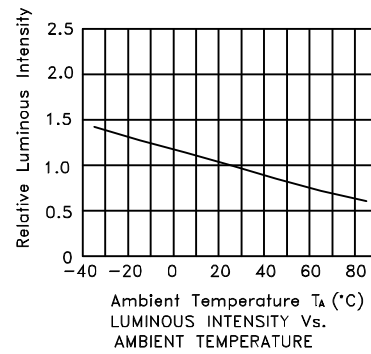
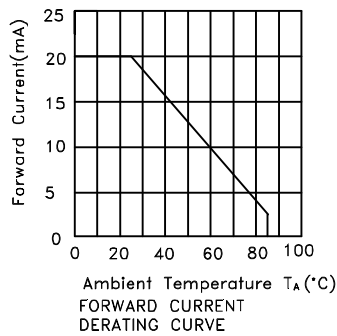
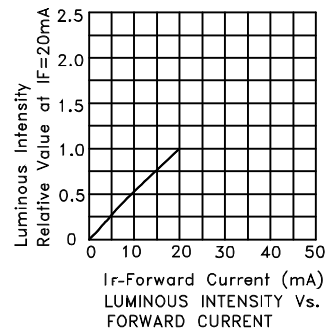
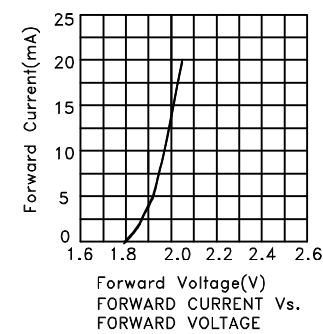
| Parameter                | Hyper Red       | Units |
|--------------------------|-----------------|-------|
| Power dissipation        | 48              | mW    |
| DC Forward Current       | 20              | mA    |
| Peak Forward Current [1] | 100             | mA    |
| Reverse Voltage          | 5               | V     |
| Operating Temperature    | -40°C To +85°C  |       |
| Storage Temperature      | -40°C To +100°C |       |

Note:

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



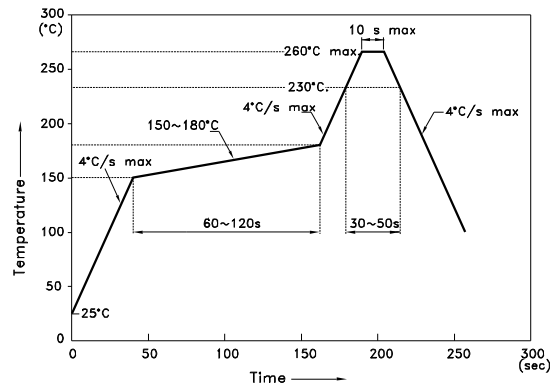
Hyper Red      APGA1602SEC/E/KA



## APGA1602SEC/E/KA

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.

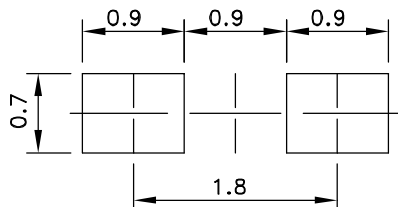
Reflow Soldering Profile For Lead-free SMT Process.



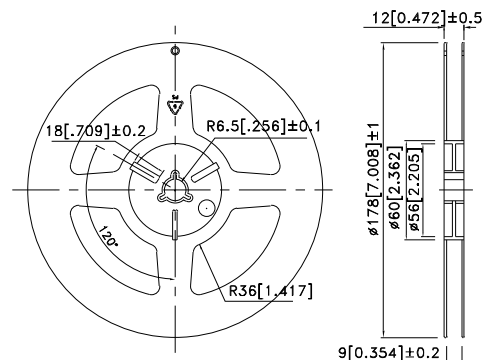
### NOTES:

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.

