

Part Number: KP-1608SF4C

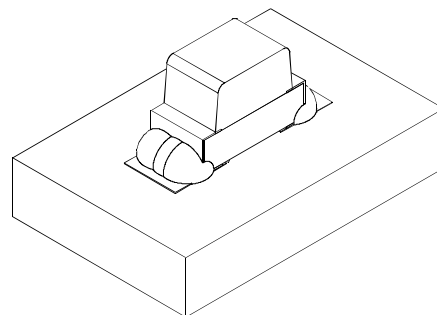
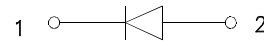
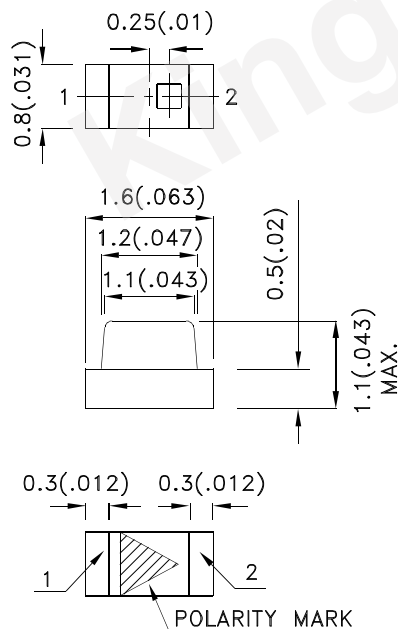
### Features

- 1.6mmX0.8mm SMT LED, 1.1mm thickness.
- Mechanically and spectrally matched to the phototransistor.
- Package: 2000pcs / reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

### Description

SF4 Made with Gallium Aluminum Arsenide Infrared Emitting diodes.

### 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   | Po (mW/sr) [2]<br>@ 20mA |      | Viewing<br>Angle [1] |
|-------------|--------------|-------------|--------------------------|------|----------------------|
|             |              |             | Min.                     | Typ. | 2θ1/2                |
| KP-1608SF4C | SF4 (GaAlAs) | Water Clear | 0.8                      | 1.5  | 120°                 |

Notes:

1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
2. Radiant Intensity/ luminous flux: +/-15%.
3. Radiant Intensity value is traceable to the CIE127-2007 compliant national standards.

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

| Parameter                | P/N | Symbol         | Typ. | Max. | Units | Test Conditions           |
|--------------------------|-----|----------------|------|------|-------|---------------------------|
| Forward Voltage [1]      | SF4 | V <sub>F</sub> | 1.3  | 1.6  | V     | I <sub>F</sub> =20mA      |
| Reverse Current          | SF4 | I <sub>R</sub> |      | 10   | uA    | V <sub>R</sub> = 5V       |
| Capacitance              | SF4 | C              | 90   |      | pF    | V <sub>F</sub> =0V;f=1MHz |
| Peak Spectral Wavelength | SF4 | λ <sub>P</sub> | 880  |      | nm    | I <sub>F</sub> =20mA      |
| Spectral Bandwidth       | SF4 | Δλ1/2          | 50   |      | nm    | I <sub>F</sub> =20mA      |

Note:

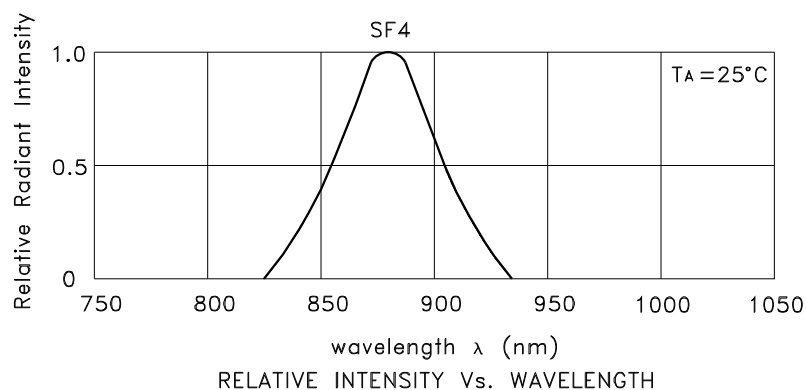
1. Forward Voltage: +/-0.1V.
2. Wavelength value is traceable to the CIE127-2007 compliant national standards.

