3.5x2.7mm SURFACE MOUNT LED LAMP

Part Number: AA3527ASES/J3-50MAV Hyper Red

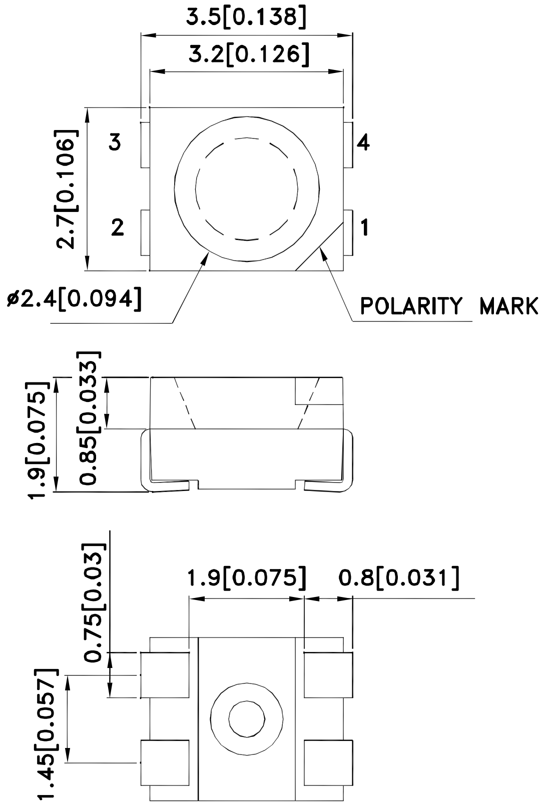
Features

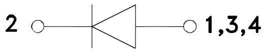
- Single color.
- Suitable for all SMT assembly and solder process.
- Available on tape and reel.
- Ideal for backlighting.
- Package : 2000pcs / reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

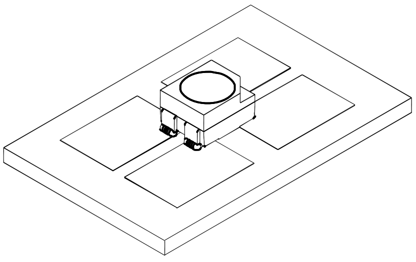
Description

The Hyper Red device is based on light emitting diode chip made from AlGaInP.

Package Dimensions





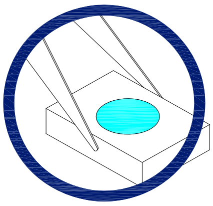


Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
4. The device has a single mounting surface. The device must be mounted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

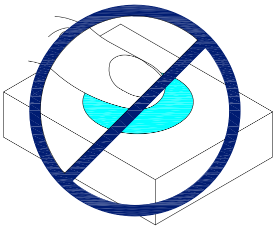
Handling Precautions

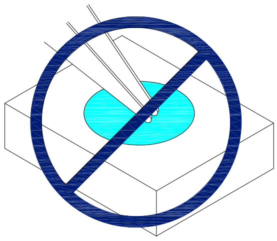
Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more susceptible to damage by external mechanical force.
As a result, special handling precautions need to be observed during assembly using 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.

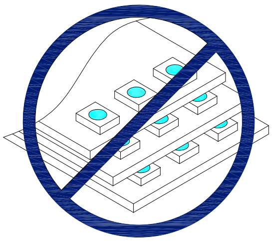


2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.

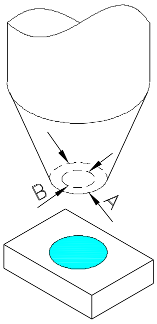




3. Do not stack together assembled PCBs containing exposed LEDs. Impact may scratch the silicone lens or damage the internal circuitry.



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

Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) [2] @ 50mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
AA3527ASES/J3-50MAV	Hyper Red (AlGaInP)	Water Clear	3600	4500	120°
			*1000	*1600	

Notes:
1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
2. Luminous intensity/ luminous Flux: +/-15%.
*Luminous intensity value is traceable to the CIE127-2007 compliant national standards.

