



**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES

### Features

- Single color.
- Suitable for all SMT assembly and solder process.
- Available on tape and reel.
- White SMD package, silicone resin.
- Low thermal resistance.
- Package: 2000pcs / reel.
- Moisture sensitivity level : level 2a.
- RoHS compliant.

### Description

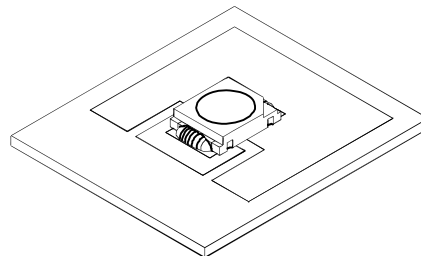
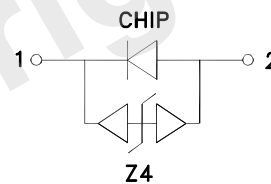
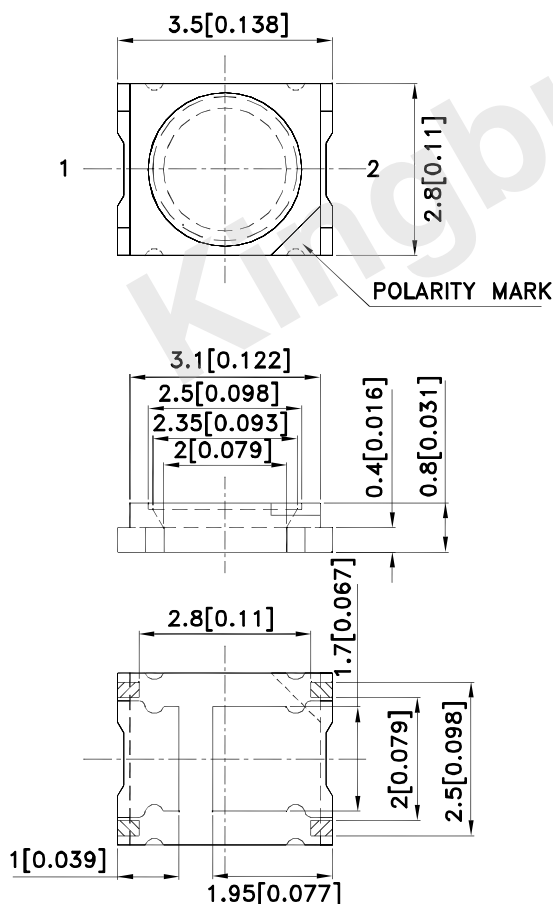
The Hyper Orange device is made with TS AlGaInP light emitting diode.

Static electricity and surge damage the LEDs.

It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.

All devices, equipment and machinery must be electrically grounded.

### Package Dimensions



#### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25 (0.01")$  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.

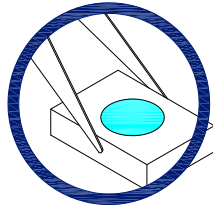


## Handling Precautions

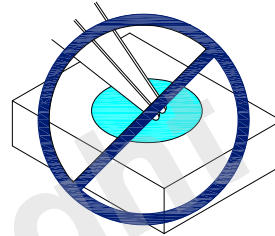
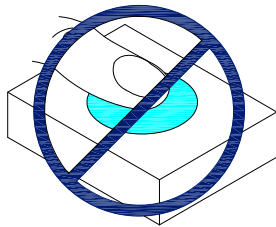
Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more susceptible to damage by external mechanical force.

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.

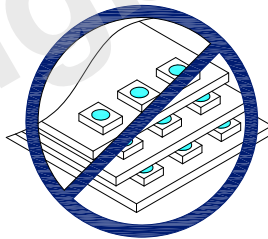
1. Handle the component along the side surfaces by using forceps or appropriate tools.



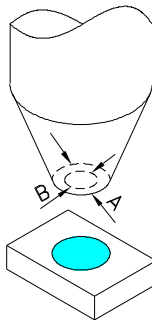
2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.



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.

Detailed application notes are listed on our website.