## Absolute Maximum Ratings at TA=25°C

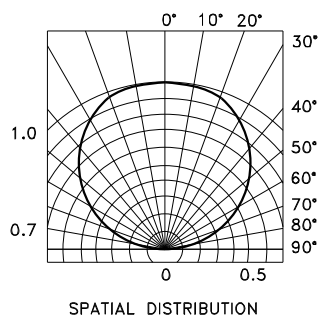
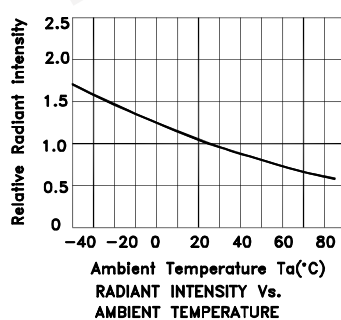
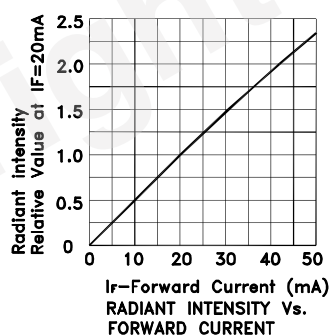
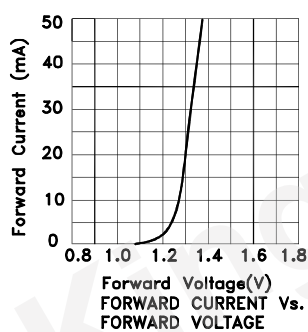
| Parameter                | Symbol           | SF4        | Units |
|--------------------------|------------------|------------|-------|
| Power dissipation        | P <sub>D</sub>   | 80         | mW    |
| DC Forward Current       | I <sub>F</sub>   | 50         | mA    |
| Peak Forward Current [1] | i <sub>FS</sub>  | 1.2        | A     |
| Reverse Voltage          | V <sub>R</sub>   | 5          | V     |
| Operating Temperature    | T <sub>A</sub>   | -40 To +85 | °C    |
| Storage Temperature      | T <sub>STG</sub> | -40 To +85 | °C    |

Note:

1. 1/100 Duty Cycle, 10μs Pulse Width.



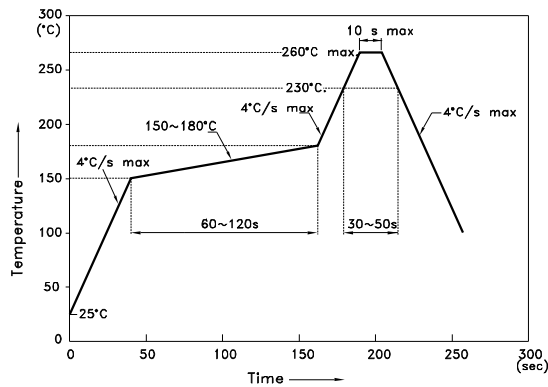
## KP-1608SF4C



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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.

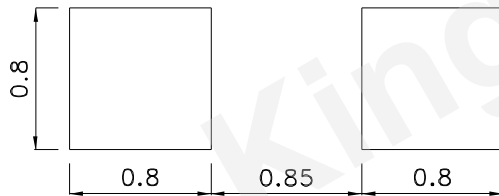
Reflow Soldering Profile For Lead-free SMT Process.



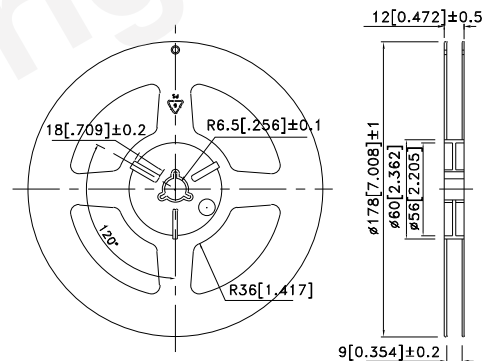
### NOTES:

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.

