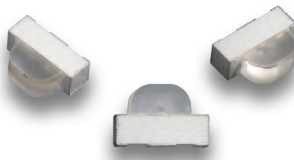


APA3010F3C-GX
3.0 mm x 1.0 mm Right Angle Infrared Emitting Diode



DESCRIPTION

- F3 Made with Gallium Arsenide Infrared Emitting diodes

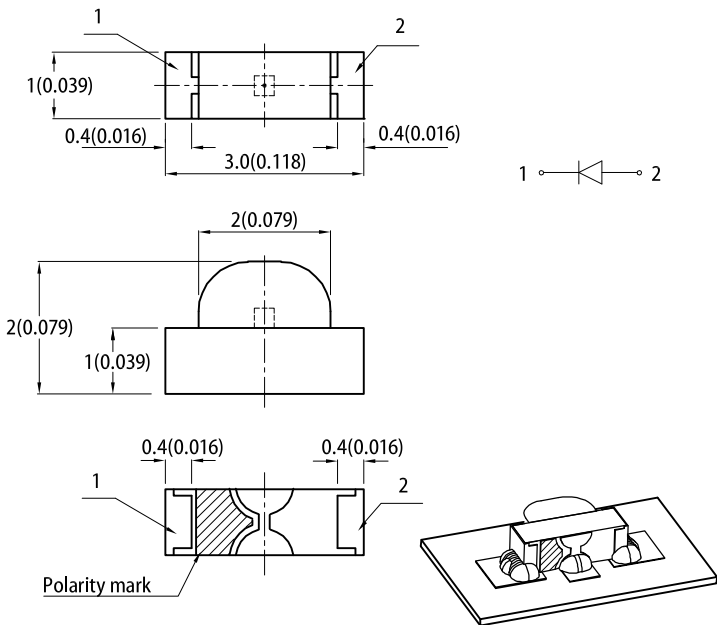
FEATURES

- 3.0 x 2.0 x 1.0 mm right angle SMD LED, 1.0 mm thickness
- Mechanically and spectrally matched to the Phototransistor
- Package matches with photodetector APA3010P3BT-GX
- Package: 2000 pcs / reel
- Moisture sensitivity level: 3
- Tinned pads for improved solderability
- Halogen-free
- RoHS compliant

APPLICATIONS

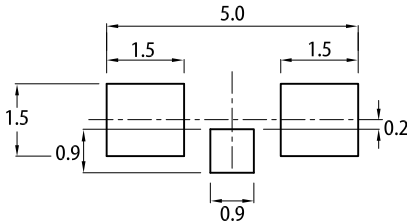
- Infrared Illumination for cameras
- Machine vision systems
- Surveillance systems
- Industrial electronics
- IR data transmission
- Remote control

PACKAGE DIMENSIONS



RECOMMENDED SOLDERING PATTERN

(units : mm; tolerance : ± 0.1)



- Notes:
- All dimensions are in millimeters (inches).
 - Tolerance is ±0.15(0.006") 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.
 - For right angle SMD LEDs, the solder stencil should be at least 5mil in thickness, to prevent poor solder wetting due to insufficient solder paste.

SELECTION GUIDE

Part Number	Emitting Color (Material)	Lens Type	Po (mW/sr) @ 20mA ^[2]		Viewing Angle ^[1]
			Min.	Typ.	2θ1/2
APA3010F3C-GX	Infrared (GaAs)	Water Clear	1.2	3	160°
			*0.8	*2	

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%
* Radiant intensity value is traceable to CIE127-2007 standards.

ELECTRICAL / OPTICAL CHARACTERISTICS at T_A=25°C

Parameter	Symbol	Emitting Color	Value		Unit
			Typ.	Max.	
Wavelength at Peak Emission I _F = 20mA	λ _{peak}	Infrared	940	-	nm
Spectral Bandwidth at 50% Φ REL MAX I _F = 20mA	Δλ	Infrared	50	-	nm
Forward Voltage I _F = 20mA	V _F ^[1]	Infrared	1.2	1.6	V
Reverse Current (V _R = 5V)	I _R	Infrared	-	10	μA
Temperature Coefficient of Wavelength I _F = 20mA, -10°C ≤ T ≤ 85°C	TC _λ	Infrared	0.3	-	nm/°C
Temperature Coefficient of V _F I _F = 20mA, -10°C ≤ T ≤ 85°C	TC _V	Infrared	-1.2	-	mV/°C

