

Part Number: APT2012SF4C-PRV

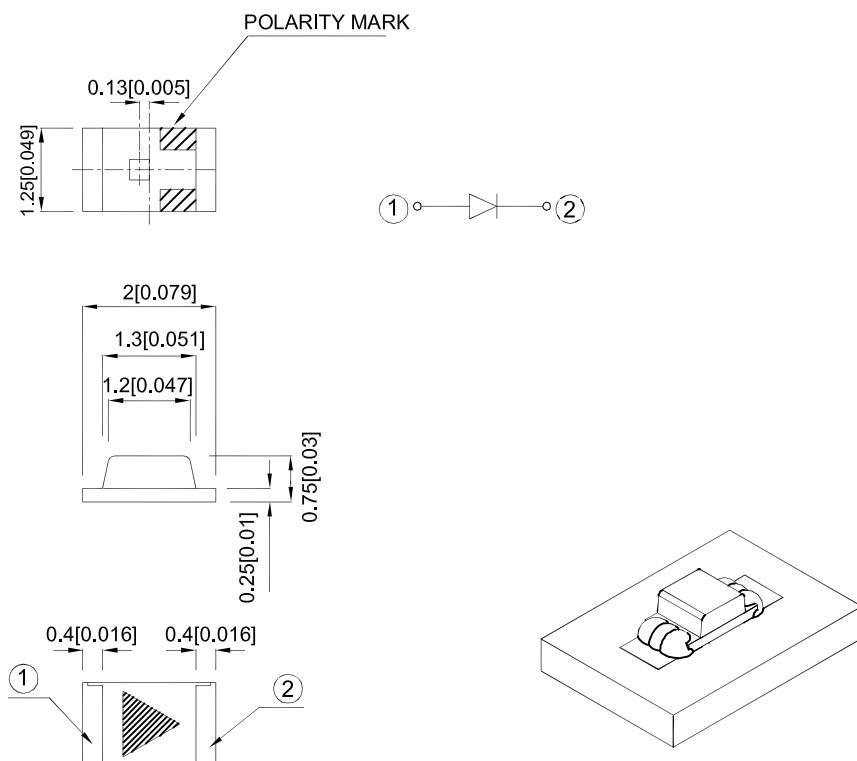
### Features

- 2.0mmx1.25mm SMD LED, 0.75mm 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.



# Kingbright

## Selection Guide

Part No.	Emitting Color (Material)	Lens Type	Po (mW/sr) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	
APT2012SF4C-PRV	Infrared (GaAlAs)	Water Clear	0.8	1.5	160°

Notes:

1. 01/2 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 <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

Notes:

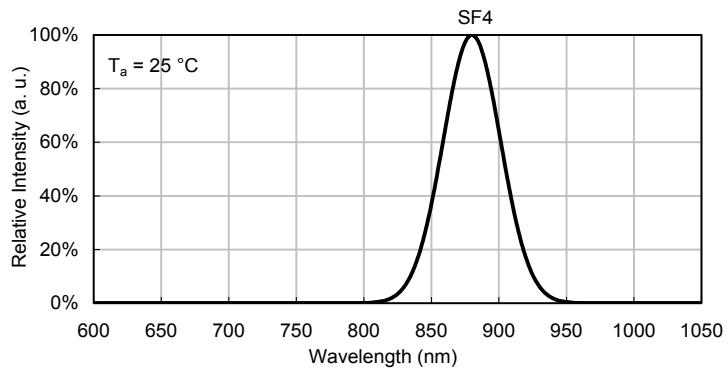
1. Forward Voltage: +/-0.1V.
2. Wavelength value is traceable to CIE127-2007 standards.
3. Excess driving current and/or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

