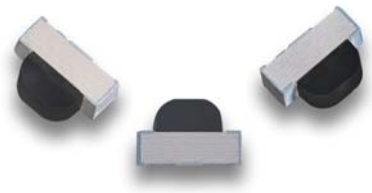
Kingbright



APA3010P3BT-GX

3.0 mm x 1.0 mm Right Angle Phototransistor

DESCRIPTION

- Made with NPN silicon phototransistor chips

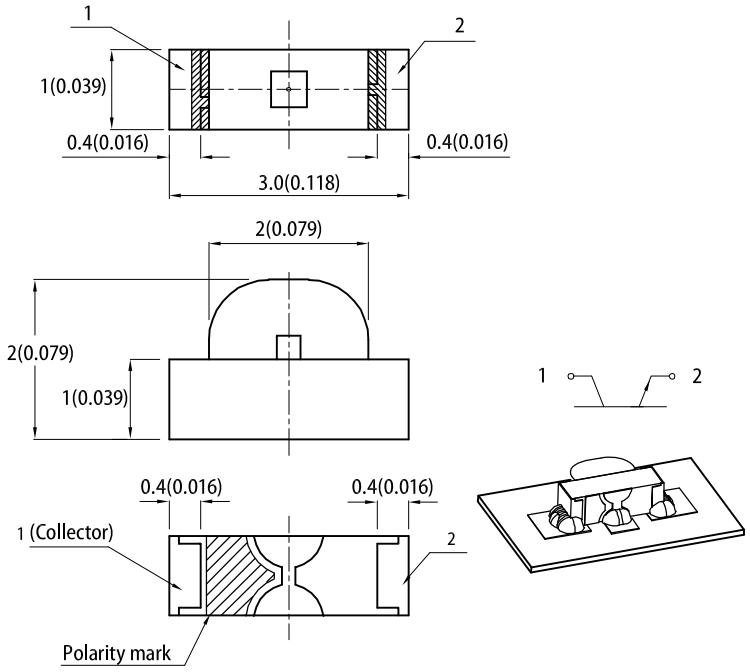
FEATURES

- 3.0 x 2.0 x 1.0 mm right angle SMD LED, 1.0 mm thickness
- Mechanically and spectrally matched to the infrared emitting LED lamp
- Blue transparent lens
- Package: 2000 pcs / reel
- Moisture sensitivity level: 3
- Tinned pads for improved solderability
- RoHS compliant

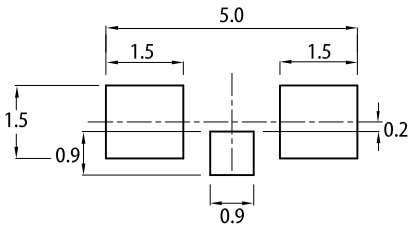
APPLICATIONS

- Infrared applied systems
- Optoelectronic switches
- Photodetector control circuits
- Sensor technology

PACKAGE DIMENSIONS



RECOMMENDED SOLDERING PATTERN
(units : mm; tolerance : ± 0.1)



Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±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.

ABSOLUTE MAXIMUM RATINGS at T_A=25°C

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

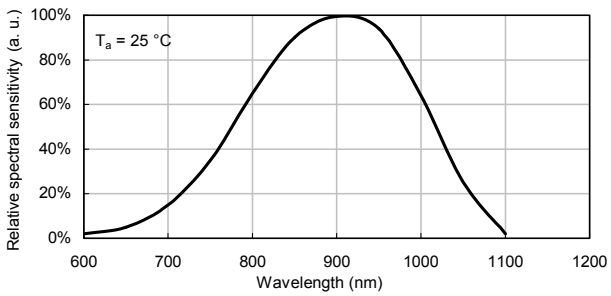
Note:
1. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

