

# Kingbright

## 2.0x1.25mm INFRA-RED EMITTING DIODE

AP2012F3C

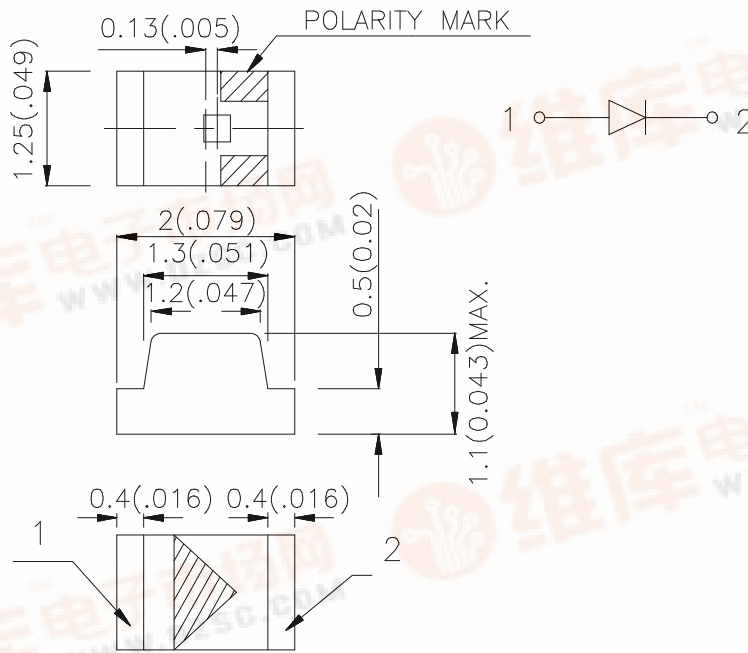
### Features

- 2.0mmx1.25mm SMT LED,1.1mm THICKNESS.
- MECHANICALLY AND SPECTRALLY MATCHED TO THE PHOTOTRANSISTOR.
- WATER CLEAR LENS.
- PACKAGE: 2000PCS / REEL.
- 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.



## Selection Guide

Part No.	Dice	Lens Type	Po (mW/sr) @ 20mA		Viewing Angle
			Min.	Typ.	2 $\theta$ 1/2
AP2012F3C	GaAs	WATER CLEAR	0.4	1.2	120°

Note:

1.  $\theta$ 1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

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

Item	P/N	Symbol	Typ.	Max.	Units	Test Conditions
Forward Voltage	F3	V <sub>F</sub>	1.2	1.6	V	I <sub>F</sub> =20mA
Reverse Current	F3	I <sub>R</sub>	-	10	uA	V <sub>R</sub> =5V
Capacitance	F3	C	90	-	pF	V <sub>F</sub> =0V;f=1MHz
Peak Spectral Wavelength	F3	$\lambda$ <sub>P</sub>	940	-	nm	I <sub>F</sub> =20mA
Spectral Bandwidth	F3	$\Delta\lambda$ 1/2	50	-	nm	I <sub>F</sub> =20mA

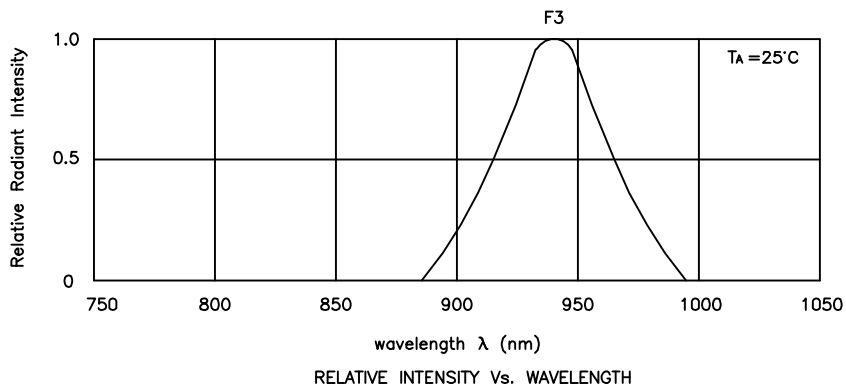
## Absolute Maximum Ratings at TA=25°C

Parameter	Symbol	F3	Units
Power Dissipation	P <sub>T</sub>	100	mW
DC Forward Current	I <sub>F</sub>	50	mA
Peak Forward Current[1]	i <sub>F</sub> S	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

