



## APT2012F3C 2.0x1.25mm Infrared Emitting Diode

### DESCRIPTIONS

- F3 Made with Gallium Arsenide Infrared Emitting diodes

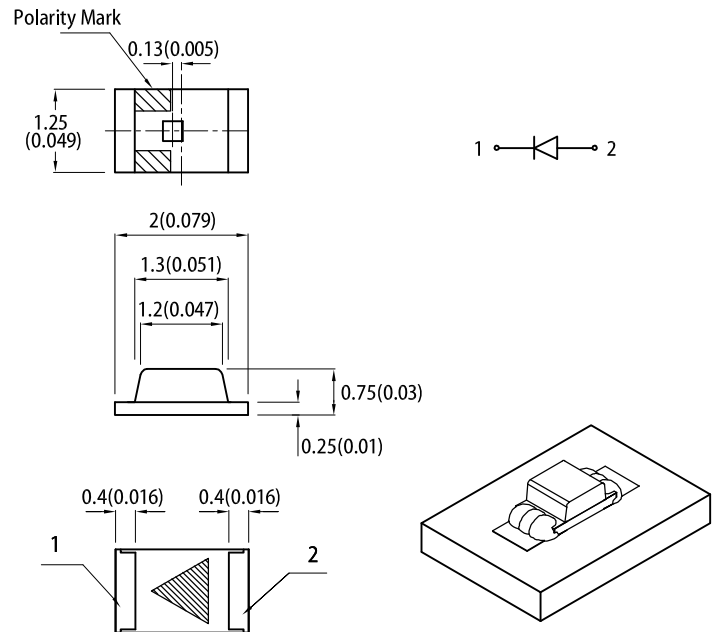
### FEATURES

- 2.0 mm x 1.25 mm SMD LED, 0.75mm thickness
- Mechanically and spectrally matched to the phototransistor
- Package: 2000 pcs / reel
- Moisture sensitivity level: 3
- RoHS compliant

### APPLICATIONS

- Backlight
- Status indicator
- Home and smart appliances
- Wearable and portable devices
- Healthcare applications

### PACKAGE DIMENSIONS



### RECOMMENDED SOLDERING PATTERN

(units : mm; tolerance : ± 0.1)



#### Notes:

- All dimensions are in millimeters (inches).
- Tolerance is  $\pm 0.1(0.004)$  unless otherwise noted.
- The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
- The device has a single mounting surface. The device must be mounted according to the specifications.

### SELECTION GUIDE

Part Number	Emitting Color (Material)	Lens Type	Po (mW/sr) @ 20mA <sup>[2]</sup>		Viewing Angle <sup>[1]</sup>
			Min.	Typ.	2θ1/2
APT2012F3C	Infrared (GaAlAs)	Water Clear	1.2	3	160°
			*0.8	*2	

Notes:  
 1.  $\theta_{1/2}$  is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.  
 2. Luminous intensity / luminous flux: +/-15%.  
 \* Luminous intensity value is traceable to CIE127-2007 standards.

**ELECTRICAL / OPTICAL CHARACTERISTICS at T<sub>A</sub>=25°C**

Parameter	Symbol	Emitting Color	Value		Unit
			Typ.	Max.	
Wavelength at Peak Emission I <sub>F</sub> = 20mA	$\lambda_{\text{peak}}$	Infrared	940	-	nm
Spectral Bandwidth at 50% $\Phi$ REL MAX I <sub>F</sub> = 20mA	$\Delta\lambda$	Infrared	50	-	nm
Capacitance	C	Infrared	90	-	pF
Forward Voltage I <sub>F</sub> = 20mA	V <sub>F</sub> <sup>[1]</sup>	Infrared	1.2	1.6	V
Reverse Current (V <sub>R</sub> = 5V)	I <sub>R</sub>	Infrared	-	10	uA

## Notes:

1. Forward voltage:  $\pm 0.1V$ .
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 T<sub>A</sub>=25°C**

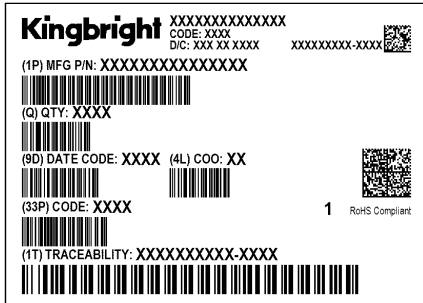
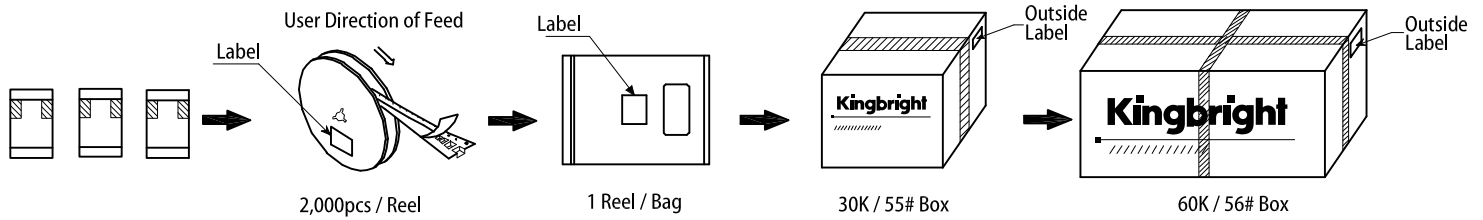
Parameter	Symbol	Value	Unit
Power Dissipation	P <sub>D</sub>	80	mW
Reverse Voltage	V <sub>R</sub>	5	V
Junction Temperature	T <sub>j</sub>	115	°C
Operating Temperature	T <sub>op</sub>	-40 to +85	°C
Storage Temperature	T <sub>stg</sub>	-40 to +85	°C
DC Forward Current	I <sub>F</sub>	50	mA
Peak Forward Current	I <sub>FM</sub> <sup>[1]</sup>	1200	mA
Electrostatic Discharge Threshold (HBM)	-	8000	V

## Notes:

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



## PACKING & LABEL SPECIFICATIONS



### PRECAUTIONARY NOTES

1. The information included in this document reflects representative usage scenarios and is intended for technical reference only.
2. The part number, type, and specifications mentioned in this document are subject to future change and improvement without notice. Before production usage customer should refer to the latest datasheet for the updated specifications.
3. When using the products referenced in this document, please make sure the product is being operated within the environmental and electrical limits specified in the datasheet. If customer usage exceeds the specified limits, Kingbright will not be responsible for any subsequent issues.
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