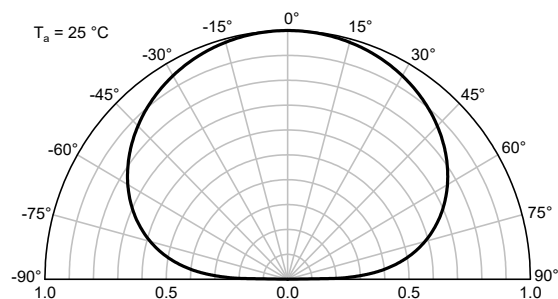
Notes:
1. Forward voltage: ±0.1V.
2. Wavelength value is traceable to CIE127-2007 standards.
3. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

ABSOLUTE MAXIMUM RATINGS at T_A=25°C

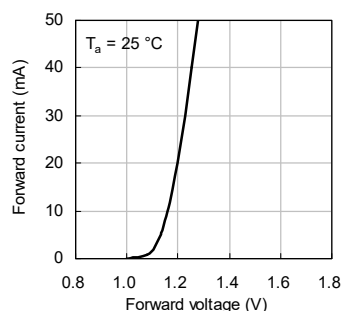
Parameter	Symbol	Value	Unit
Power Dissipation	P _D	90	mW
Reverse Voltage	V _R	5	V
Junction Temperature	T _j	115	°C
Operating Temperature	T _{op}	-40 to +85	°C
Storage Temperature	T _{stg}	-40 to +85	°C
DC Forward Current	I _F	50	mA
Peak Forward Current	I _{FP} ^[1]	1.2	A
Electrostatic Discharge Threshold (HBM)	-	8000	V
Thermal Resistance (Junction / Ambient)	R _{th JA} ^[2]	470	°C/W
Thermal Resistance (Junction / Solder point)	R _{th JS} ^[2]	330	°C/W

Notes:
1. 1/100 Duty Cycle, 10μs Pulse Width.
2. R_{th JA}, R_{th JS} Results from mounting on PC board FR4 (pad size ≥ 16 mm² per pad).
3. 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.

