

Part Number: KPA-3010P3C

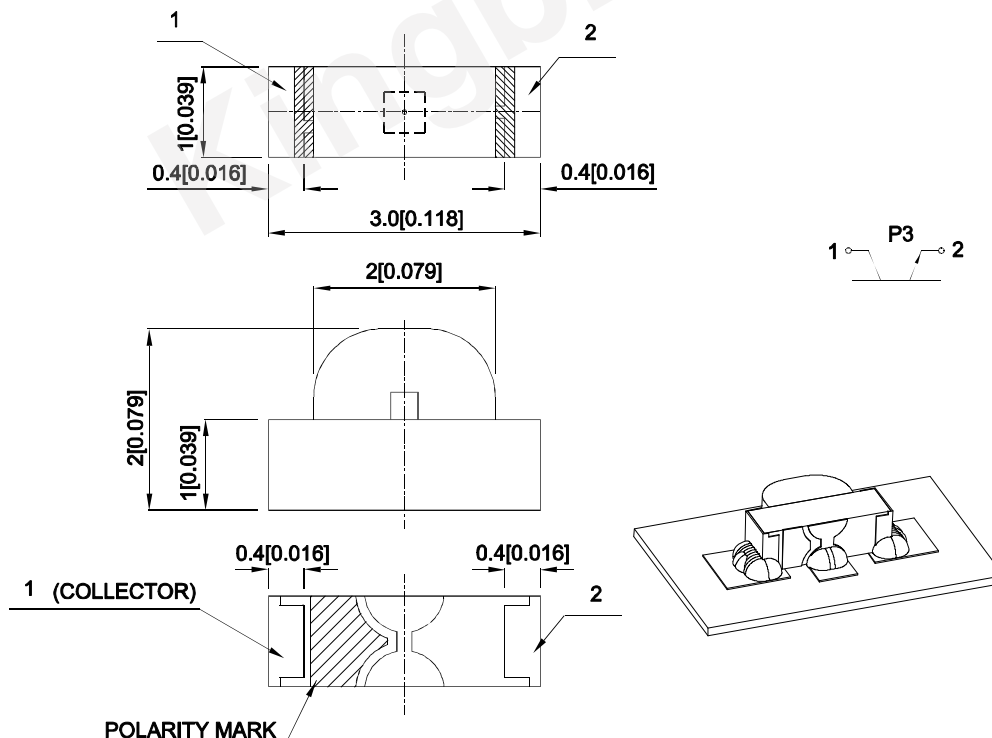
Features

- 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/c m ²
V _{BR ECO}	Emitter-to-Collector Breakdown Voltage	5			V	I _E =100uA E _e =0mW/c m ²
V _{CE (SAT)}	Collector-to-Emitter Saturation Voltage			0.8	V	I _C =2mA E _e =20mW/c m ²
I _{CEO}	Collector Dark Current			100	nA	V _{CE} =10V E _e =0mW/c m 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	0.2	0.4		mA	V _{CE} = 5V E _e =1mW/c m ² λ=940nm

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:

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.