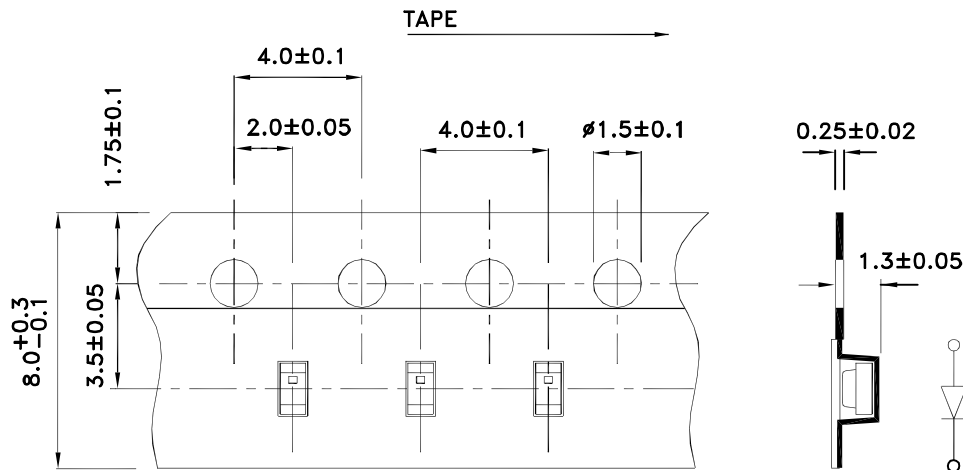
### Recommended Soldering Pattern (Units : mm; Tolerance: $\pm 0.1$ )



### Reel Dimension

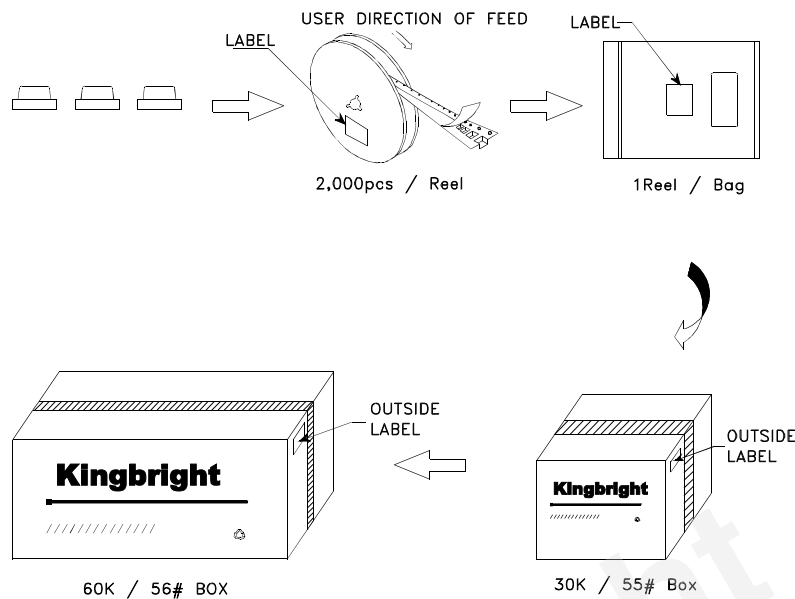


### Tape Specifications (Units : mm)



## PACKING & LABEL SPECIFICATIONS

## KP-1608SF4C



|                                                                                                             |                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| <b>Kingbright</b>                                                                                           |                                                                                                                    |
| P/NO: KP-1608XXX                                                                                            |                                                                                                                    |
| 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>xxxxxxxxxxxxxxxxxxxx |                                                                                                                    |
| RoHS Compliant                                                                                              |                                                                                                                    |

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