

3.0x2.2mm SINGLE COLOR SURFACE MOUNT **LED LAMP**

Part Number: AA3022ES-4.5SF

High Efficiency Red

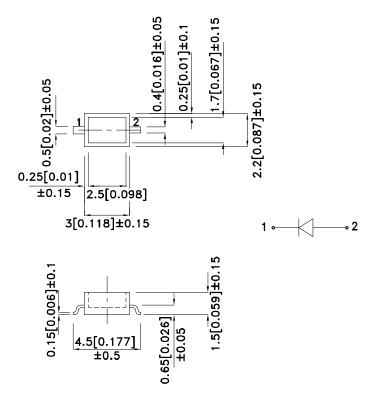
Features

- 3.0mm x 2.2mm SMT LED, 1.5mm thickness.
- White reflector to maximize reflection of light.
- Ultra-compact type assures space saving.
- High efficiency & low power consumption.
- Package: 1500pcs / reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

Description

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

Package Dimensions



- All dimensions are in millimeters (inches).
 Tolerance is ±0.25(0.01") unless otherwise noted.
- 3. Lead spacing is measured where the leads emerge from the package.
- 4. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
- 5. The device has a single mounting surface. The device must be mounted according to the specifications.

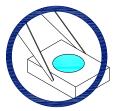
SPEC NO: DSAL0969 **REV NO: V.1 DATE: OCT/06/2010** PAGE: 1 OF 6 ERP: 1201007048 APPROVED: WYNEC **CHECKED: Allen Liu** DRAWN: Y.H.Wu

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.

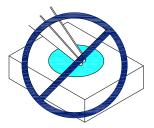
As a result, special handling precautions need to be observed during assembly using silicone encapsulated LED products. Failure to comply might lead to damage and premature failure of the LED.

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.

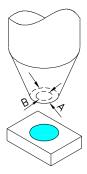




3. Do not stack together assembled PCBs containing exposed LEDs. Impact may scratch the silicone lens or damage the internal circuitry.



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



 SPEC NO: DSAL0969
 REV NO: V.1
 DATE: OCT/06/2010
 PAGE: 2 OF 6

 APPROVED: WYNEC
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Selection Guide

Part No.	Dice	Lens Type	lv (mo @ 20	,	A Angle [1]
			Min.	Тур.	201/2
AA3022ES-4.5SF	High Efficiency Red (GaAsP/GaP)	Water Clear	12	25	120°

- Notes: 1. θ 1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value. 2. Luminous intensity/ luminous Flux: +/-15%.

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Тур.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	High Efficiency Red	627		nm	IF=20mA
λD [1]	Dominant Wavelength	High Efficiency Red	625		nm	IF=20mA
Δλ1/2	Spectral Line Half-width	High Efficiency Red	45		nm	IF=20mA
С	Capacitance	High Efficiency Red	15		pF	VF=0V;f=1MHz
VF [2]	Forward Voltage	High Efficiency Red	2	2.5	V	IF=20mA
IR	Reverse Current	High Efficiency Red		10	uA	V _R =5V

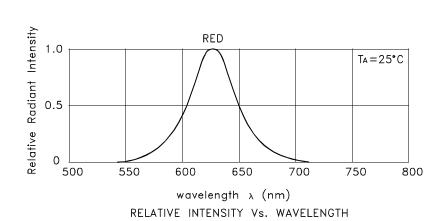
- Notes: 1.Wavelength: +/-1nm. 2. Forward Voltage: +/-0.1V.

Absolute Maximum Ratings at TA=25°C

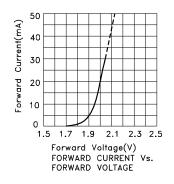
Parameter	High Efficiency Red	Units	
Power dissipation	75	mW	
DC Forward Current	30	mA	
Peak Forward Current [1]	160	mA	
Reverse Voltage	5	V	
Operating Temperature	-40°C To +85°C		
Storage Temperature	-40°C To +85°C		

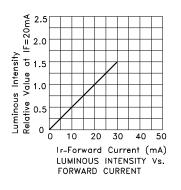
Note: 1. 1/10 Duty Cycle, 0.1ms Pulse Width.

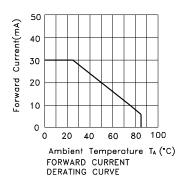
SPEC NO: DSAL0969 **REV NO: V.1** DATE: OCT/06/2010 PAGE: 3 OF 6 APPROVED: WYNEC **CHECKED: Allen Liu** DRAWN: Y.H.Wu ERP: 1201007048

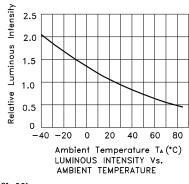


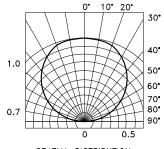
High Efficiency Red AA3022ES-4.5SF











SPATIAL DISTRIBUTION

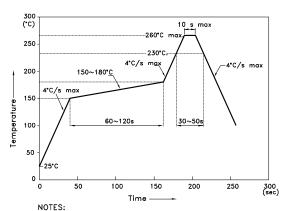
 SPEC NO: DSAL0969
 REV NO: V.1
 DATE: OCT/06/2010
 PAGE: 4 OF 6

 APPROVED: WYNEC
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AA3022ES-4.5SF

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 be into temperature.
 - to high temperature.

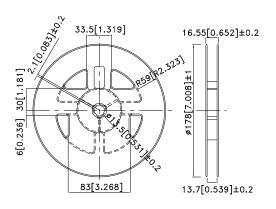
 3.Number of reflow process shall be 2 times or less.

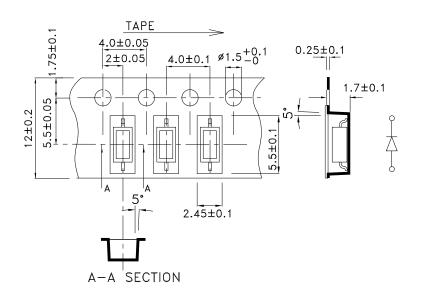
Recommended Soldering Pattern (Units: mm; Tolerance: ± 0.1)

1.6 3.3 1.6

Tape Dimensions (Units : mm)

Reel Dimension



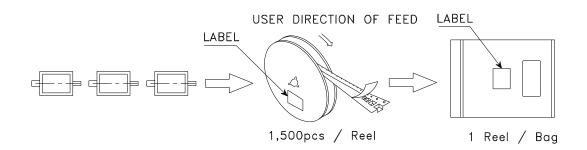


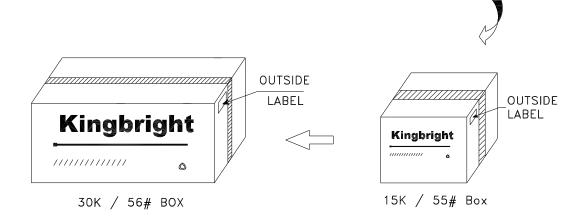
 SPEC NO: DSAL0969
 REV NO: V.1
 DATE: OCT/06/2010
 PAGE: 5 OF 6

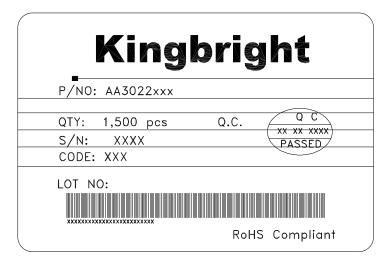
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PACKING & LABEL SPECIFICATIONS

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