ELECTRICAL / OPTICAL CHARACTERISTICS at T_A=25°C

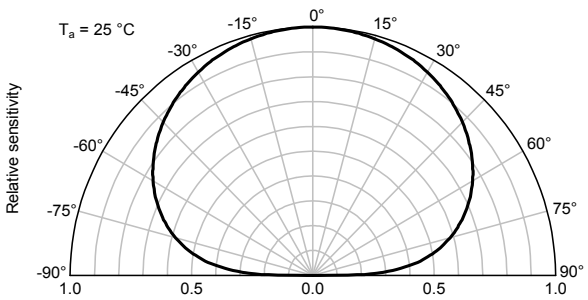
Parameter	Symbol	Min.	Typ.	Max.	Units	Test Conditions
Collector-to-Emitter Breakdown Voltage	$V_{BR\ CEO}$	30	-	-	V	I_C = 100uA Ee = 0mW/cm^2
Emitter-to-Collector Breakdown Voltage	$V_{BR\ ECO}$	5	-	-	V	I_E = 100uA Ee = 0mW/cm^2
Collector-to-Emitter Saturation Voltage	$V_{CE\ (SAT)}$	-	-	0.8	V	I_C = 2mA Ee = 20mW/cm^2
Collector Dark Current	I_{CEO}	-	-	100	nA	V_{CE} = 10V Ee = 0mW/cm^2
Rise Time(10% to 90%)	T_R	-	15	-	μS	V_{CE} = 5V IC = 1mA RL = 1000Ω
Fall Time(90% to 10%)	T_F	-	15	-	μS	
On State Collector Current	$I_{(ON)}$	0.1	0.3	-	mA	V_{CE} = 5V Ee = 1mW/cm^2 λ = 940nm
Range of spectral bandwidth	$\lambda_{0.1}$	670	-	1070	nm	-
Wavelength of peak Sensitivity	λ_p	-	940	-	nm	-
Angle of half sensitivity	2θ1/2	-	160	-	deg	-

TECHNICAL DATA

RELATIVE SPECTRAL SENSITIVITY vs. WAVELENGTH



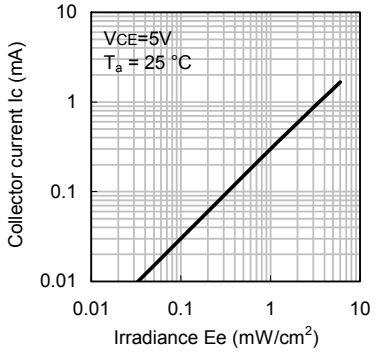
RELATIVE RADIANT SENSITIVITY vs. ANGULAR DISPLACEMENT



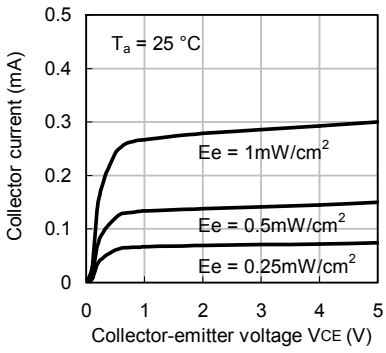
TECHNICAL DATA

PHOTOTRANSISTOR

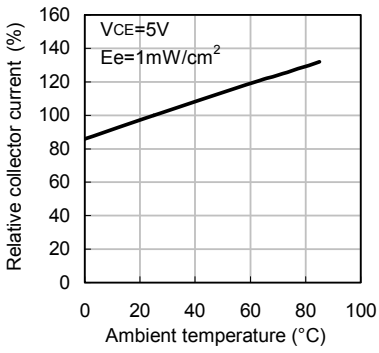
Collector Current vs. Irradiance



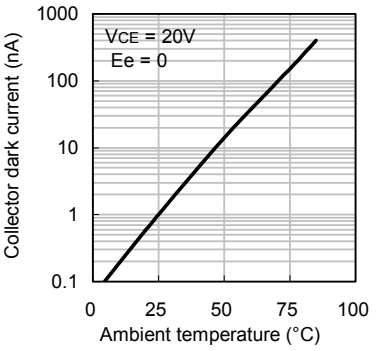
Collector Current vs. Collector-Emitter Voltage



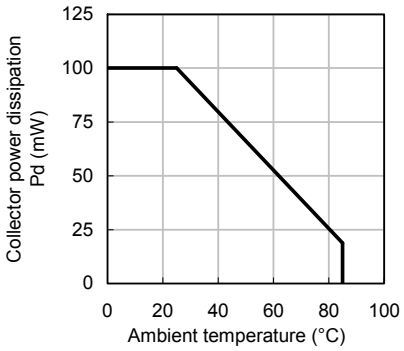
Relative Collector Current vs. Ambient Temperature



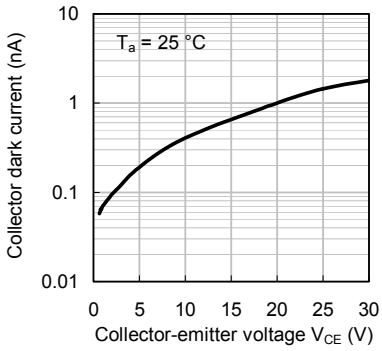
Collector Dark Current vs. Ambient Temperature