Electrical / Optical Characteristics at TA=25°C

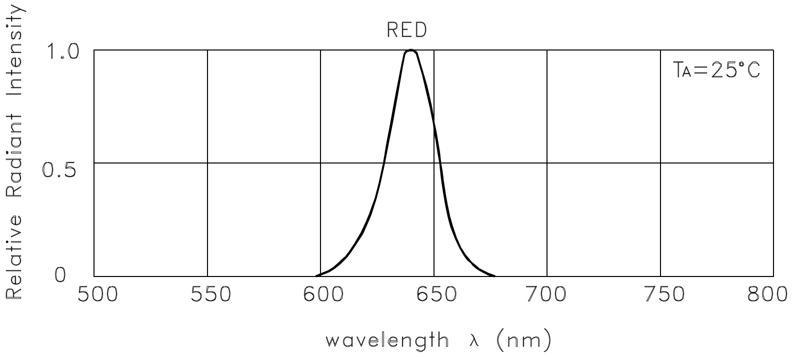
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Hyper Red	640		nm	I_F=50mA
λD [1]	Dominant Wavelength	Hyper Red	625		nm	I_F=50mA
Δλ1/2	Spectral Line Half-width	Hyper Red	25		nm	I_F=50mA
C	Capacitance	Hyper Red	27		pF	V_F=0V;f=1MHz
V_F [2]	Forward Voltage	Hyper Red	2.5	3.2	V	I_F=50mA
I_R	Reverse Current	Hyper Red		10	uA	V_R=5V

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

Absolute Maximum Ratings at TA=25°C

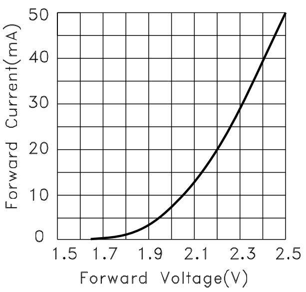
Parameter	Hyper Red	Units
Power dissipation	160	mW
DC Forward Current	50	mA
Peak Forward Current [1]	150	mA
Reverse Voltage	5	V
Operating Temperature	-40°C To +85°C	
Storage Temperature	-40°C To +85°C	

Note:
1. 1/10 Duty Cycle, 0.1ms Pulse Width.

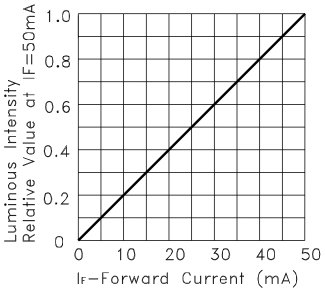


RELATIVE INTENSITY Vs. WAVELENGTH

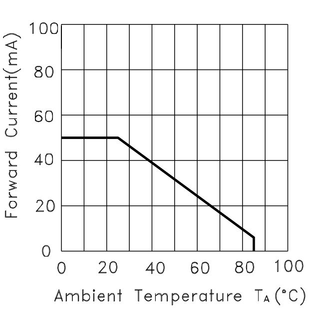
Hyper Red **AA3527ASES/J3-50MAV**



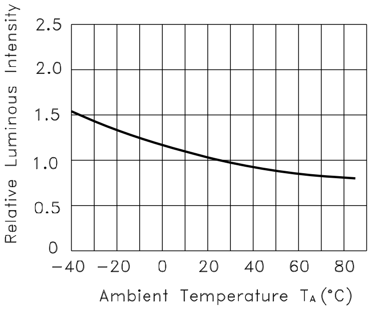
FORWARD CURRENT Vs
FORWARD VOLTAGE



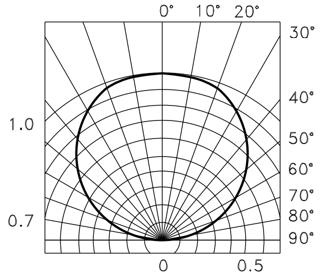
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE



LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

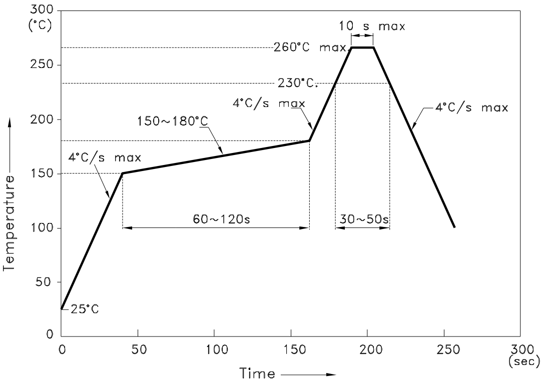


SPATIAL DISTRIBUTION

AA3527ASES/J3-50MAV

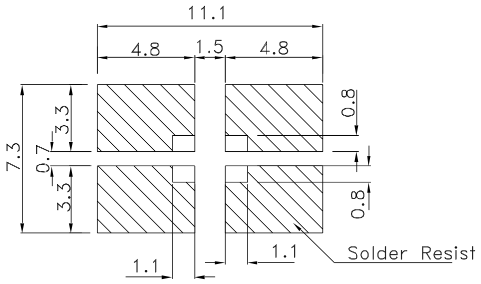
Reflow soldering is recommended and the soldering profile is shown below.
Other soldering methods are not recommended as they might cause damage to the product.

Reflow Soldering Profile For Lead-free SMT Process.

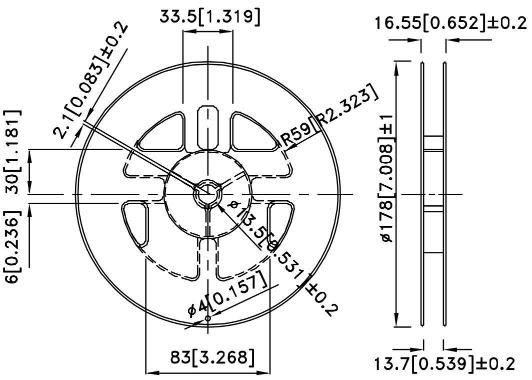


NOTES:
1.We recommend the reflow temperature 245°C(+/−5°C).The maximum soldering temperature should be limited to 260°C.
2.Don't cause stress to the epoxy resin while it is exposed to high temperature.
3.Number of reflow process shall be 2 times or less.

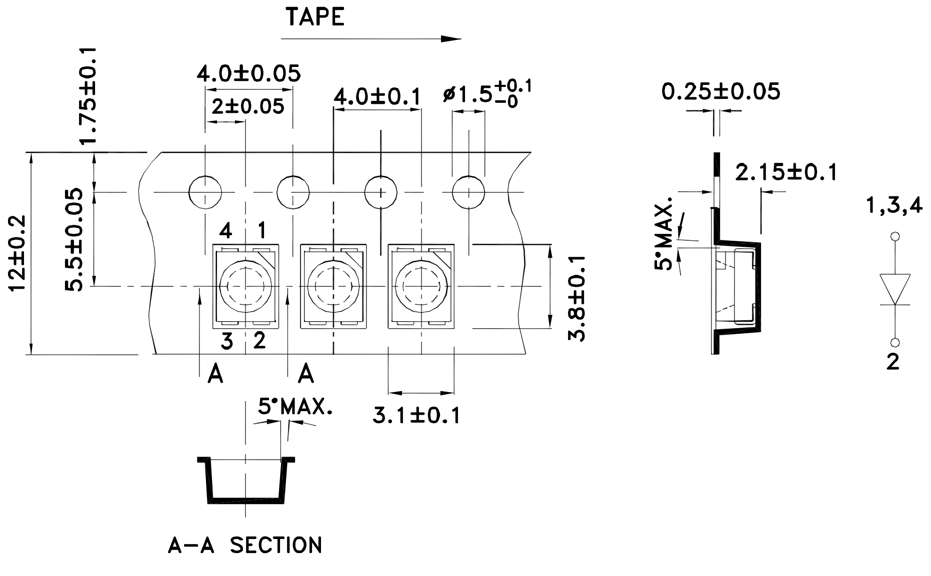
Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



