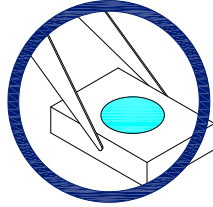


Handling Precautions

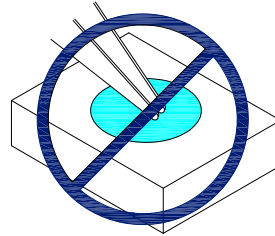
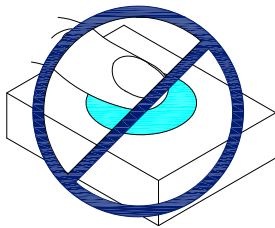
Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more susceptible to damage by external mechanical force.

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.

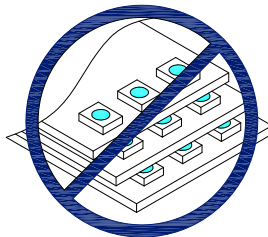
1. Handle the component along the side surfaces by using forceps or appropriate tools.



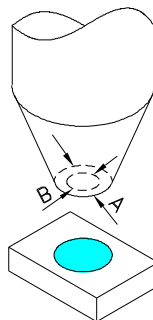
2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.



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.

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 | 0.2 | 0.4 | | mA | V _{CE} = 5V E _e =1mW/cm 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 |

Typical Electro-Optical Characteristics Curves

Fig.1 Collector Power Dissipation vs. Ambient Temperature

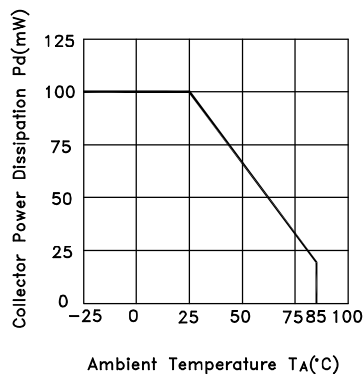


Fig.2 Spectral Sensitivity vs. Wavelength

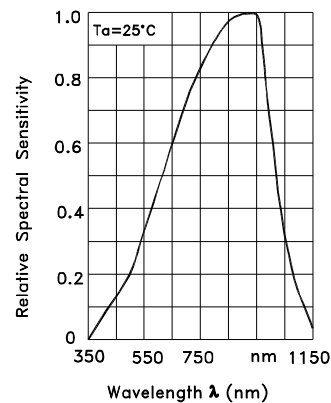


Fig.3 Relative Collector Current vs. Ambient Temperature

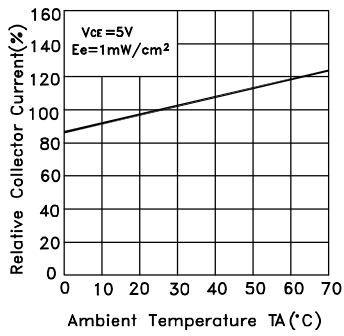


Fig.4 Collector Current $I_c = f(E_e), V_{ce} = 5V, T_a = 25^\circ C$

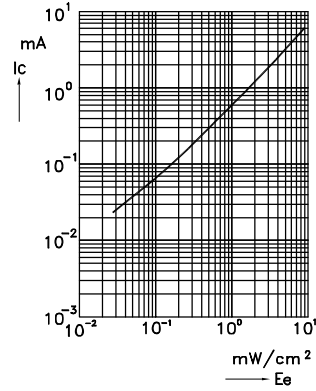


Fig.5 Collector Dark Current vs. Ambient Temperature

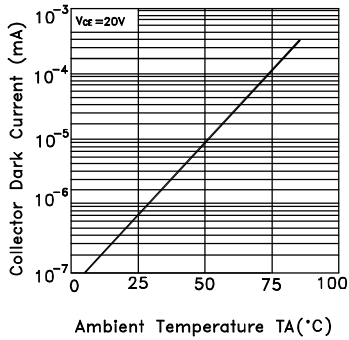


Fig.6 Collector Current vs. Collector-Emitter Voltage

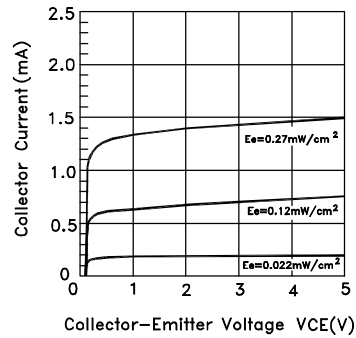
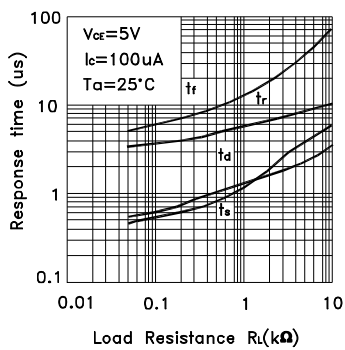
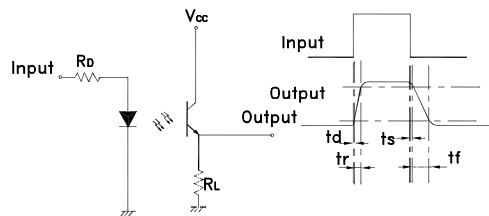


Fig.7 Response Time vs. Load Resistance



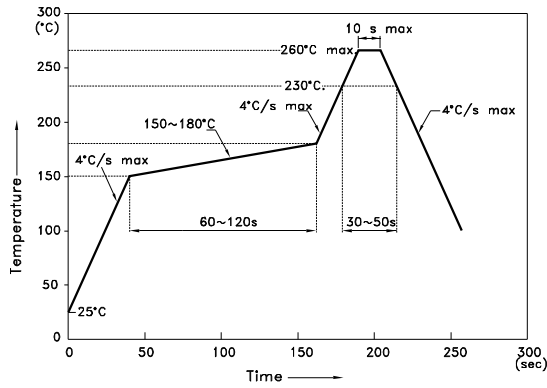
Test Circuit for Response Time



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.

