

Part Number: WP1533AA/ID-W152

High Efficiency Red

### Features

- Outstanding material efficiency.
- Reliable and rugged.
- Low current capability.
- Housing UL rating:94V-0.
- Housing material: type 66 nylon.
- 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

Fig.1 :

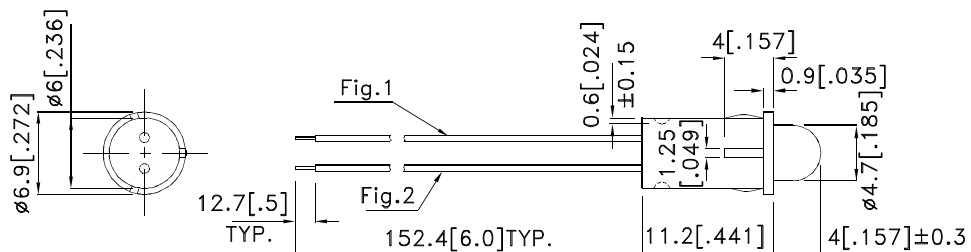
ANODE LEAD :RED INSULATION LEAD ,24 AWG ,UL#1007,Ø1.45mm,  
TINNED OVERCOATED WIRE , STRIP 12.7mm.

Fig. 2 :

CATHODE LEAD :BLACK INSULATION LEAD ,24 AWG,UL#1007 ,Ø1.45mm,  
TINNED OVERCOATED WIRE , STRIP 12.7mm.

Fig.3 :

STAKING TO FIX THE HOLDER AND LED .



Remark:

Recommended panel mount hole diameter  $\phi = 6.30-6.35\text{mm}$ ;  
panel thickness 1.0mm.

Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25(0.01")$  unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.
4. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.



## Selection Guide

| Part No.         | Dice                            | Lens Type    | Iv (mcd) [2]<br>@ 10mA |      | Viewing<br>Angle [1] |
|------------------|---------------------------------|--------------|------------------------|------|----------------------|
|                  |                                 |              | Min.                   | Typ. | 2θ1/2                |
| WP1533AA/ID-W152 | High Efficiency Red (GaAsP/GaP) | Red Diffused | 25                     | 70   | 60°                  |

### 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 |
|--------|--------------------------|---------------------|------|------|-------|-----------------|
| λpeak  | Peak Wavelength          | High Efficiency Red | 627  |      | nm    | IF=20mA         |
| λD [1] | Dominant Wavelength      | High Efficiency Red | 625  |      | nm    | IF=20mA         |
| Δλ1/2  | Spectral Line Half-width | High Efficiency Red | 45   |      | nm    | IF=20mA         |
| C      | Capacitance              | High Efficiency Red | 15   |      | pF    | VF=0V;f=1MHz    |
| VF [2] | Forward Voltage          | High Efficiency Red | 2    | 2.5  | V     | IF=20mA         |
| IR     | Reverse Current          | High Efficiency Red |      | 10   | uA    | VR = 5V         |

### Notes:

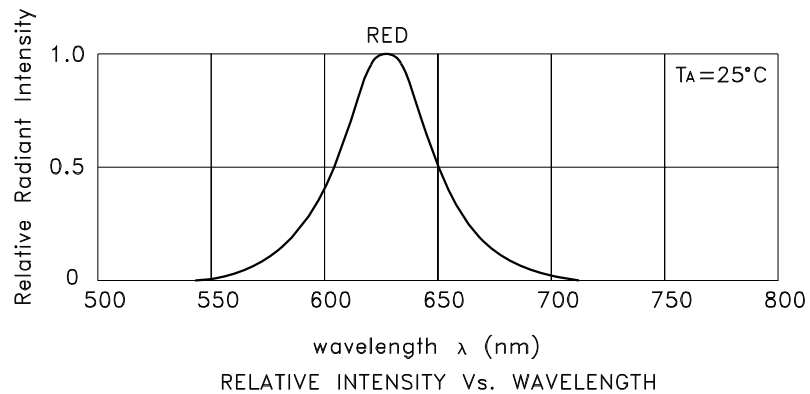
- 1.Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

## 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/Storage Temperature | -40°C To +85°C      |       |
| Lead Solder Temperature [2]   | 260°C For 3 Seconds |       |
| Lead Solder Temperature [3]   | 260°C For 5 Seconds |       |

