

# Kingbright

## 2.0x1.25 mm INFRARED EMITTING DIODE

Part Number: APT2012F3C

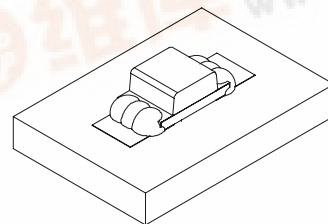
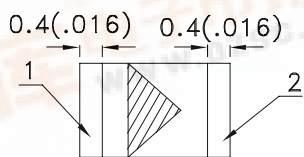
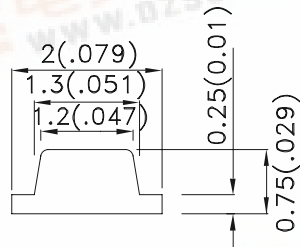
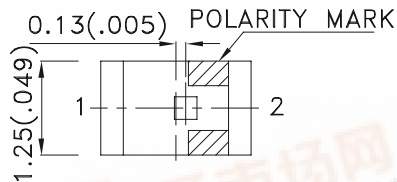
### Features

- 2.0mmx1.25mm SMT LED,0.75mm THICKNESS.
- MECHANICALLY AND SPECTRALLY MATCHED TO THE PHOTOTRANSISTOR.
- WATER CLEAR LENS.
- PACKAGE: 2000PCS / REEL.
- MOISTURE SENSITIVITY LEVEL : LEVEL 3.
- RoHS COMPLIANT.

### Description

F3 Made with Gallium 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. Specifications are subject to change without notice.
4. The device has a single mounting surface. The device must be mounted according to the specifications.



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## Selection Guide

| Part No.   | Dice      | Lens Type   | Po (mW/sr) [2]<br>@ 20mA |      | Viewing Angle [1] |
|------------|-----------|-------------|--------------------------|------|-------------------|
|            |           |             | Min.                     | Typ. | 2 $\theta$ 1/2    |
| APT2012F3C | F3 (GaAs) | WATER CLEAR | 0.4                      | 1.2  | 120°              |

Notes:

1.  $\theta$ 1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
2. Radiant Intensity/ luminous flux: +/-15%.

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

| Parameter                | P/N | Symbol         | Typ. | Max. | Units | Test Conditions           |
|--------------------------|-----|----------------|------|------|-------|---------------------------|
| Forward Voltage [1]      | F3  | V <sub>F</sub> | 1.2  | 1.6  | V     | I <sub>F</sub> =20mA      |
| Reverse Current          | F3  | I <sub>R</sub> |      | 10   | μA    | V <sub>R</sub> = 5V       |
| Capacitance              | F3  | C              | 90   |      | pF    | V <sub>F</sub> =0V;f=1MHz |
| Peak Spectral Wavelength | F3  | λ <sub>P</sub> | 940  |      | nm    | I <sub>F</sub> =20mA      |
| Spectral Bandwidth       | F3  | Δλ1/2          | 50   |      | nm    | I <sub>F</sub> =20mA      |

Note:

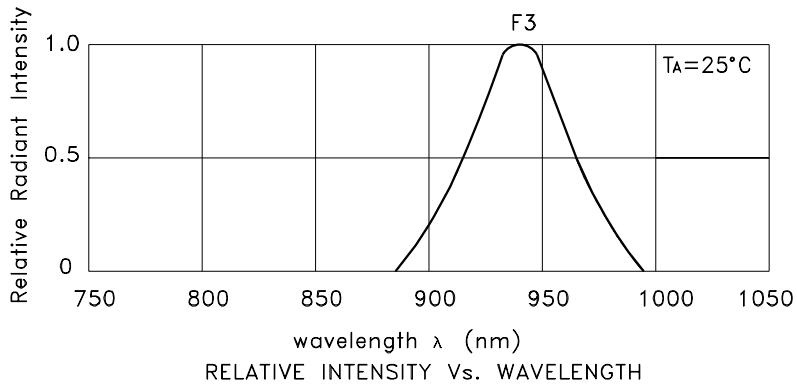
1. Forward Voltage: +/-0.1V.

## Absolute Maximum Ratings at TA=25°C

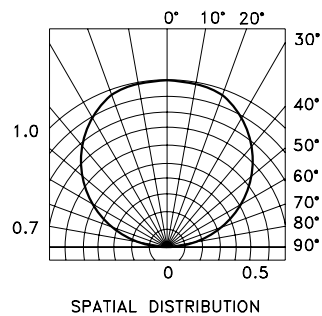
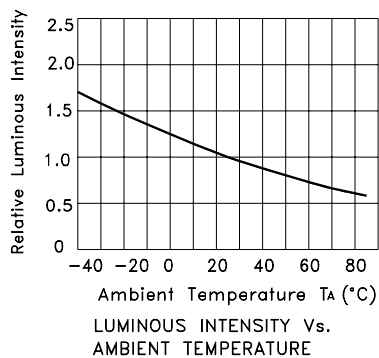
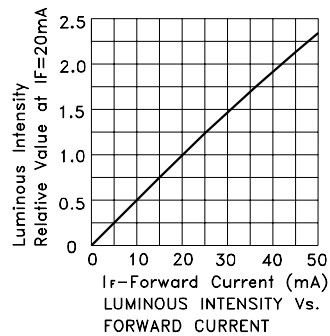
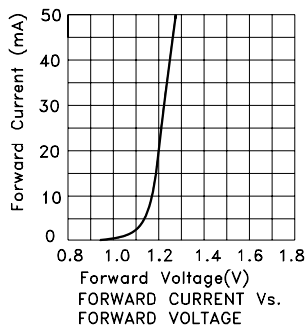
| Parameter                | Symbol           | F3         | Units |
|--------------------------|------------------|------------|-------|
| Power dissipation        | P <sub>T</sub>   | 80         | mW    |
| DC Forward Current       | I <sub>F</sub>   | 50         | mA    |
| Peak Forward Current [1] | 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. 1/10 Duty Cycle, 0.1ms Pulse Width.