[http://www.kingbright.com/application\\_notes](http://www.kingbright.com/application_notes)

## Selection Guide

Part No.	Dice	Lens Type	Iv (cd) [2] @ 150mA		Φv (lm) [2] @ 150mA		Viewing Angle [1]
			Min.	Typ.	Min.	Typ.	2θ1/2
KA-3529ASELZ4S	Hyper Orange (AlGaInP)	Water Clear	2.3	3	8.6	11	120°

### Notes:

1. 01/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
2. Luminous intensity/ luminous flux: +/-15%.
3. LEDs are binned according to their luminous flux.
4. Luminous intensity/ luminous Flux value is traceable to the CIE127-2007 compliant national standards.

## Absolute Maximum Ratings at TA=25°C

Parameter	Symbol	Value	Unit
Power Dissipation	Pd	510	mW
Junction Temperature [1]	TJ	110	°C
Operating Temperature	Top	-40 To +85	°C
Storage Temperature	Tstg	-40 To +85	°C
DC Forward Current [1]	IF	150	mA
Peak Forward Current [2]	IFM	350	mA
Thermal Resistance [1] (Junction/ambient)	Rth ja	200	°C/W
Thermal Resistance [1] (Junction/solder point)	Rth j-s	80	°C/W

### Notes:

1. Results from mounting on PC board FR4 (pad size ≥ 70mm<sup>2</sup>), mounted on pc board-metal core PCB is recommend for lowest thermal Resistance.
2. 1/10 Duty Cycle, 0.1ms Pulse Width.

## Electrical / Optical Characteristics at TA=25°C

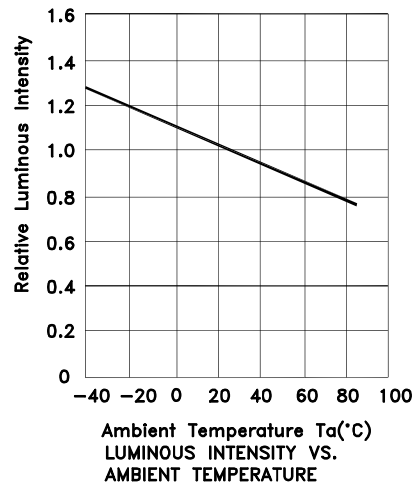
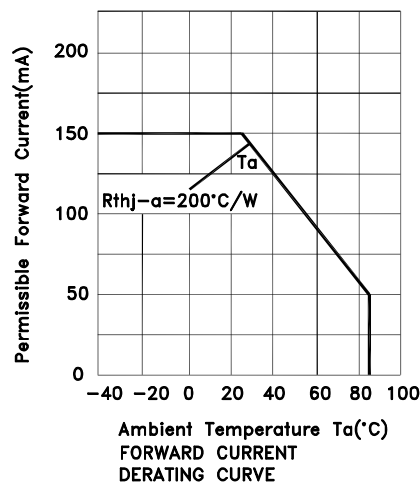
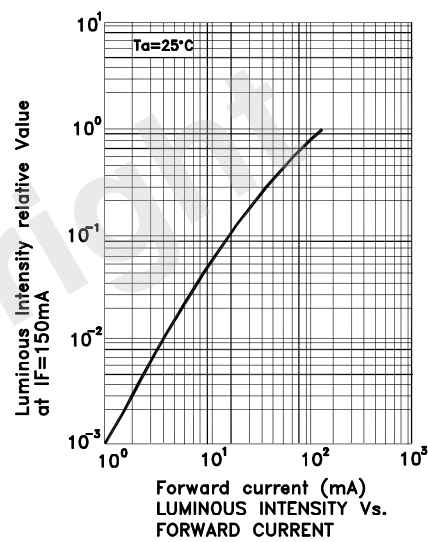
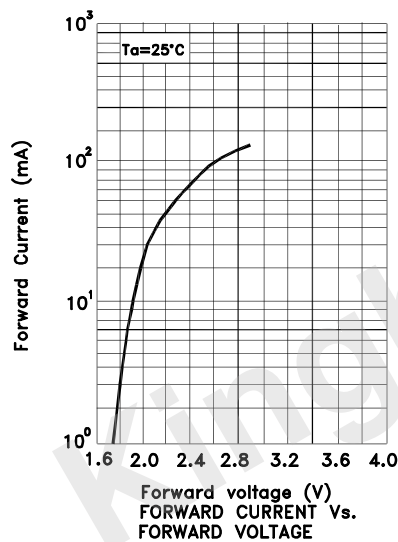
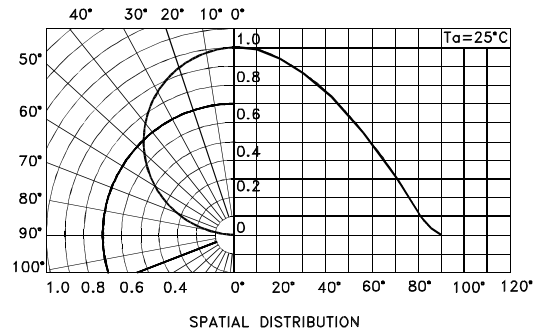
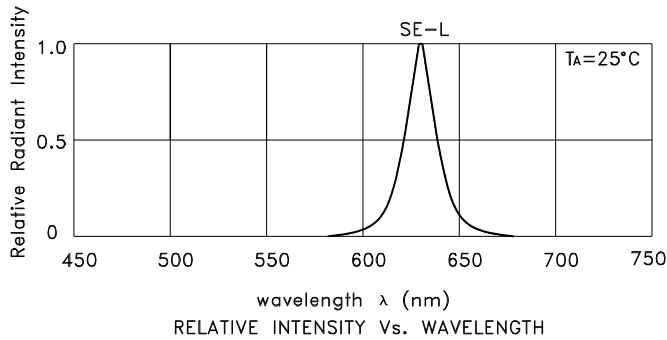
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ <sub>peak</sub>	Peak Wavelength	Hyper Orange	626		nm	IF=150mA
λ <sub>D</sub> [1]	Dominant Wavelength	Hyper Orange	618		nm	IF=150mA
Δλ <sub>1/2</sub>	Spectral Line Half-width	Hyper Orange	20		nm	IF=150mA
C	Capacitance	Hyper Orange	25		pF	VF=0V; f=1MHz
VF [2]	Forward Voltage	Hyper Orange	2.9	3.4	V	IF=150mA
IR	Allowable Reverse Current	Hyper Orange		85	mA	VR = 5V

