

Part Number: APA3010P3BT-GX

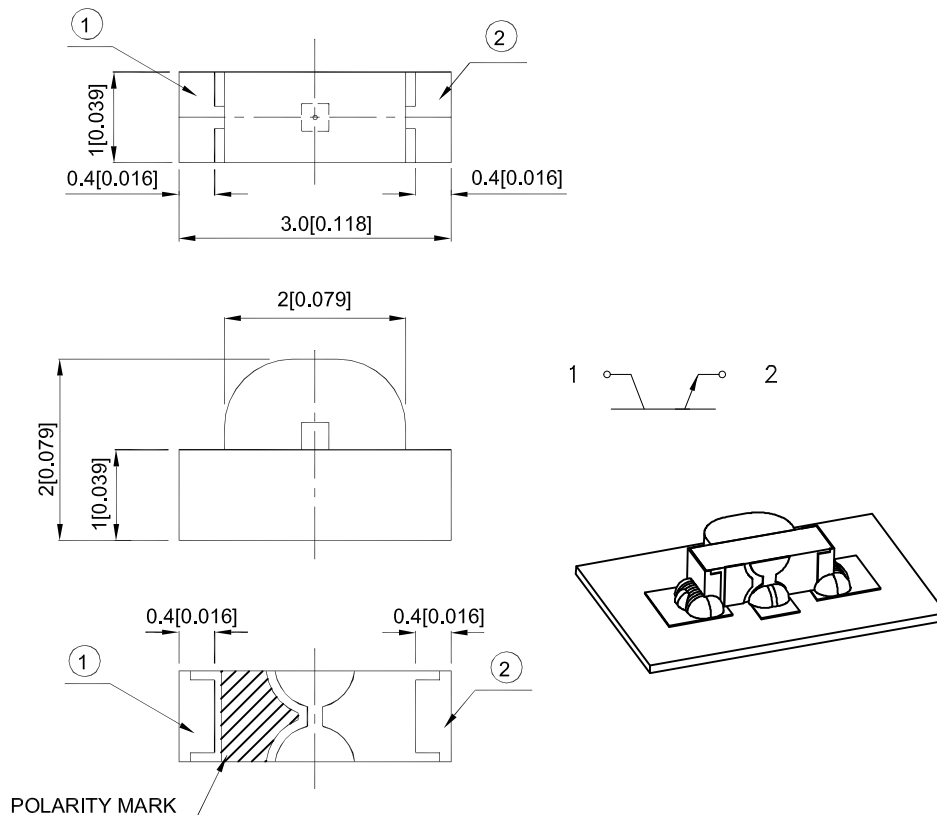
Features

- 3.0x2.0x1.0mm right angle SMD LED, 1.0mm thickness.
- Mechanically and spectrally matched to the infrared emitting LED lamp.
- Package : 2000pcs / reel.
- Moisture sensitivity level : level 3.
- Tinned pads for improved solderability.
- RoHS compliant.

Description

Made with NPN silicon phototransistor chips.

Package Dimensions



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.15(0.006)$ 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.



Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Min.	Typ.	Max.	Units	Test Conditions
V _{BR CEO}	Collector-to-Emitter Breakdown Voltage	30			V	I _C =100uA E _e =0mW/cm ²
V _{BR ECO}	Emitter-to-Collector Breakdown Voltage	5			V	I _E =100uA E _e =0mW/cm ²
V _{CE (SAT)}	Collector-to-Emitter Saturation Voltage			0.8	V	I _C =2mA E _e =20mW/cm ²
I _{CEO}	Collector Dark Current			100	nA	V _{CE} =10V E _e =0mW/cm ²
T _R	Rise Time (10% to 90%)		15		us	V _{CE} = 5V I _C =1mA R _L =1000Ω
T _F	Fall Time (90% to 10%)		15		us	
I _(ON)	On State Collector Current	0.1	0.3		mA	V _{CE} = 5V E _e =1mW/cm ² λ=940nm
λ0.1	Range of spectral bandwidth	670		1070	nm	
λ _p	Wavelength of peak sensitivity		940		nm	
2θ1/2	Angle of half sensitivity		110		deg	

Absolute Maximum Ratings at TA=25°C

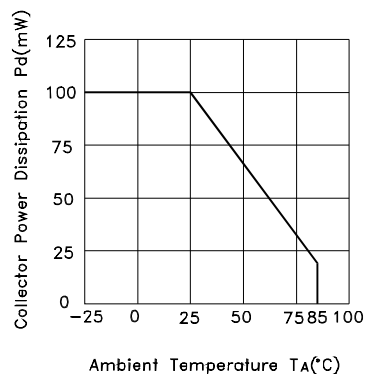
Parameter	Max.Ratings
Collector-to-Emitter Voltage	30V
Emitter-to-Collector Voltage	5V
Power Dissipation at (or below) 25°C Free Air Temperature	100mW
Operating Temperature	-40°C To +85°C
Storage Temperature	-40°C To +85°C

Note:

- 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.