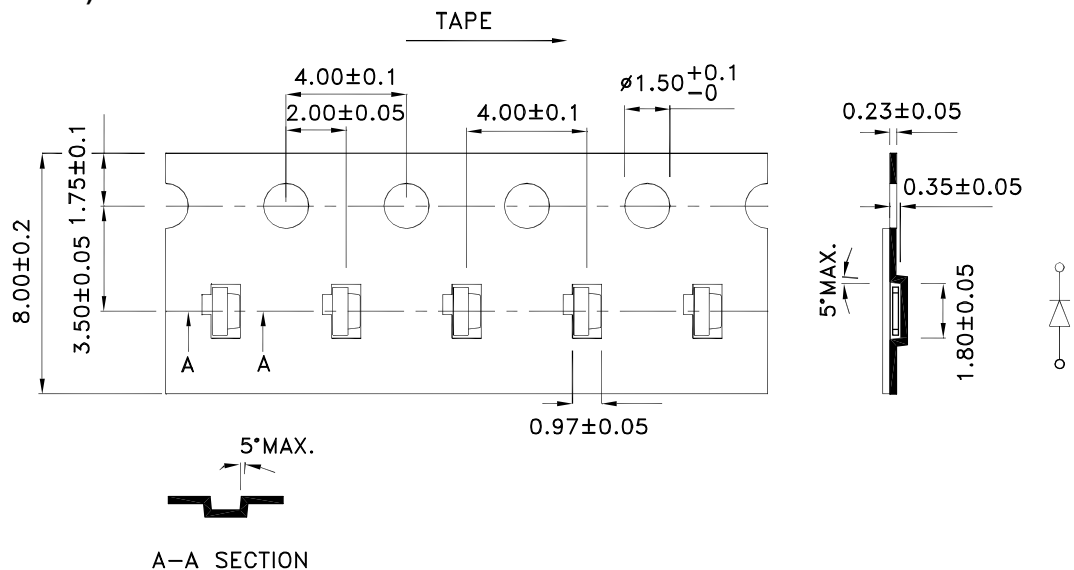
### Recommended Soldering Pattern (Units : mm; Tolerance: $\pm 0.1$ )



### Reel Dimension

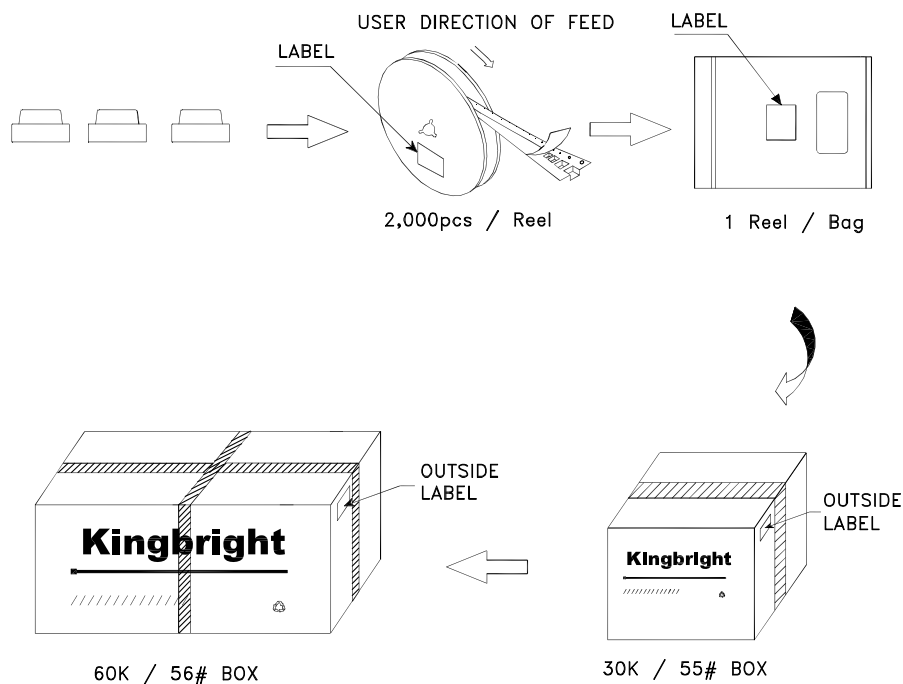


### Tape Dimensions (Units : mm)



## PACKING & LABEL SPECIFICATIONS

## APGA1602SEC/E/KA



|                   |      |                             |
|-------------------|------|-----------------------------|
| <b>Kingbright</b> |      |                             |
| P/N0: APGA1602xxx |      |                             |
| QTY: 2,000 pcs    | Q.C. | Q C<br>XX XX XXXX<br>PASSED |
| S/N: XXXX         |      |                             |
| CODE: XXX         |      |                             |
| LOT NO:           |      |                             |
|                   |      |                             |
| RoHS Compliant    |      |                             |

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