

3.5x2.8mm SURFACE MOUNT LED LAMP

Part Number: KAA-3528EYS

High Efficiency Red

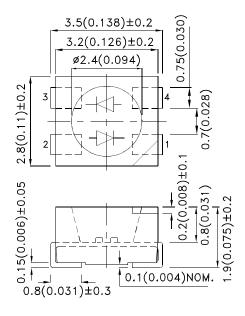
Features

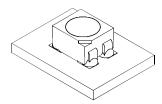
- Both chips can be controlled separately.
- Suitable for all SMT assembly and solder process.
- Available on tape and reel.
- Package: 2000pcs / reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

Descriptions

- The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.
- The Yellow source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Yellow Light Emitting Diode.

Package Dimensions





Notes:

- All dimensions are in millimeters (inches).
 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.

SPEC NO: DSAL3139 APPROVED: WYNEC

REV NO: V.3A CHECKED: Allen Liu **DATE: JUN/11/2014**

DRAWN: Y.Liu



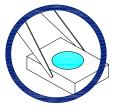
PAGE: 1 OF 7 ERP: 1201007267

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.

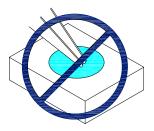
As a result, special handling precautions need to be observed during assembly using silicone encapsulated LED products. Failure to comply might lead to damage and premature failure of the LED.

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

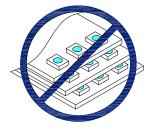


2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.

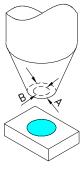




3. Do not stack together assembled PCBs containing exposed LEDs. Impact may scratch the silicone lens or damage the internal circuitry.



- 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.

SPEC NO: DSAL3139 REV NO: V.3A DATE: JUN/11/2014 PAGE: 2 OF 7
APPROVED: WYNEC CHECKED: Allen Liu DRAWN: Y.Liu ERP: 1201007267

Selection Guide

Part No.	Dice	Lens Type	lv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Тур.	201/2
KAA-3528EYS	High Efficiency Red (GaAsP/GaP)	Water Clear	12	30	- 120°
			*8	*15	
	Yellow (GaAsP/GaP)		8	15	
			*8	*15	

- 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%.

 * Luminous intensity value is traceable to the CIE127-2007 compliant national standards.

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Тур.	Max.	Units	Test Conditions	
λpeak	Peak Wavelength	High Efficiency Red Yellow	627 590		nm	IF=20mA	
λD [1]	Dominant Wavelength	High Efficiency Red Yellow	617 588		nm	IF=20mA	
Δλ1/2	Spectral Line Half-width	High Efficiency Red Yellow	45 35		nm	IF=20mA	
С	Capacitance	High Efficiency Red Yellow	15 20		pF	VF=0V;f=1MHz	
VF [2]	Forward Voltage	High Efficiency Red Yellow	2 2.1	2.5 2.5	V	IF=20mA	
lR	Reverse Current	High Efficiency Red Yellow		10 10	uA	V _R = 5V	

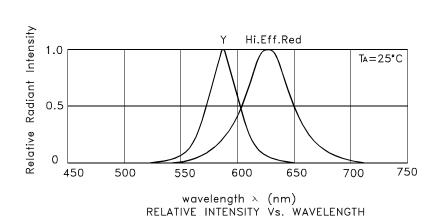
- 1.Wavelength: +/-1nm.
- 2. Forward Voltage: +/-0.1V.
- 3. Wavelength value is traceable to the CIE127-2007 compliant national standards.

Absolute Maximum Ratings at TA=25°C

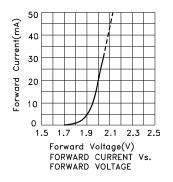
Parameter	High Efficiency Red	Red Yellow			
Power dissipation	75	75 75			
DC Forward Current	30	30	mA		
Peak Forward Current [1]	160	140	mA		
Reverse Voltage		V			
Operating Temperature	-40°C To +85°C				
Storage Temperature	-40°C To +85°C				

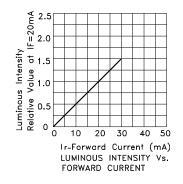
1. 1/10 Duty Cycle, 0.1ms Pulse Width.