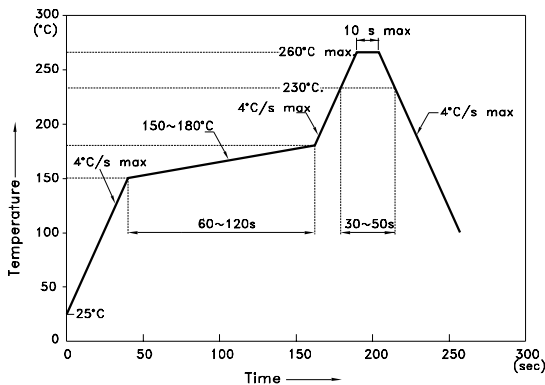


## APT2012F3C



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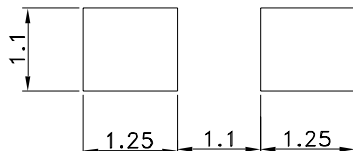
Reflow Soldering Profile For Lead-free SMT Process.



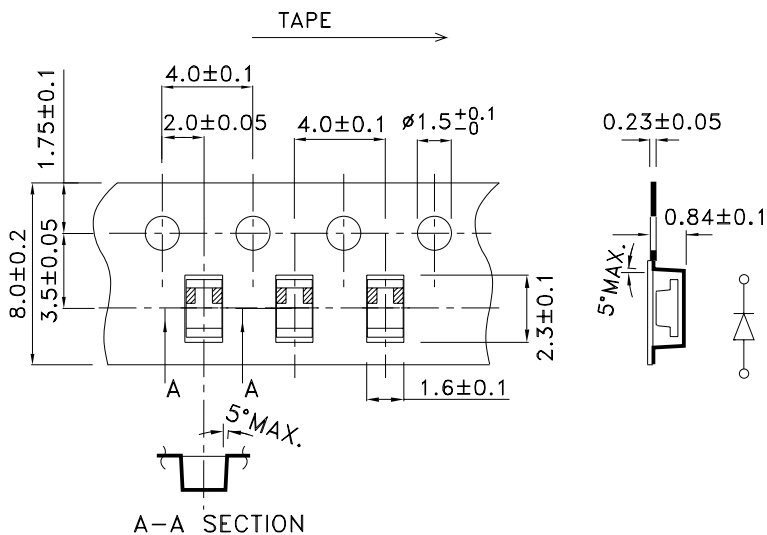
NOTES:

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)



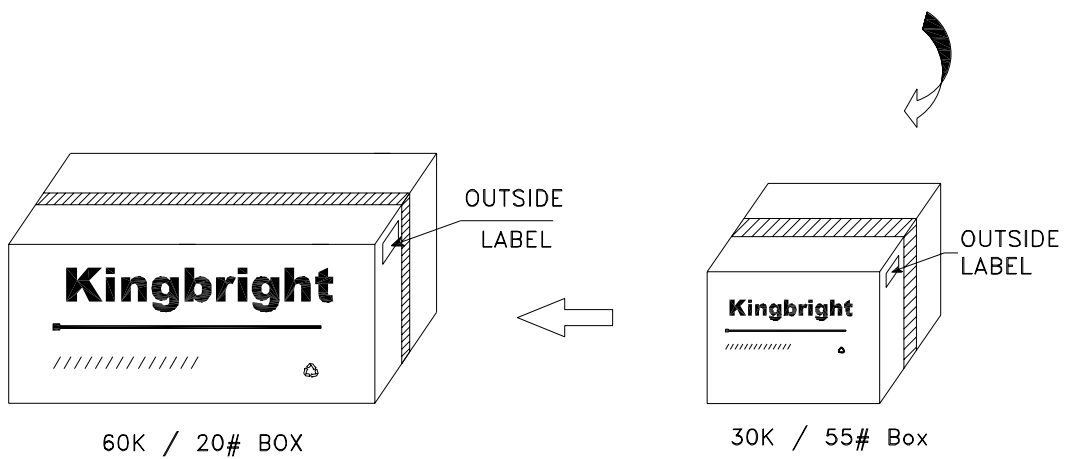
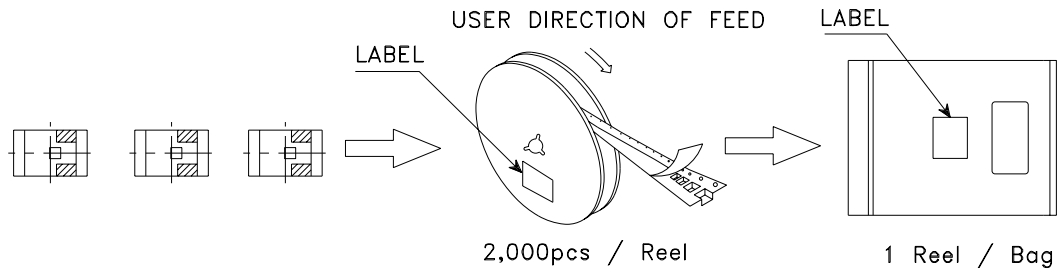
### Tape Specifications (Units : mm)




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## PACKING & LABEL SPECIFICATIONS

## APT2012F3C



|   |  |
|---|--|
| <h1>Kingbright</h1>   |  |
| P/NO: APT2012xxx  |  |
| 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>XXXXXXXXXXXXXXXXXXXXXXXXXXXX</small> |  |
| RoHS Compliant  |  |