Typical Electro-Optical Characteristics Curves

Fig.1 Collector Power Dissipation vs. Ambient Temperature

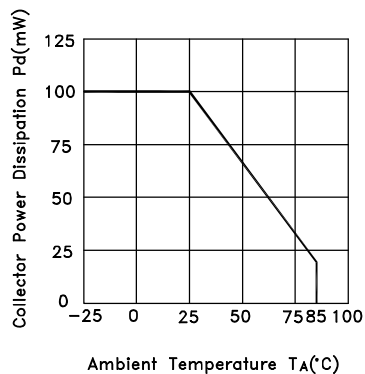


Fig.2 Spectral Sensitivity vs. Wavelength

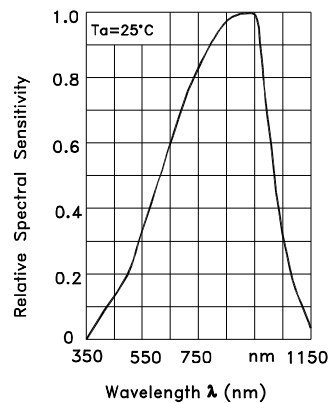


Fig.3 Relative Collector Current vs. Ambient Temperature

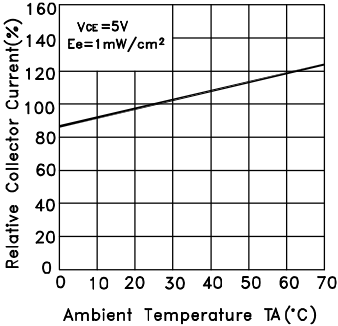


Fig.4 Collector Current
 $I_c=f(E_e), V_{ce}=5V, T_a=25^\circ C$

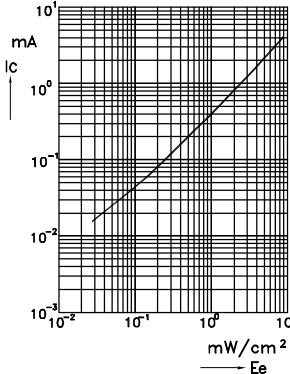


Fig.5 Collector Dark Current vs. Ambient Temperature

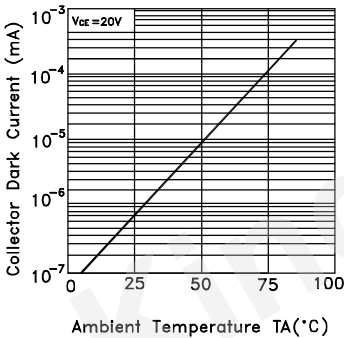


Fig.6 Collector Current vs. Collector-Emitter Voltage

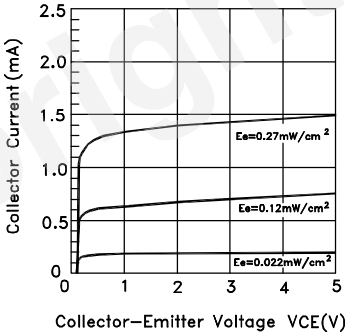
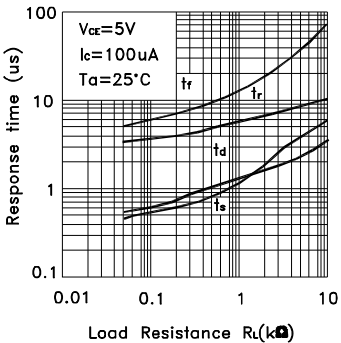
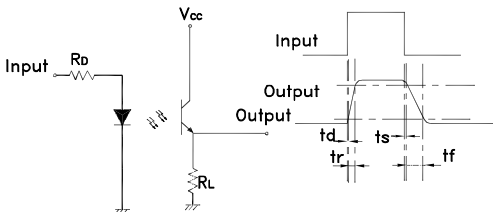


Fig.7 Response Time vs. Load Resistance

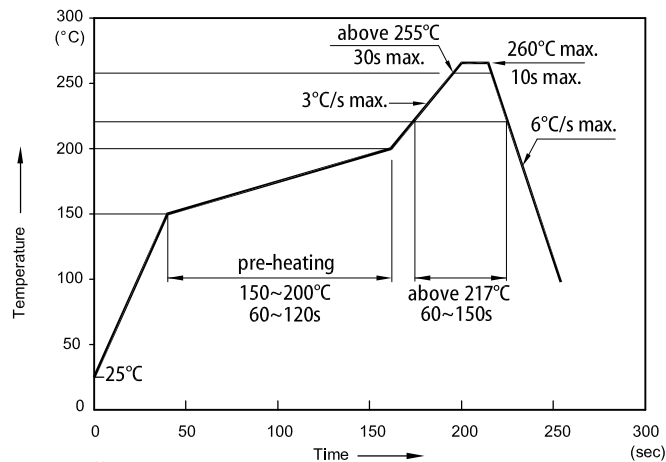


Test Circuit for Response Time



KPA-3010P3C

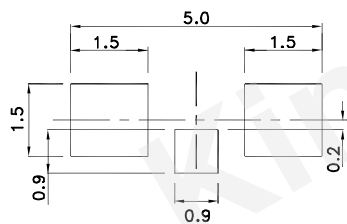
Reflow Soldering Profile for Lead-free SMD Process



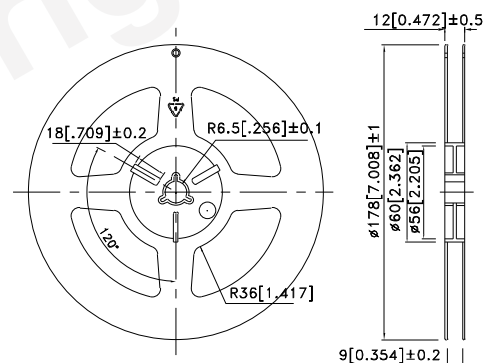
Notes:

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.