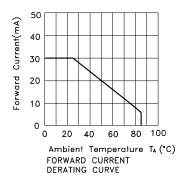
SPEC NO: DSAL3139 **REV NO: V.3A DATE: JUN/11/2014** PAGE: 3 OF 7 APPROVED: WYNEC **CHECKED: Allen Liu** DRAWN: Y.Liu ERP: 1201007267

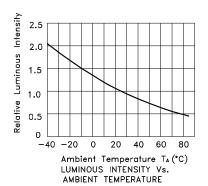


KAA-3528EYS High Efficiency Red



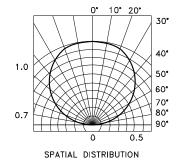






PAGE: 4 OF 7

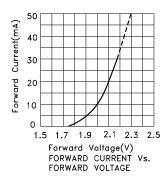
ERP: 1201007267

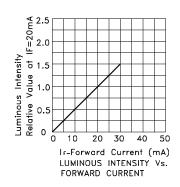


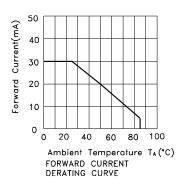
SPEC NO: DSAL3139 REV NO: V.3A DATE: JUN/11/2014

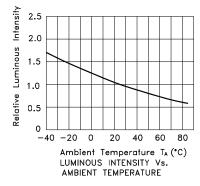
APPROVED: WYNEC CHECKED: Allen Liu DRAWN: Y.Liu

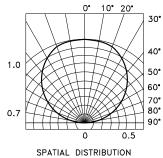
Yellow









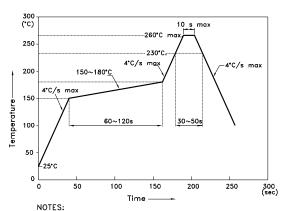


SPEC NO: DSAL3139 APPROVED: WYNEC REV NO: V.3A CHECKED: Allen Liu DATE: JUN/11/2014 DRAWN: Y.Liu PAGE: 5 OF 7 ERP: 1201007267

KAA-3528EYS

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.

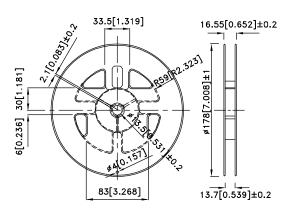
 3.Number of reflow process shall be 2 times or less.

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

1.2

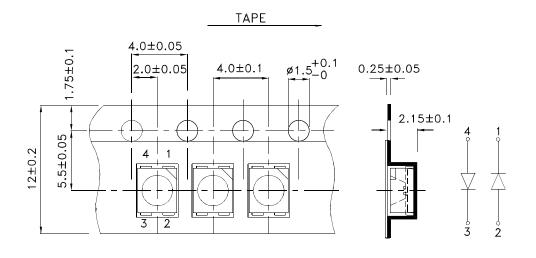
Tape Dimensions (Units: mm)

Reel Dimension

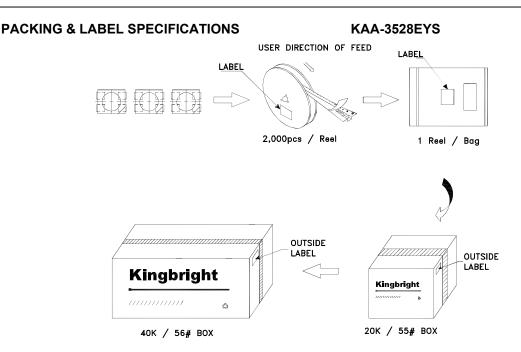


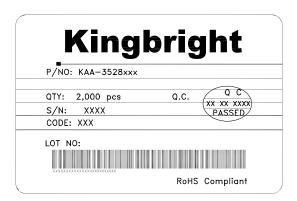
PAGE: 6 OF 7

ERP: 1201007267



SPEC NO: DSAL3139 **REV NO: V.3A DATE: JUN/11/2014** APPROVED: WYNEC **CHECKED: Allen Liu** DRAWN: Y.Liu





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

SPEC NO: DSAL3139 REV NO: V.3A DATE: JUN/11/2014 PAGE: 7 OF 7
APPROVED: WYNEC CHECKED: Allen Liu DRAWN: Y.Liu ERP: 1201007267