

Part Number: AP2012SF4C

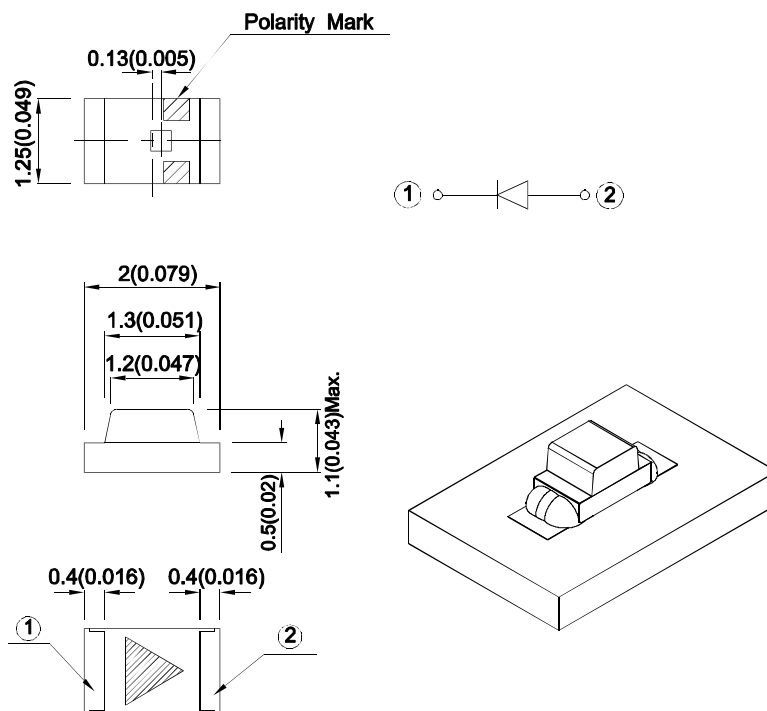
Features

- 2.0mmx1.25mm SMD 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. | Emitting Color (Material) | Lens Type | Po (mW/sr) [2] @ 20mA | | Viewing Angle [1] |
|------------|---------------------------|-------------|--------------------------|------|----------------------|
| | | | Min. | Typ. | 2θ1/2 |
| AP2012SF4C | Infrared (GaAlAs) | Water Clear | 0.8 | 1.5 | 160° |

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 CIE127-2007 standards.

Electrical / Optical Characteristics at TA=25°C

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

Notes:

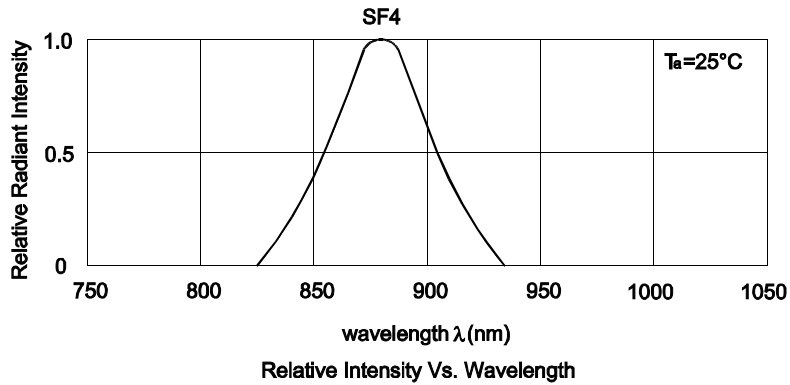
1. Forward Voltage: + / -0.1V.
2. Wavelength value is traceable to CIE127-2007 standards.
3. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

Absolute Maximum Ratings at TA=25°C

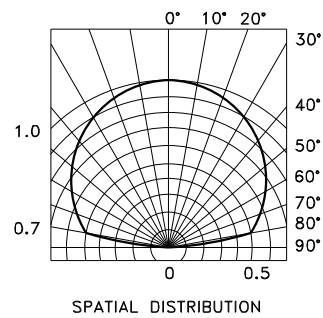
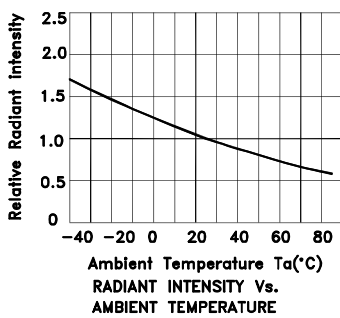
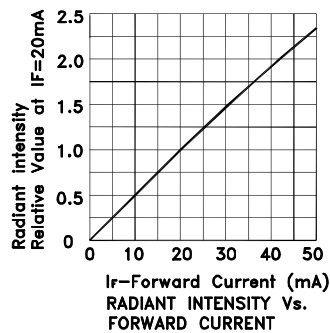
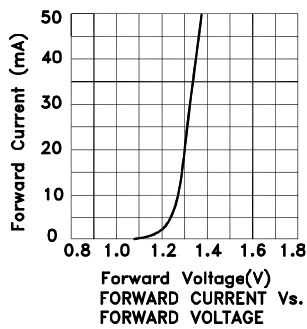
| Parameter | Symbol | Values | Units |
|--------------------------|------------------|------------|-------|
| Power dissipation | P _D | 80 | mW |
| DC Forward Current | I _F | 50 | mA |
| Peak Forward Current [1] | i _{FS} | 1.2 | A |
| Reverse Voltage | V _R | 5 | V |
| Operating Temperature | T _A | -40 To +85 | °C |
| Storage Temperature | T _{STG} | -40 To +85 | °C |

Note:

1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.