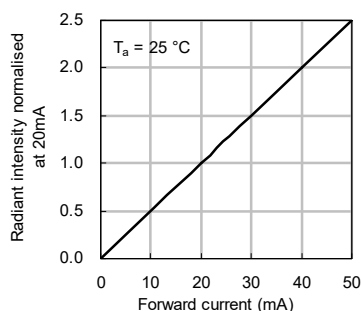
RELATIVE INTENSITY vs. WAVELENGTH



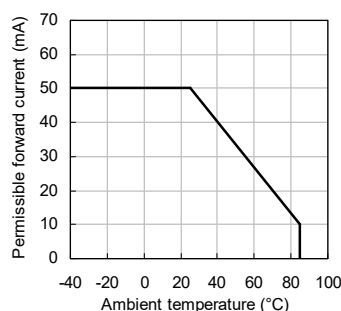
Forward Current vs. Forward Voltage



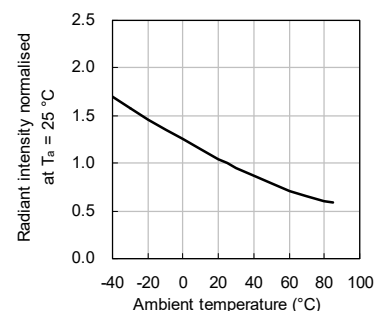
Radiant Intensity vs. Forward Current



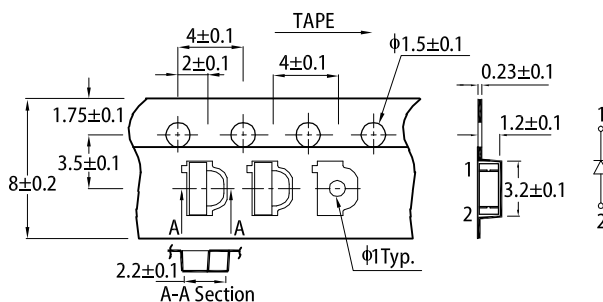
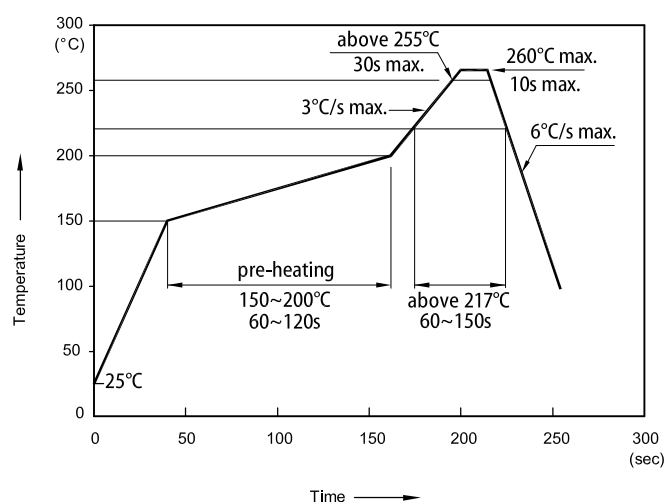
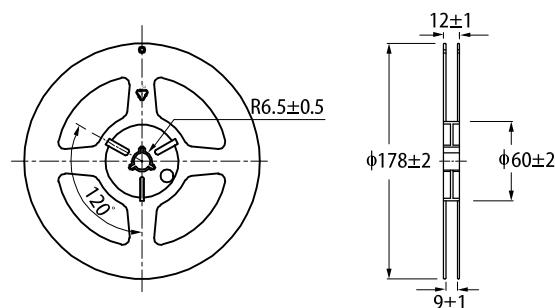
Forward Current Derating Curve



Radiant Intensity vs. Ambient Temperature

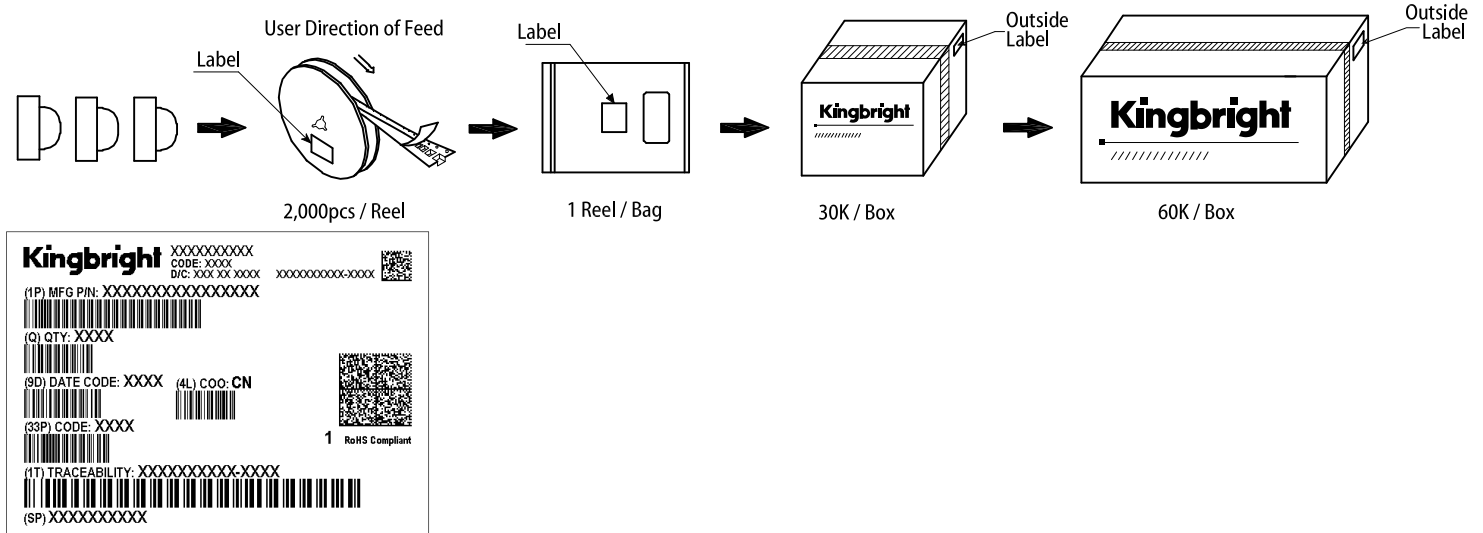


TAPE SPECIFICATIONS (units : mm)

**REEL DIMENSION** (units : mm)

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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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