## Absolute Maximum Ratings at TA=25°C

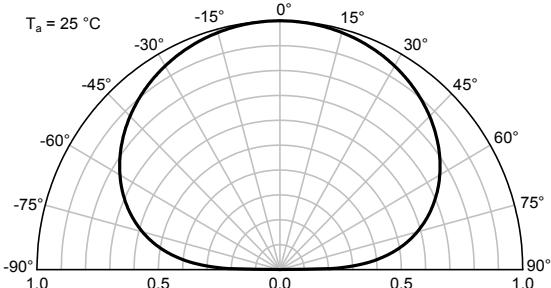
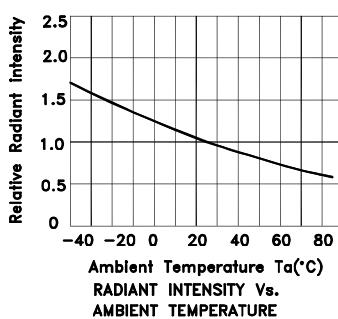
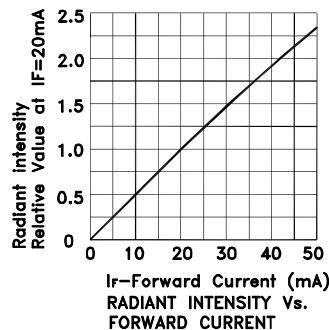
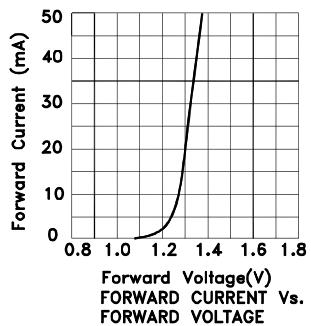
Parameter	Symbol	Values	Units
Power dissipation	P <sub>D</sub>	80	mW
DC Forward Current	I <sub>F</sub>	50	mA
Peak Forward Current [1]	i <sub>FS</sub>	1.2	A
Reverse Voltage	V <sub>R</sub>	5	V
Operating Temperature	T <sub>A</sub>	-40 To +85	°C
Storage Temperature	T <sub>STG</sub>	-40 To +85	°C

Notes:

1. 1/100 Duty Cycle, 10μs 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.



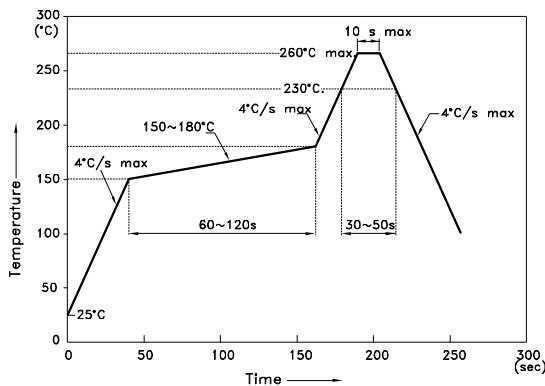
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Reflow soldering is recommended and the soldering profile is shown below.  
Other soldering methods are not recommended as they might cause damage to the product.

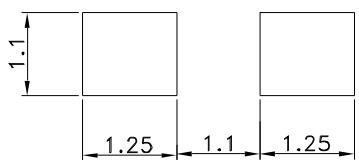
Reflow Soldering Profile For Lead-free SMT Process.



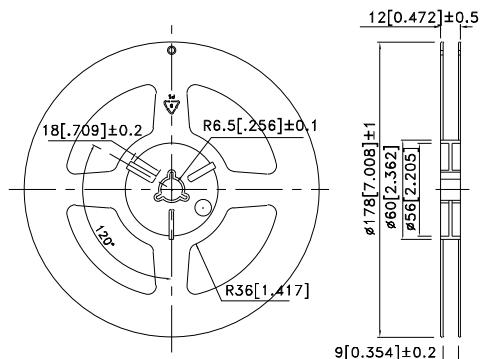
NOTES:

1. We recommend the reflow temperature  $245^{\circ}\text{C} (+/- 5^{\circ}\text{C})$ . The maximum soldering temperature should be limited to  $260^{\circ}\text{C}$ .
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.