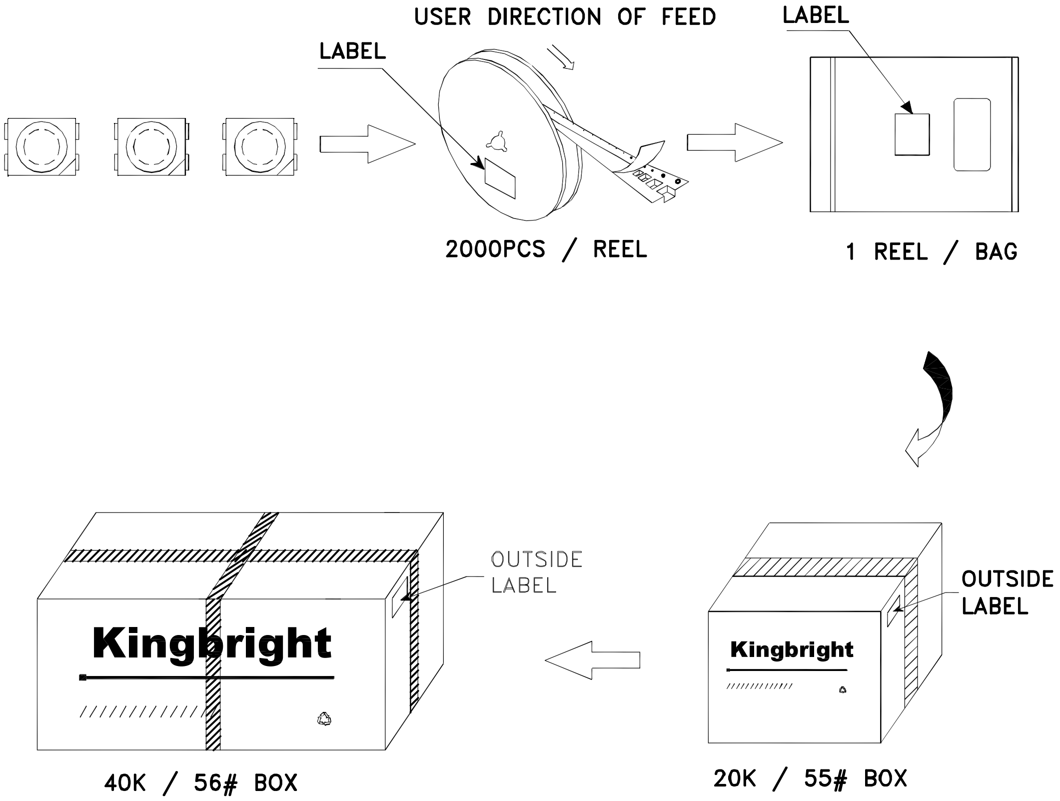
Reel Dimension

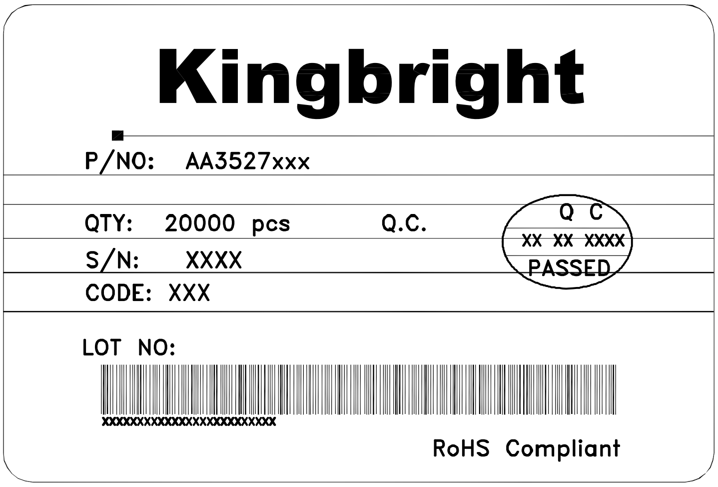


Tape Dimensions (Units : mm)



PACKING & LABEL SPECIFICATIONS **AA3527ASES/J3-50MAV**





Kingbright

P/NO: AA3527xxx

QTY: 20000 pcs Q.C.

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PASSED

S/N: XXXX

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RoHS Compliant