### Notes:

1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
3. Wavelength value is traceable to the CIE127-2007 compliant national standards.

Hyper Orange

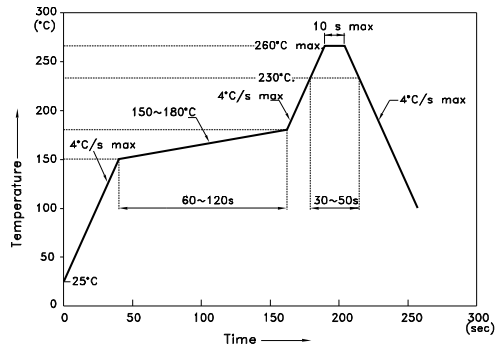
KA-3529ASELZ4S



**KA-3529ASELZ4S**

**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.**

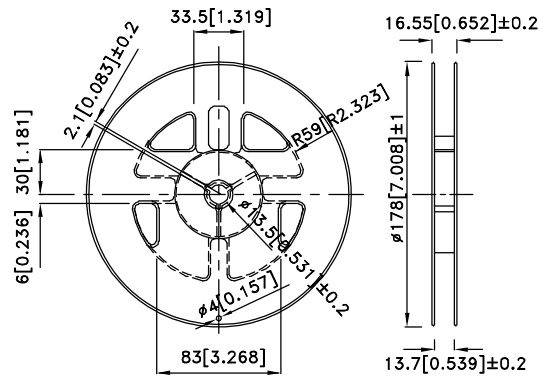
### Reflow Soldering Profile For Lead-free SMT Process.



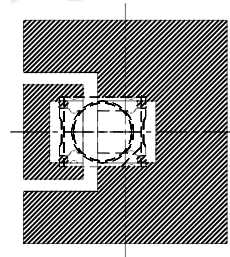
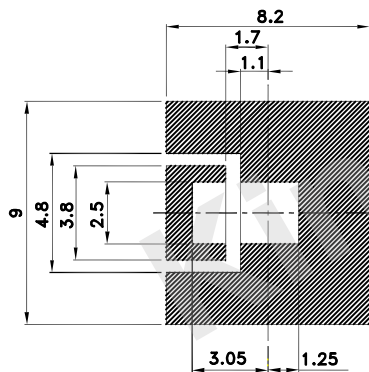
NOTES:

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.