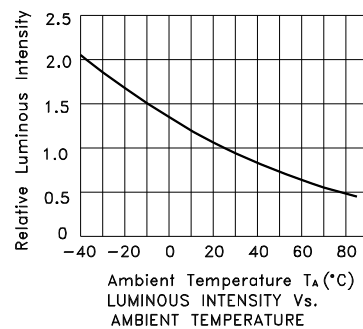
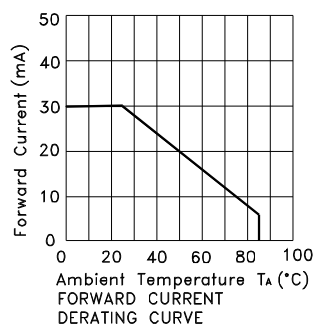
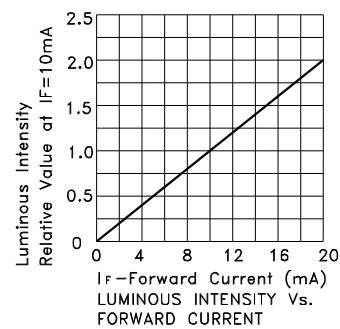
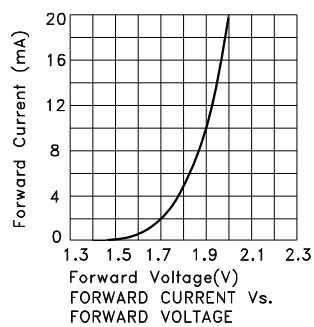
### Notes:

1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 2mm below package base.
3. 5mm below package base.



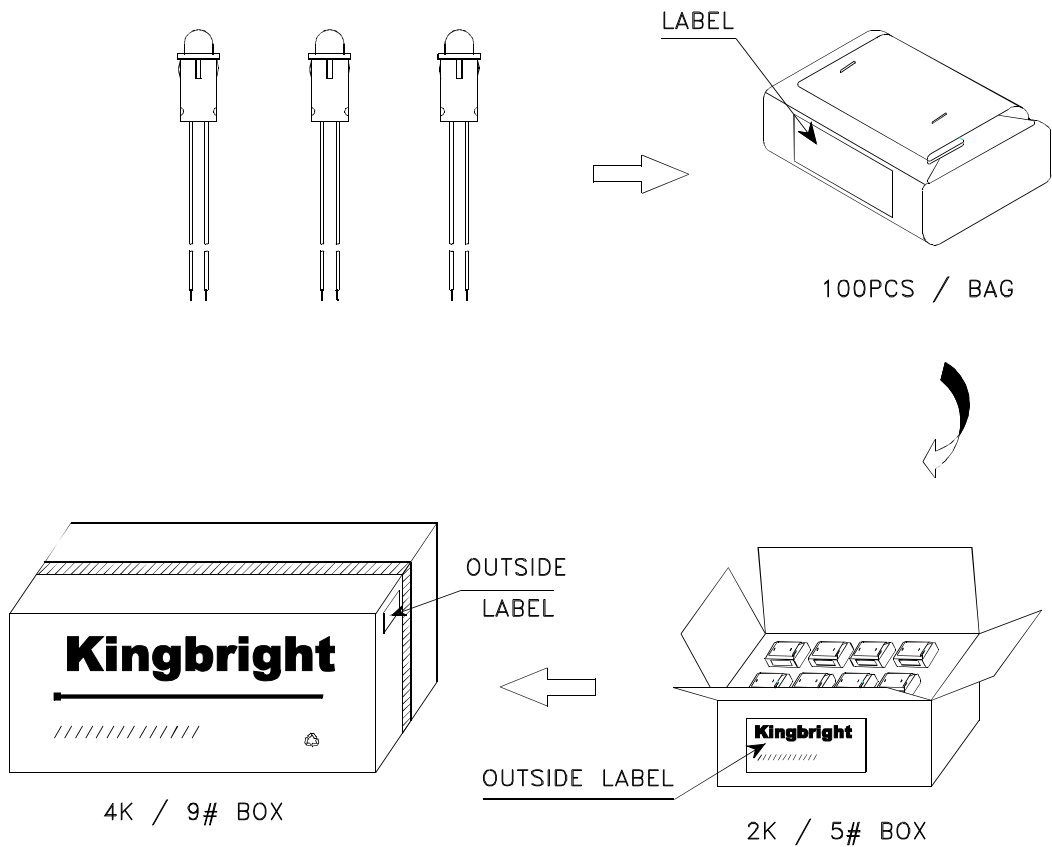
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## PACKING & LABEL SPECIFICATIONS