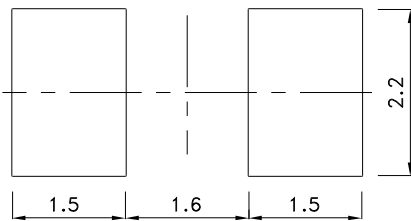
Reflow Soldering Profile For Lead-free SMT Process.



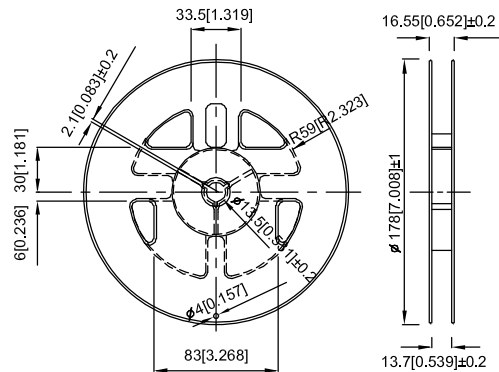
NOTES:

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.

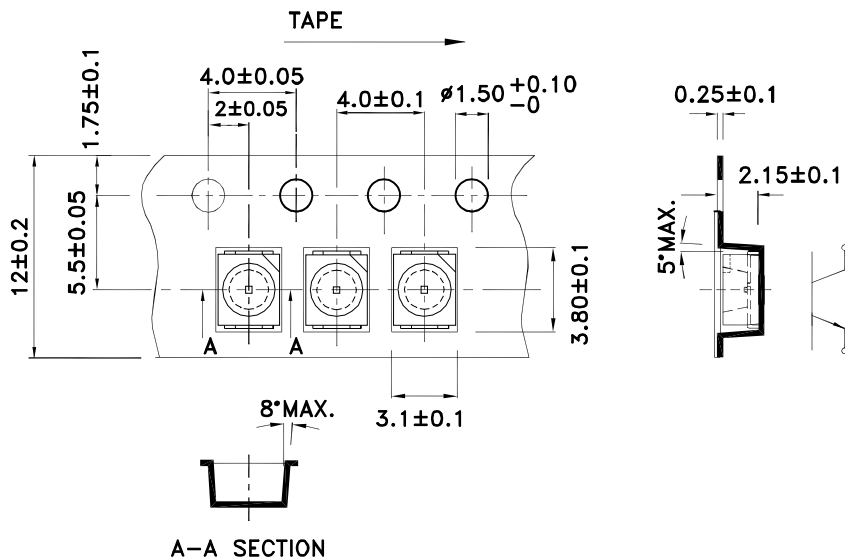
Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



Reel Dimension

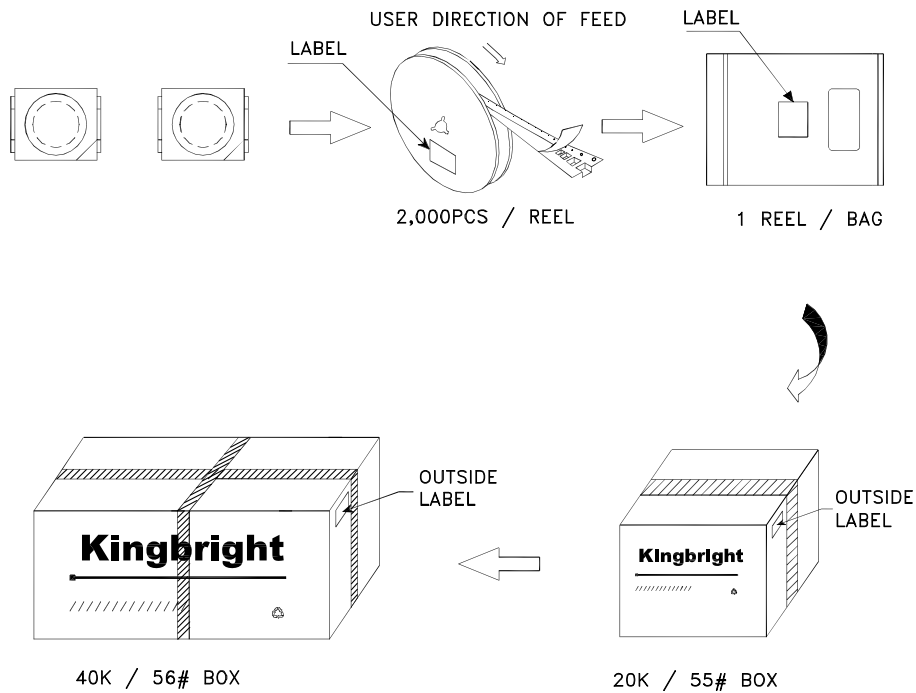



Tape Specifications (Units : mm)



PACKING & LABEL SPECIFICATIONS

AA3528P3S



| | |
|---|--|
| Kingbright | |
| P/NO: AA3528xxx | |
| QTY: 2,000 pcs | Q.C. Q C XX XX XXXX PASSED |
| S/N: XXXX | |
| CODE: XXX | |
| LOT NO: | |
|  <small>XXXXXXXXXXXXXXXXXXXXXXXXXX</small> | |
| RoHS Compliant | |

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