

Part Number: APL3015EC-F01

High Efficiency Red

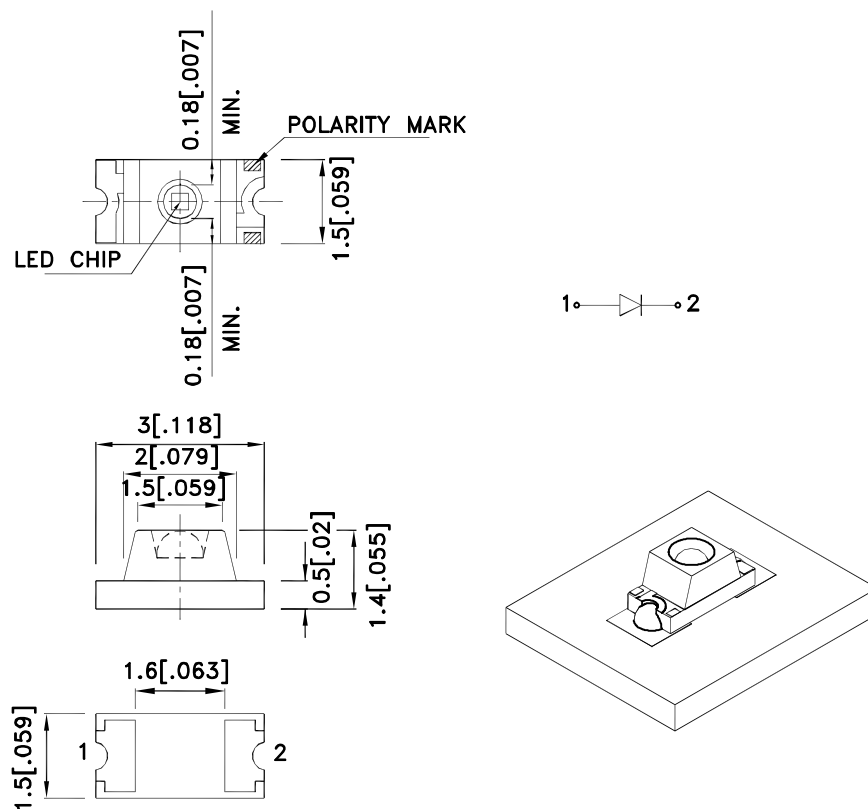
### Features

- 3.0mmx1.5mm SMT LED, 1.4mm thickness.
- Low power consumption.
- Ideal for backlight and indicator.
- Various colors and lens types available.
- Package : 2000pcs / reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

### Description

The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange 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. 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                |
| APL3015EC-F01 | High Efficiency Red (GaAsP/GaP) | Water Clear | 12                     | 25   | 70°                  |

Notes:

1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
2. Luminous intensity/ luminous Flux: +/-15%.

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

| Symbol             | Parameter                | Device              | Typ. | Max. | Units | Test Conditions           |
|--------------------|--------------------------|---------------------|------|------|-------|---------------------------|
| λ <sub>peak</sub>  | Peak Wavelength          | High Efficiency Red | 627  |      | nm    | I <sub>F</sub> =20mA      |
| λ <sub>D</sub> [1] | Dominant Wavelength      | High Efficiency Red | 625  |      | nm    | I <sub>F</sub> =20mA      |
| Δλ <sub>1/2</sub>  | Spectral Line Half-width | High Efficiency Red | 45   |      | nm    | I <sub>F</sub> =20mA      |
| C                  | Capacitance              | High Efficiency Red | 15   |      | pF    | V <sub>F</sub> =0V;f=1MHz |
| V <sub>F</sub> [2] | Forward Voltage          | High Efficiency Red | 2    | 2.5  | V     | I <sub>F</sub> =20mA      |
| I <sub>R</sub>     | Reverse Current          | High Efficiency Red |      | 10   | uA    | V <sub>R</sub> =5V        |

Notes:

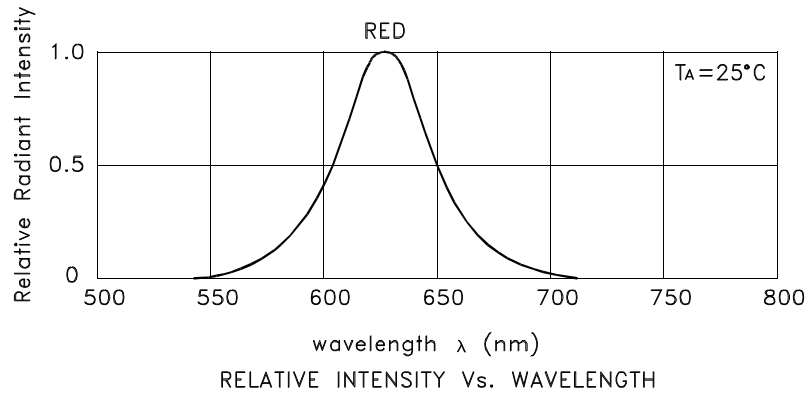
- 1.Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

## Absolute Maximum Ratings at TA=25°C

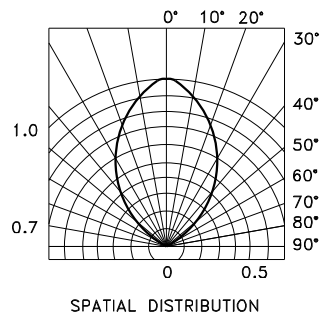
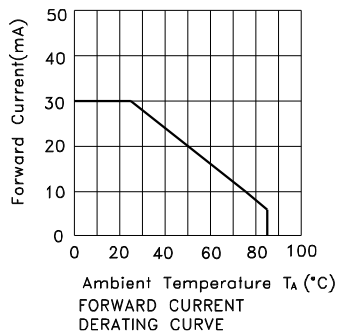
| Parameter                | High Efficiency Red | Units |
|--------------------------|---------------------|-------|
| Power dissipation        | 75                  | mW    |
| DC Forward Current       | 30                  | mA    |
| Peak Forward Current [1] | 160                 | mA    |
| Reverse 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.



## High Efficiency Red APL3015EC-F01



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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.

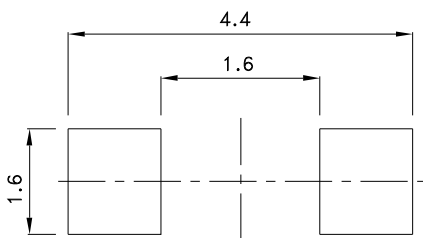
Reflow Soldering Profile For Lead-free SMT Process.



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.

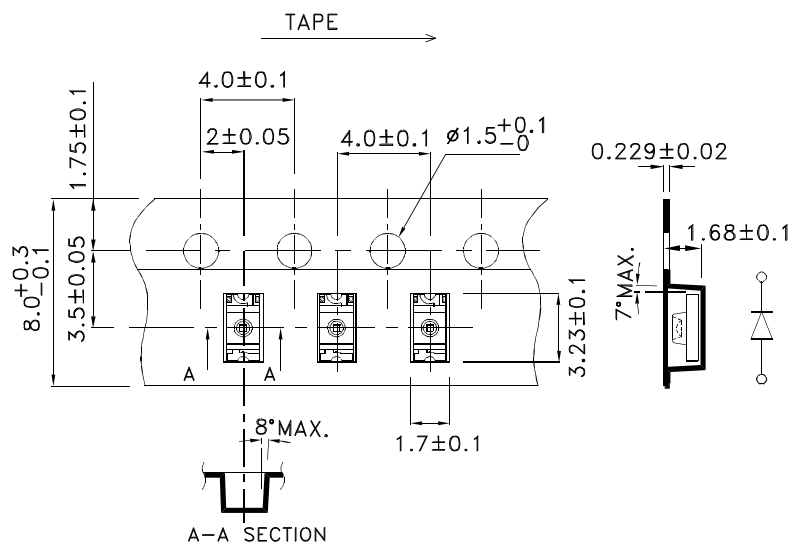
### Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



### Reel Dimension



### Tape Dimensions (Units : mm)




# Kingbright

PACKING & LABEL SPECIFICATIONS

APL3015EC-F01



|   |  |
|---|--|
| <b>Kingbright</b>   |  |
| P/NO: APL3015xxx  |  |
| QTY: 2,000 pcs  | Q.C. <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">Q C<br/>xx xx xxxx<br/>PASSED</span> |
| S/N: XXXX   |  |
| CODE: XXX   |  |
| LOT NO:   |  |
| <br><small>xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx</small> |  |
| RoHS Compliant  |  |