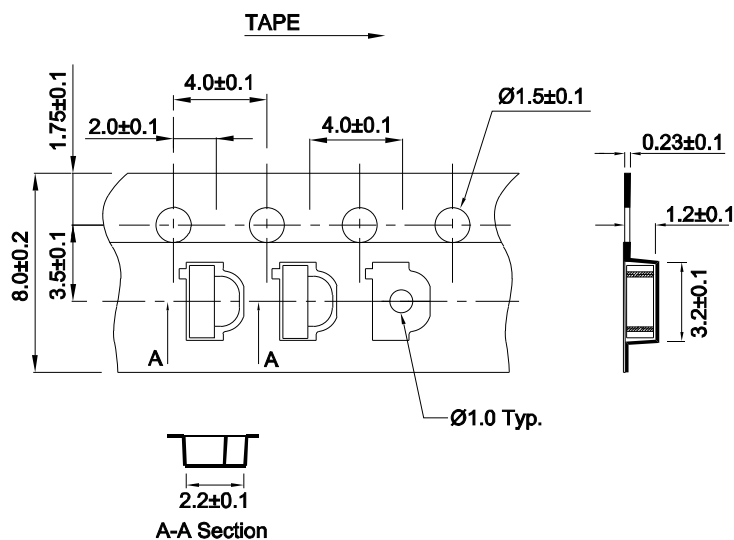
Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



Reel Dimension

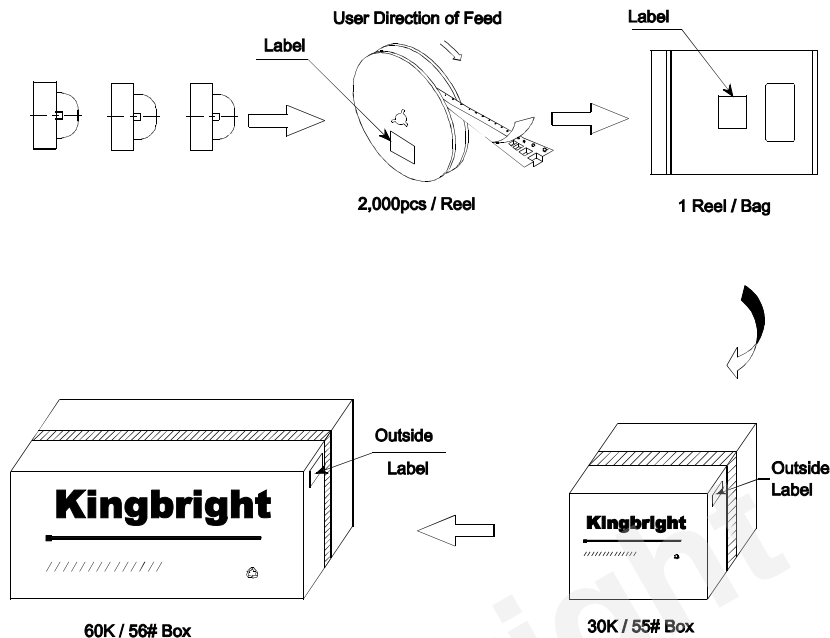




Tape Specifications (Units : mm)



PACKING & LABEL SPECIFICATIONS

KPA-3010P3C



Kingbright		XXXXXXXX-XXXX	
P/NO: XXXXXXXX			
QTY: XXXXpcs			
S/N: XXXX			
CODE: XXX			
COUNTRY: CN		QC DATE: XXX XX XXXX PASSED	
LOT NO:			
			
XXXXXXXXXX-XXXX			
		1 RoHS Compliant	

Terms and conditions for the usage of this document

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.
5. The contents and information of this document may not be reproduced or re-transmitted without permission by Kingbright.
6. All design applications should refer to Kingbright application notes available at http://www.kingbright.com/application_notes