Kingbright

3.5x2.8mm PHOTOTRANSISTOR

Part Number: AA3528P3S

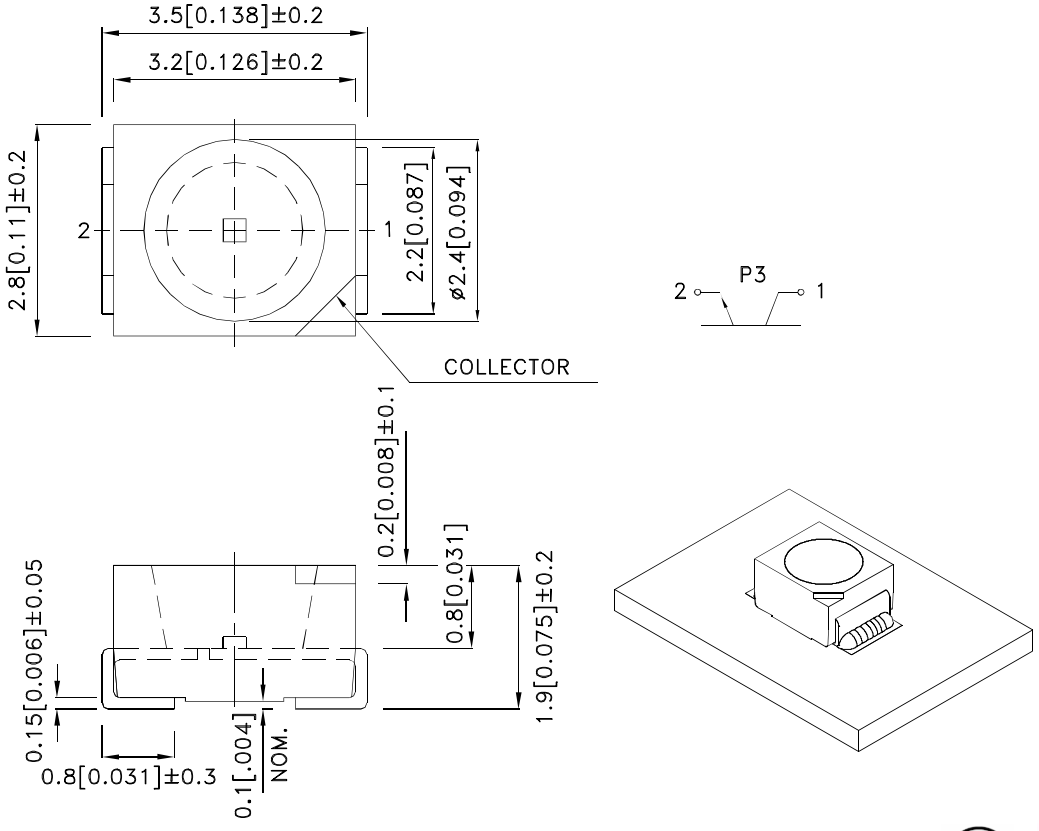
Features

- Mechanically and spectrally matched to the infrared emitting LED lamp.
- Package : 2000pcs / reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

Description

Made with NPN silicon phototransistor chips.

Package Dimensions

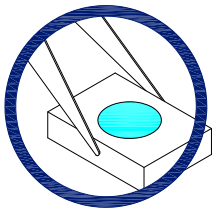


Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
4. The device has a single mounting surface. The device must be mounted according to the specifications.

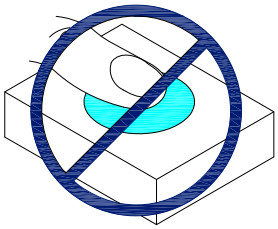
Handling Precautions

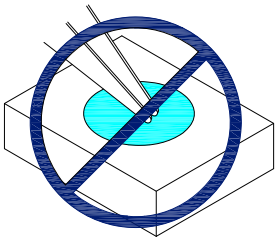
Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more susceptible to damage by external mechanical force.
As a result, special handling precautions need to be observed during assembly using silicone encapsulated LED products. Failure to comply might lead to damage and premature failure of the LED.

1. Handle the component along the side surfaces by using forceps or appropriate tools.

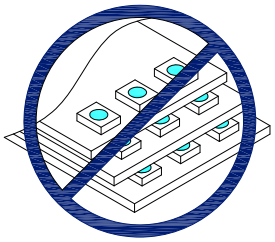


2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.

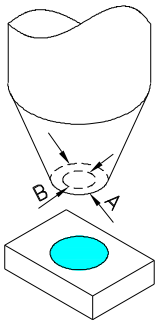




3. Do not stack together assembled PCBs containing exposed LEDs. Impact may scratch the silicone lens or damage the internal circuitry.