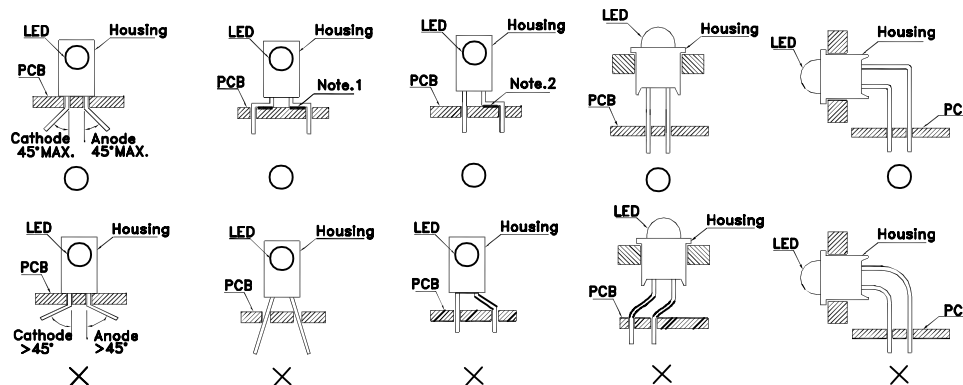
WP1533AA/ID-W152



|                                                                                                    |                                                                                                                    |
|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| <b>Kingbright</b>                                                                                  |                                                                                                                    |
| P/NO: WP1533AAxxx                                                                                  |                                                                                                                    |
| QTY: 100 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>XXXXXXXXXX |                                                                                                                    |
| RoHS Compliant                                                                                     |                                                                                                                    |

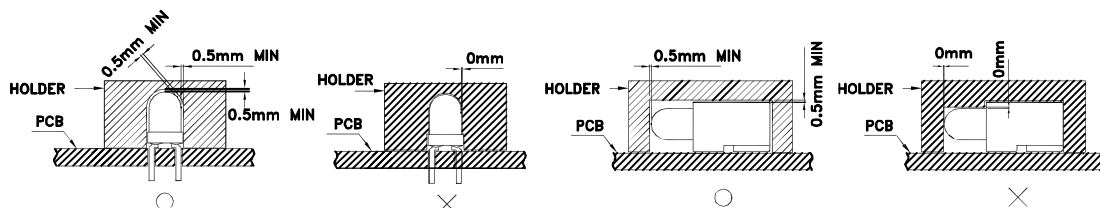
## PRECAUTIONS

1. The lead pitch of the LED must match the pitch of the mounting holes on the PCB during component placement. Lead-forming may be required to insure the lead pitch matches the hole pitch. Refer to the figure below for proper lead forming procedures.

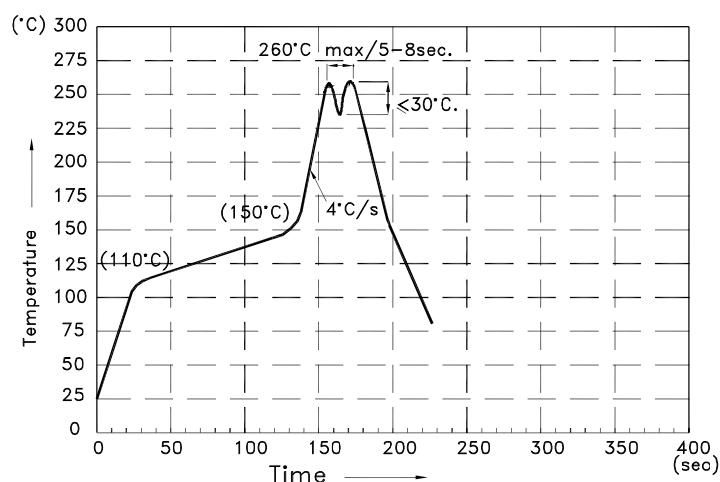


”O” Correct mounting method ”X” Incorrect mounting method

2. During soldering, component covers and holders should leave clearance to avoid placing damaging stress on the LED during soldering.



3. The tip of the soldering iron should never touch the lens epoxy.
4. Through-hole LEDs are incompatible with reflow soldering.
5. If the LED will undergo multiple soldering passes or face other processes where the part may be subjected to intense heat, please check with Kingbright for compatibility.
6. Recommended Wave Soldering Profile for Kingbright Thru-Hole Products



### NOTES:

1. Recommend the wave temperature  $245^\circ\text{C} \sim 260^\circ\text{C}$ . The maximum soldering temperature should be less than  $260^\circ\text{C}$ .
2. Do not apply stress on epoxy resins when temperature is over  $85^\circ\text{C}$ .
3. The soldering profile apply to the lead free soldering (Sn/Cu/Ag alloy).
4. During wave soldering, the PCB top-surface temperature should be kept below  $105^\circ\text{C}$ .
5. No more than once.



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Электрон  
Связь**

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