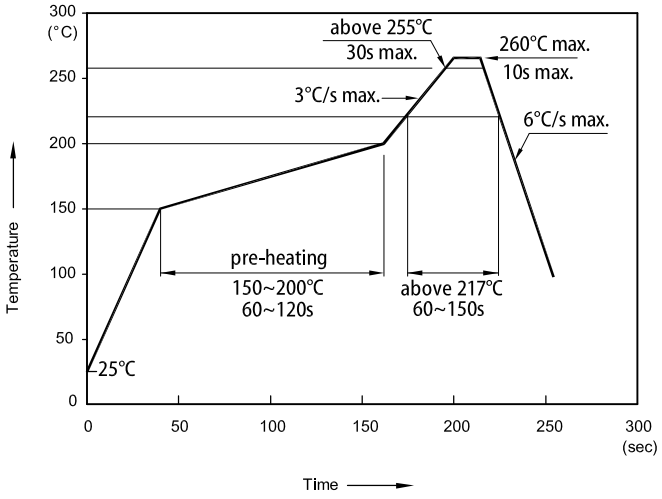
Collector Power Dissipation vs. Ambient Temperature



Collector Dark Current vs. Collector-Emitter Voltage

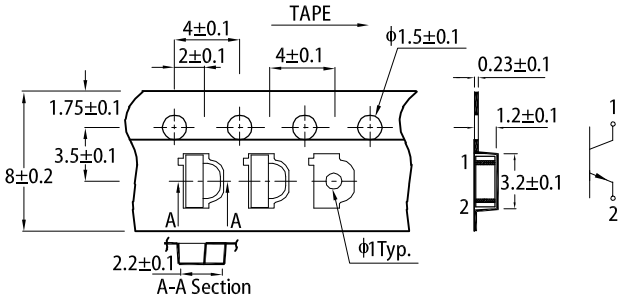


REFLOW SOLDERING PROFILE for LEAD-FREE SMD PROCESS

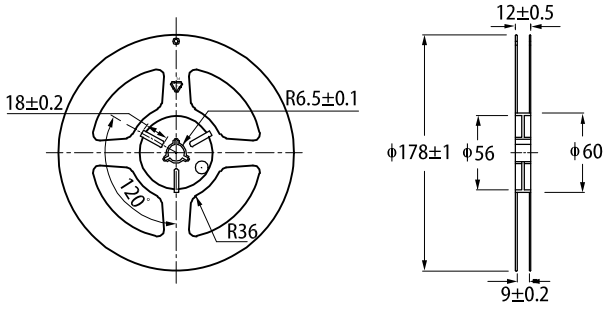


Notes:
1. Don't cause stress to the LEDs while it is exposed to high temperature.
2. The maximum number of reflow soldering passes is 2 times.
3. Reflow soldering is recommended. Other soldering methods are not recommended as they might cause damage to the product.

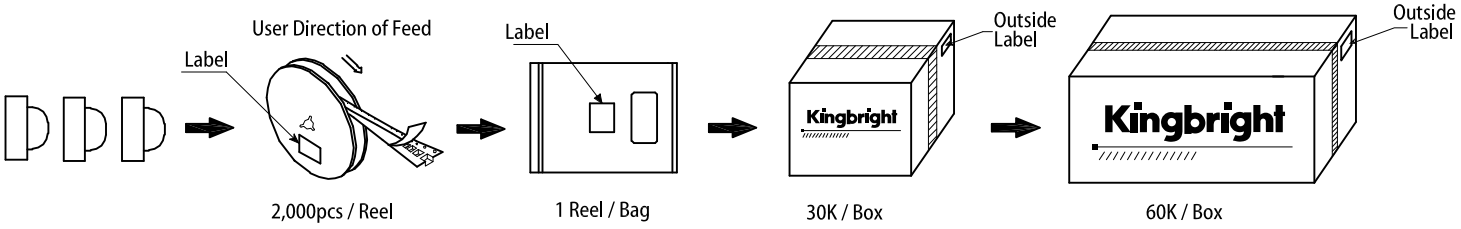
TAPE SPECIFICATIONS (units : mm)

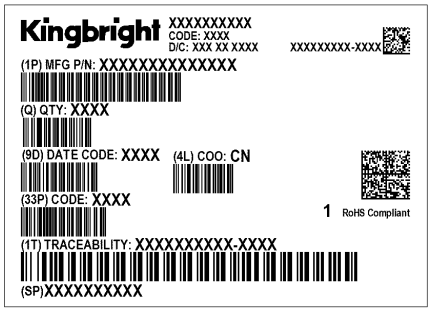


REEL DIMENSION (units : mm)



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.
4. The information in this document applies to typical usage in consumer electronics applications. If customer's application has special reliability requirements or have life-threatening liabilities, such as automotive or medical usage, please consult with Kingbright representative for further assistance.
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