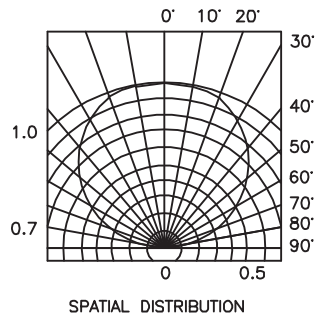
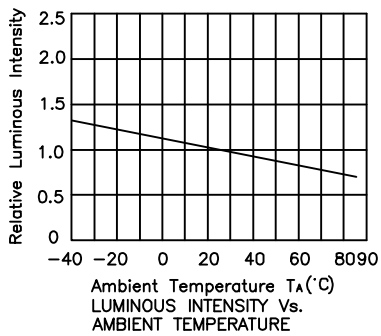
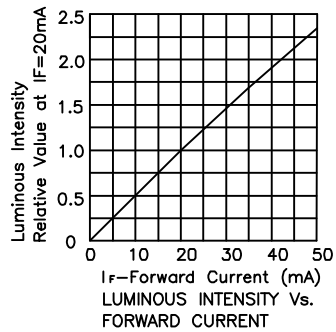
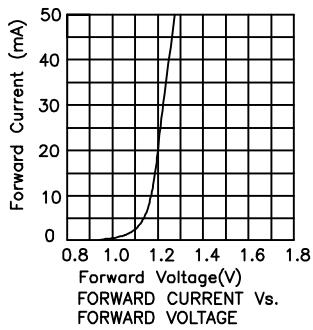
Note:

1. 1/100 Duty Cycle, 10 $\mu$ s Pulse Width.

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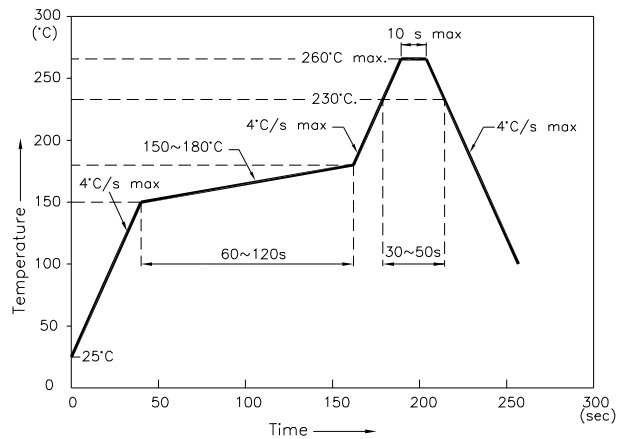


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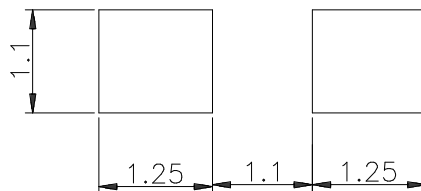
Reflow Soldering Profile For Lead-free SMT Process.



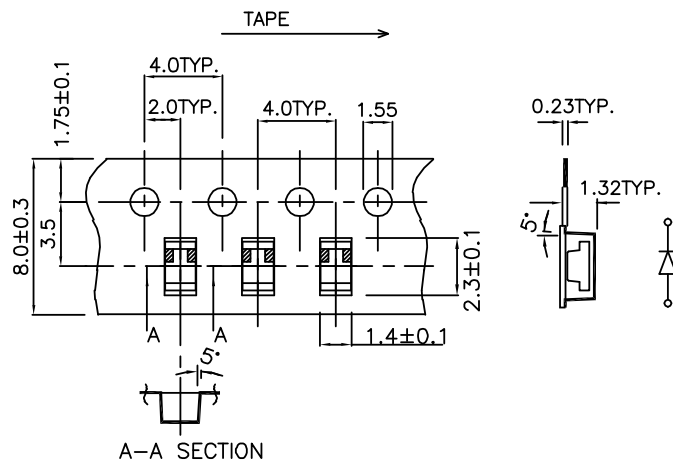
**NOTES:**

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)



### Tape Specifications (Units : mm)



**Remarks:**

If special sorting is required (e.g. binning based on forward voltage or radiant intensity), the typical accuracy of the sorting process is as follows:

1. Radiant Intensity: +/-15%
2. Forward Voltage: +/-0.1V

Note: Accuracy may depend on the sorting parameters.