## Reel Dimension

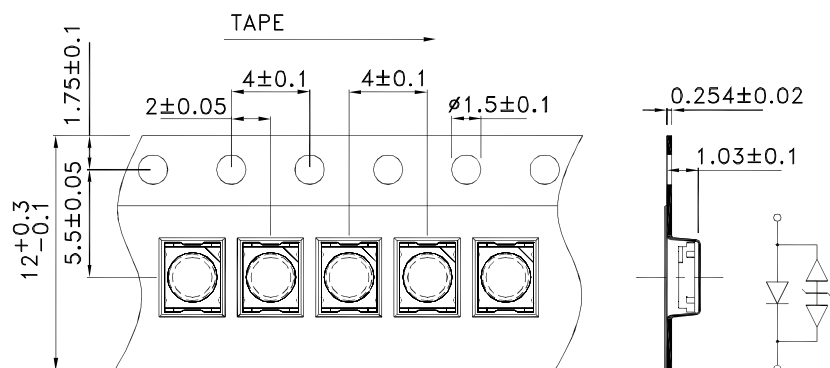


**Recommended Soldering Pattern**  
(Units : mm; Tolerance:  $\pm 0.1$ )



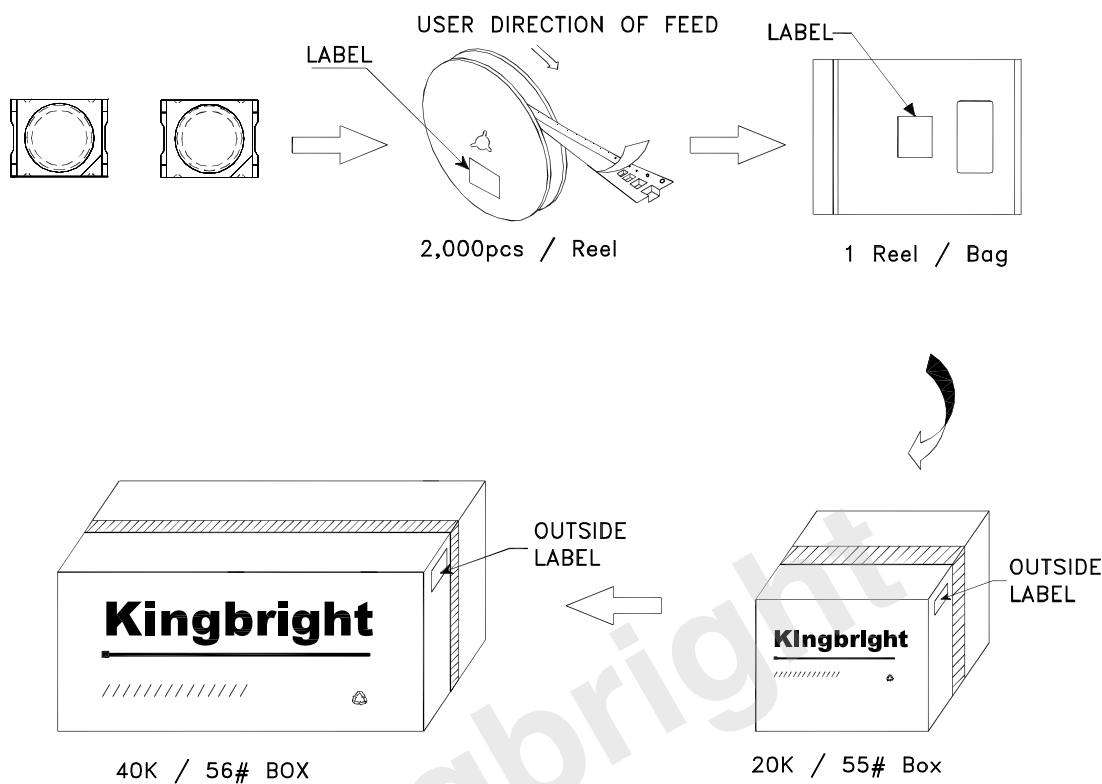
 **Solder resist**


### Tape Specifications (Units : mm)



PACKING & LABEL SPECIFICATIONS

KA-3529ASELZ4S



<b>Kingbright</b>	
P/NO: KA-3529AXXX	
QTY: 2,000 pcs	Q.C. <div>Q C XX XX XXXX PASSED</div>
S/N: XXXX	
CODE: XXX	
LOT NO:	
 XXXXXXXXXXXXXXXXXXXXXXXXXXXX	
RoHS Compliant	