Typical Electro-Optical Characteristics Curves

Fig.1 Collector Power Dissipation vs. Ambient Temperature



Spectral Sensitivity

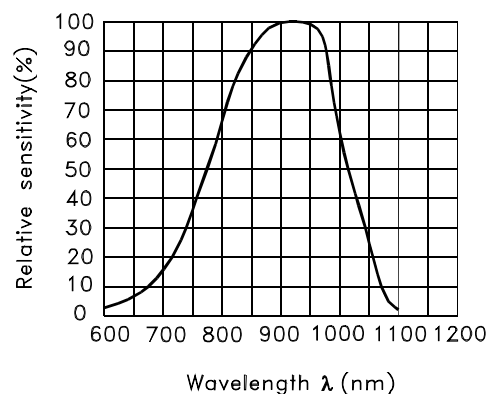


Fig.3 Relative Collector Current vs. Ambient Temperature

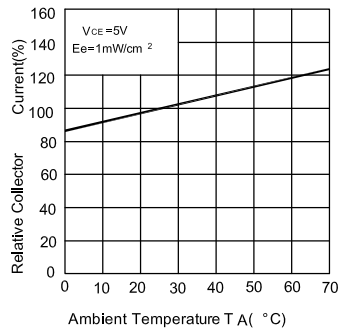


Fig.4 Collector Current vs. Irradiance

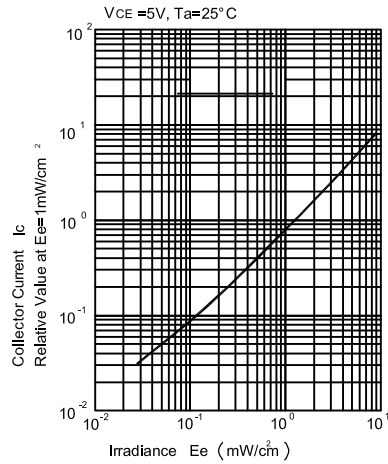


Fig.5 Collector Dark Current vs. Ambient Temperature

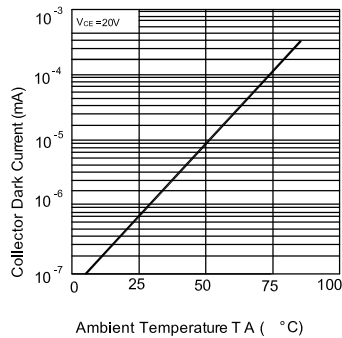


Fig.6 Collector Current vs. Collector-Emitter Voltage

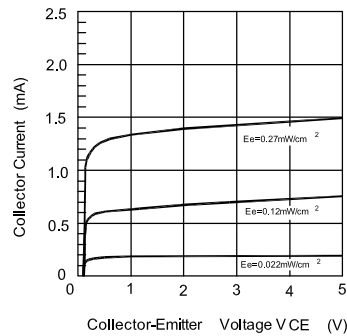
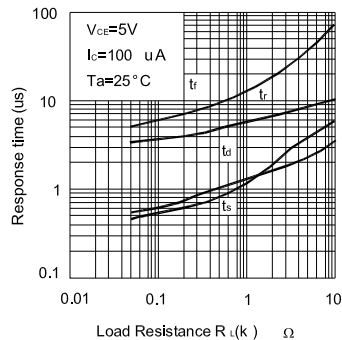
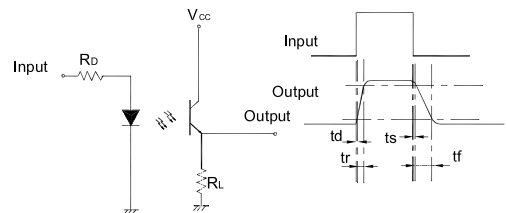


Fig.7 Response Time vs. Load Resistance



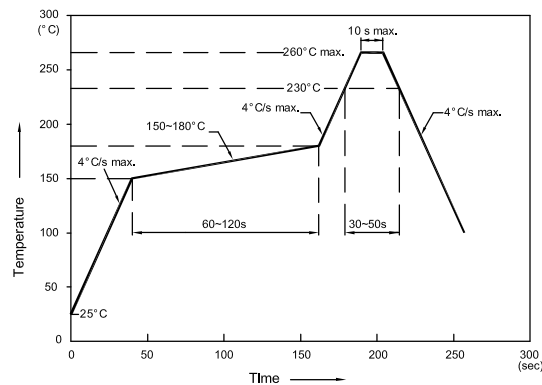
Test Circuit for Response Time



APA3010P3BT-GX

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.