4.1. The inner diameter of the SMD pickup nozzle should not exceed the size of the LED to prevent air leaks.
4.2. A pliable material is suggested for the nozzle tip to avoid scratching or damaging the LED surface during pickup.
4.3. The dimensions of the component must be accurately programmed in the pick-and-place machine to insure precise pickup and avoid damage during production.



5. As silicone encapsulation is permeable to gases, some corrosive substances such as H_2S might corrode silver plating of leadframe. Special care should be taken if an LED with silicone encapsulation is to be used near such substances.

All design applications should refer to Kingbright application notes available at
http://www.KingbrightUSA.com/ApplicationNotes

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 Ee=0mW/c㎡
$V_{BR\ ECO}$	Emitter-to-Collector Breakdown Voltage	5			V	I_E=100uA Ee=0mW/c㎡
$V_{CE\ (SAT)}$	Collector-to-Emitter Saturation Voltage			0.8	V	I_C=2mA Ee=20mW/c㎡
I_{CEO}	Collector Dark Current			100	nA	V_{CE}=10V Ee=0mW/c㎡
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 Ee=1mW/c㎡ λ=940nm

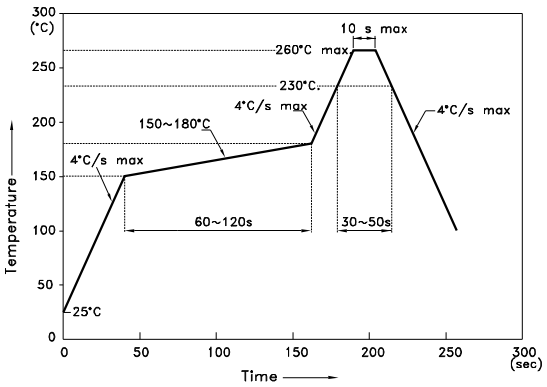
Absolute Maximum Ratings at TA=25°C

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

AA3528P3S

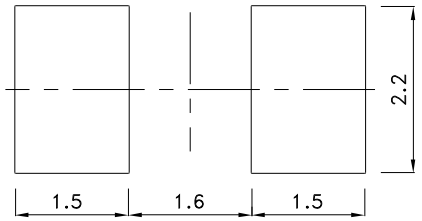
Reflow soldering is recommended and the soldering profile is shown below.
Other soldering methods are not recommended as they might cause damage to the product.

Reflow Soldering Profile For Lead-free SMT Process.

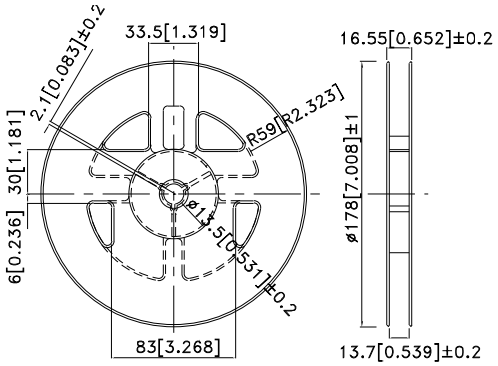


NOTES:
1. We recommend the reflow temperature 245°C(+/-5°C).The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

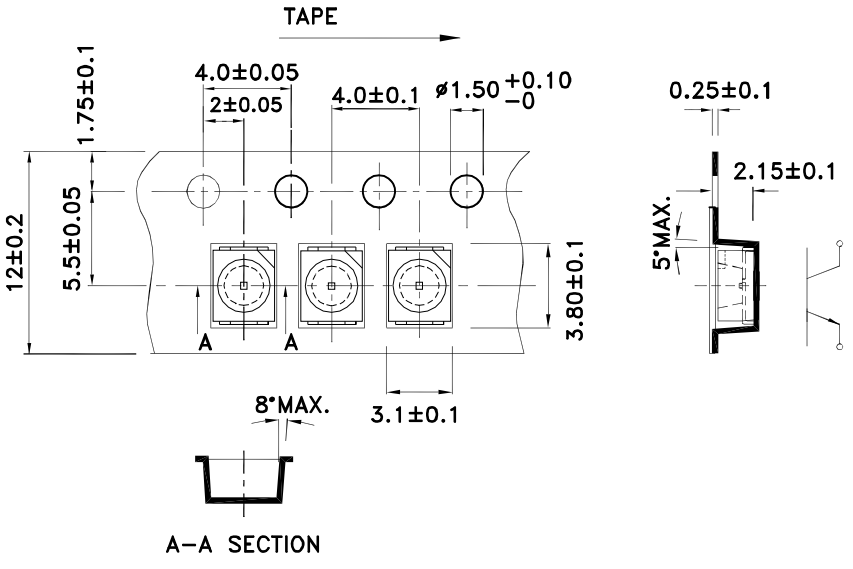
Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