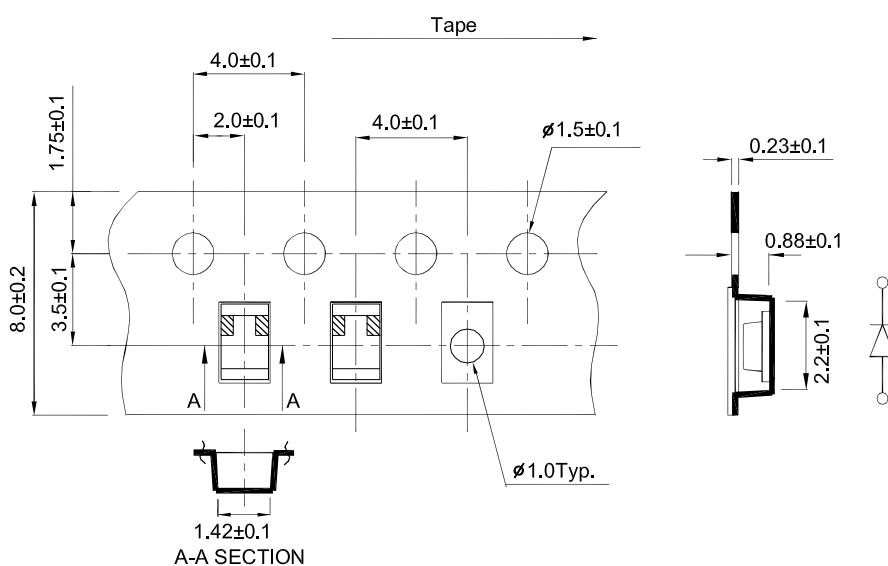
### Recommended Soldering Pattern (Units : mm; Tolerance: $\pm 0.1$ )



### Reel Dimension

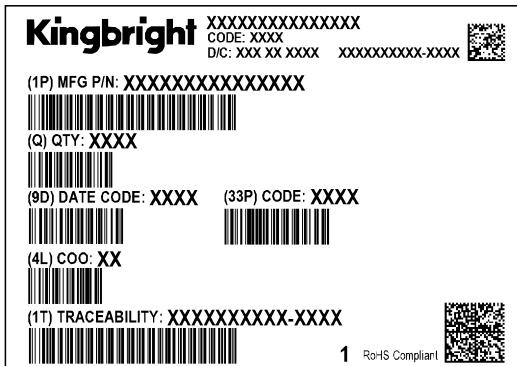
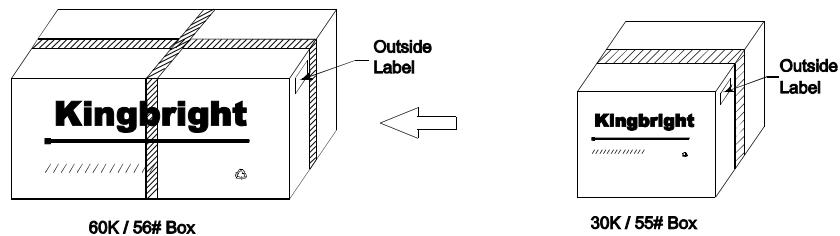
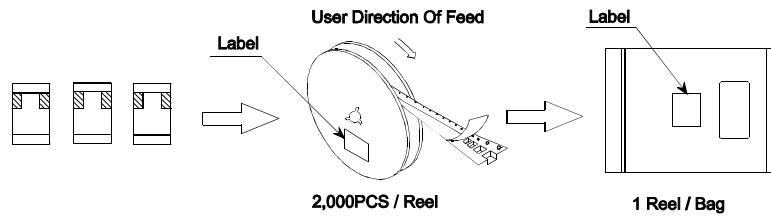


### Tape Specifications (Units : mm)



## PACKING & LABEL SPECIFICATIONS

APT2012SF4C-PRV



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