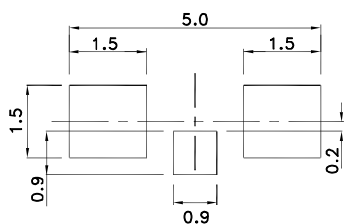
Reflow Soldering Profile For Lead-free SMT Process.



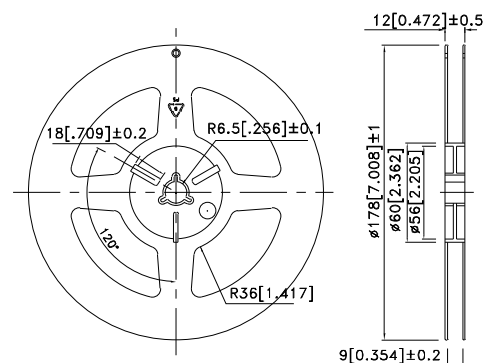
NOTES:

1. We recommend the reflow temperature 245°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.

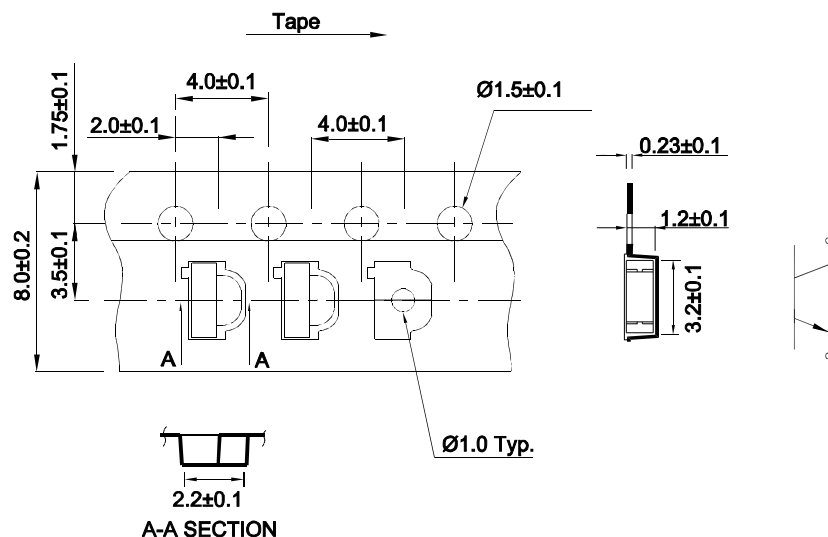
Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



Reel Dimension

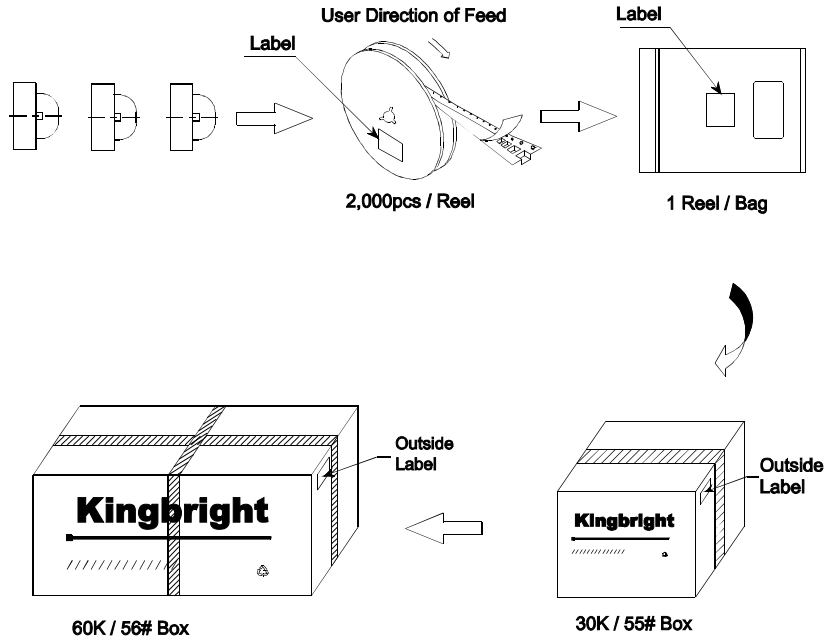



Tape Specifications (Units : mm)



PACKING & LABEL SPECIFICATIONS

APA3010P3BT-GX



Kingbright	
P/NO: APA3010xxx	
QTY: 2,000 pcs	Q.C.
S/N: XXXX	<div style="border: 1px solid black; border-radius: 50%; padding: 5px; display: inline-block;"> Q.C. XXXXXXXXXX PASSED </div>
CODE: XXX	
LOT NO:	
	
RoHS Compliant	

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