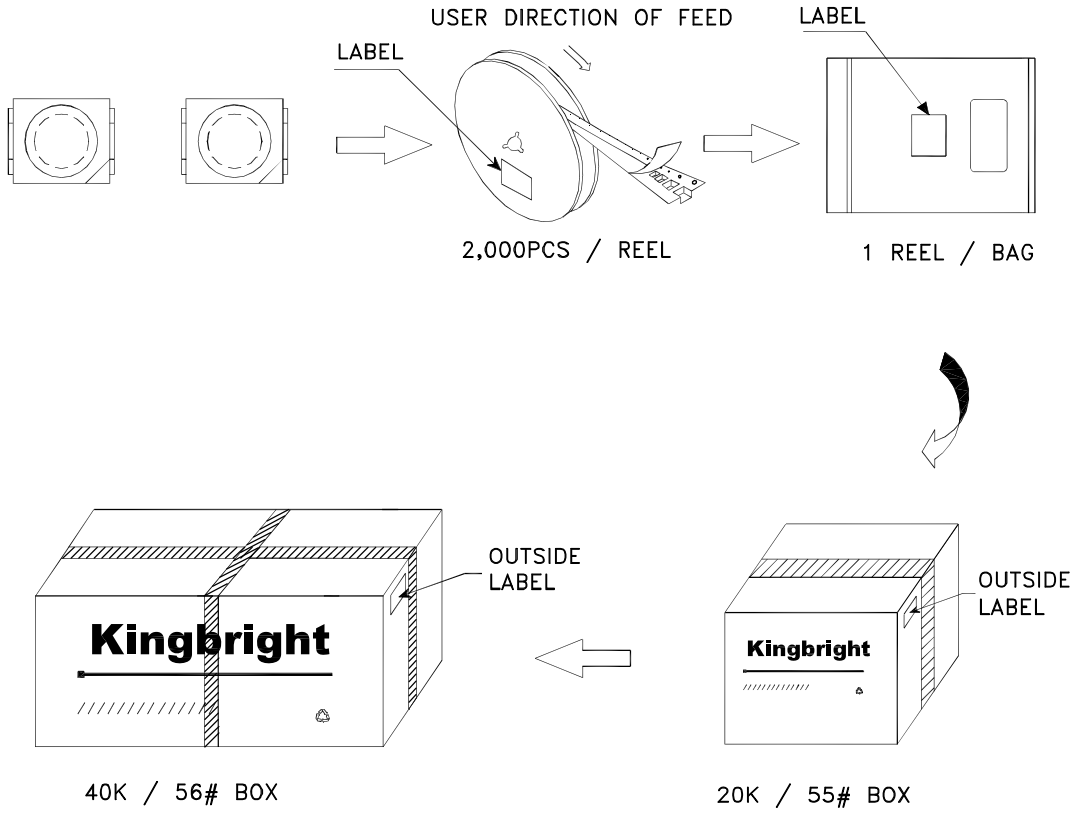
Reel Dimension

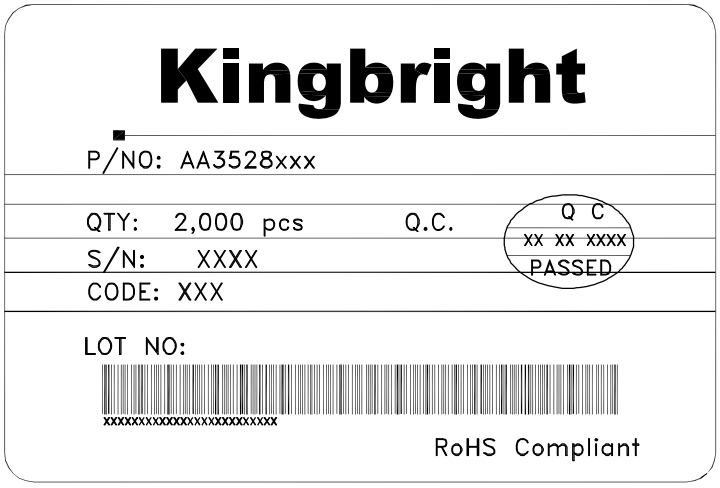


Tape Specifications (Units : mm)



PACKING & LABEL SPECIFICATIONS **AA3528P3S**





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