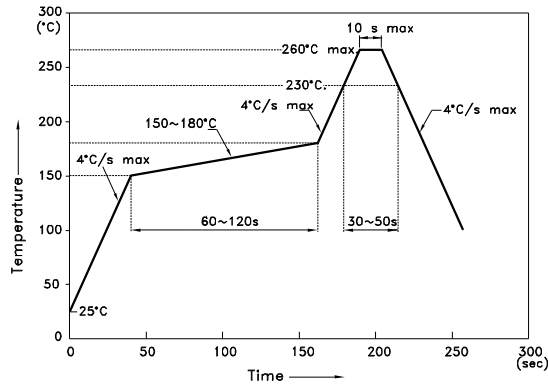
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Reflow soldering is recommended and the soldering profile is shown below.
Other soldering methods are not recommended as they might cause damage to the product.

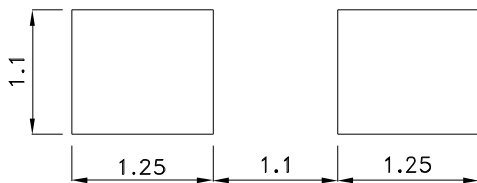
Reflow Soldering Profile For Lead-free SMT Process.



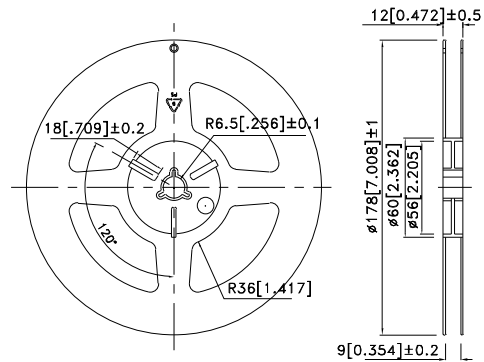
NOTES:

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.

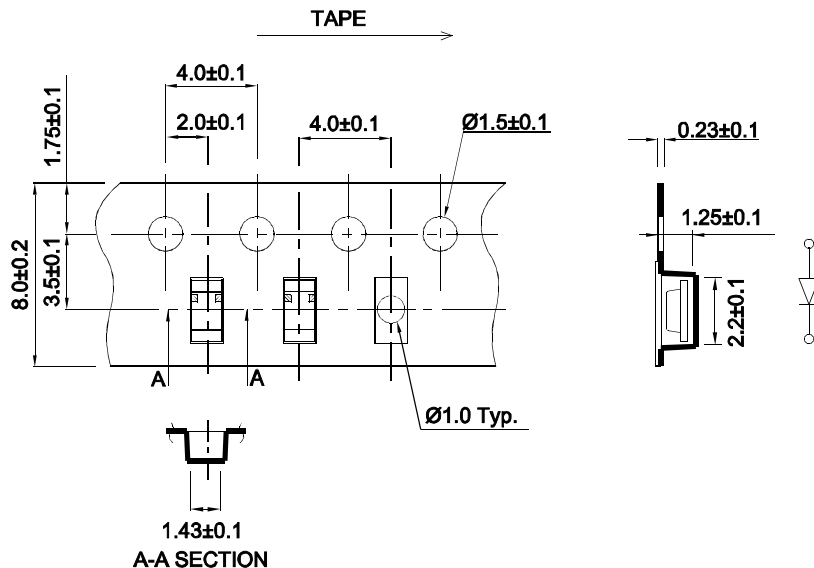
Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



Reel Dimension

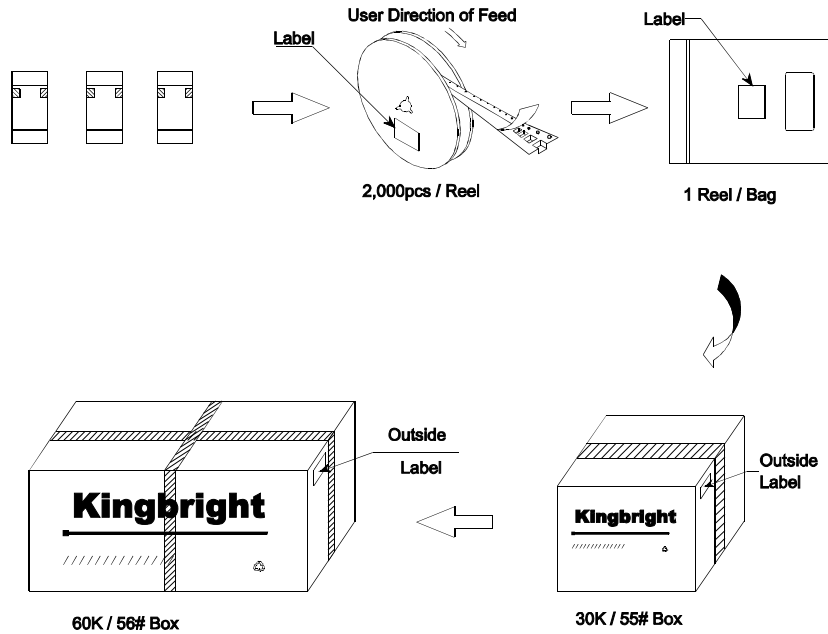


Tape Specifications (Units : mm)



PACKING & LABEL SPECIFICATIONS

AP2012SF4C



| | | | | |
|-------------------|--|----|------------|--------|
| Kingbright | | | | |
| P/NO: AP2012xxx | | | | |
| QTY: 2,000 pcs | Q.C. | | | |
| S/N: XXXX | <table border="1"> <tr> <td>QC</td> </tr> <tr> <td>XXXXXXXXXX</td> </tr> <tr> <td>PASSED</td> </tr> </table> | QC | XXXXXXXXXX | PASSED |
| QC | | | | |
| XXXXXXXXXX | | | | |
| PASSED | | | | |
| CODE: XXX | | | | |
| LOT NO: | | | | |
| | | | | |
| RoHS Compliant | | | | |

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