Part Number: KA3030BR34-S2 Blue

ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Features

- Size (mm): 3.0x3.0x0.6
- Suitable for all SMD assembly and solder process.
- Available on tape and reel.
- White SMD package, silicone resin.
- Moisture sensitivity level : level 3
- RoHS compliant.

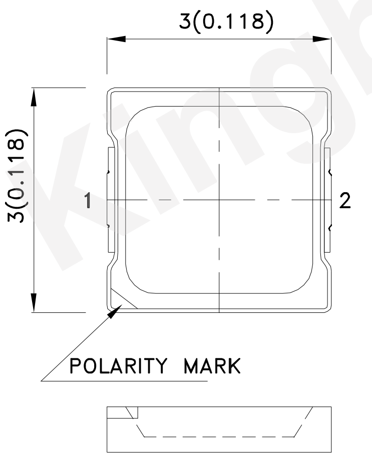
Descriptions

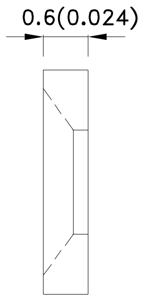
- The Blue source color devices are made with InGaN Light Emitting Diode.
- Electrostatic discharge and power surge could damage the LEDs.
- It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.
- All devices, equipment and machinery must be electrically grounded.

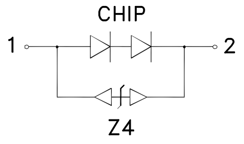
Applications

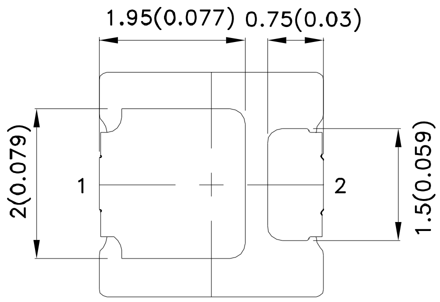
- LCD TV / Monitor Backlight.
- Architectural lighting.
- Decorative lighting.

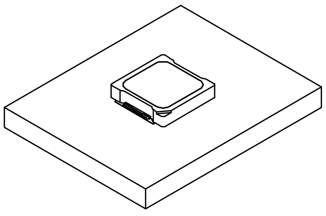
Package Dimensions









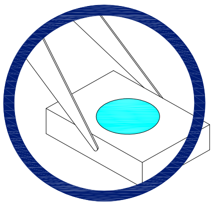


Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
4. The device has a single mounting surface. The device must be mounted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

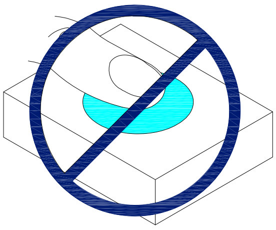
Handling Precautions

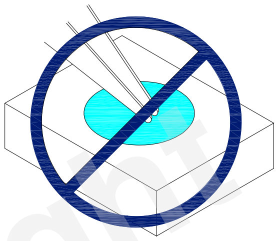
Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more susceptible to damage by external mechanical force.
As a result, special handling precautions need to be observed during assembly using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

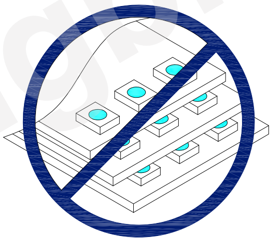


2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.

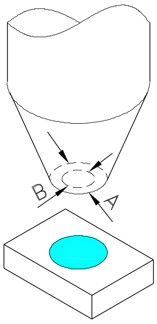




3. Do not stack together assembled PCBs containing exposed LEDs. Impact may scratch the silicone lens or damage the internal circuitry.



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.

Selection Guide

Part No.	Emitting Color	Lens Type	Φ_v (lm) [2] @ 100mA		Viewing Angle [1]
			Min.	**Typ.**	**$2\theta_{1/2}$**
KA3030BR34-S2	Blue(InGaN)	Water Clear	7.2	10	120 °

Notes:
1. $\theta_{1/2}$ is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
2. Luminous intensity / luminous Flux: +/-15%.
3. Luminous flux value is traceable to CIE127-2007 standards.

Absolute Maximum Ratings at T_A=25°C

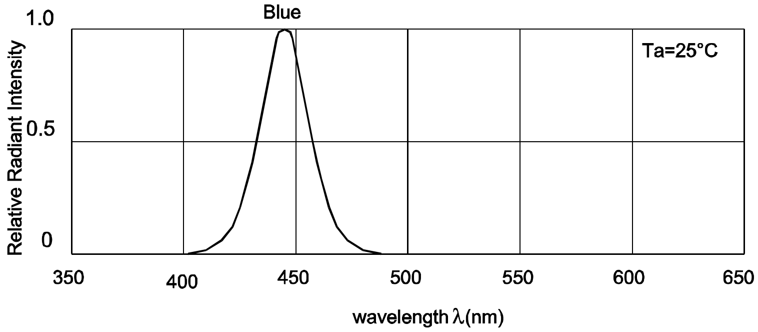
Parameter	Symbol	Value	Unit
Power dissipation	P_D	1320	mW
Junction temperature[1]	T_J	110	°C
Reverse Voltage	V_R	5	V
Operating Temperature	Top	-40 To +85	°C
Storage Temperature	Tstg	-40 To +85	°C
DC Forward Current [1]	I_F	200	mA
Peak Forward Current [2]	I_{FM}	400	mA
Electrostatic Discharge Threshold (HBM)		8000	V
Thermal resistance [1](Junction/ambient)	$R_{th\ j\text{-}a}$	75	°C/W
Thermal resistance (Junction/solder point)	$R_{th\ j\text{-}s}$	20	°C/W

Notes:
1.Results from mounting on FR4 PC board,Metal-core PCB is recommended for low thermal resistance.
2.1/10 Duty Cycle, 0.1ms Pulse Width.
3. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

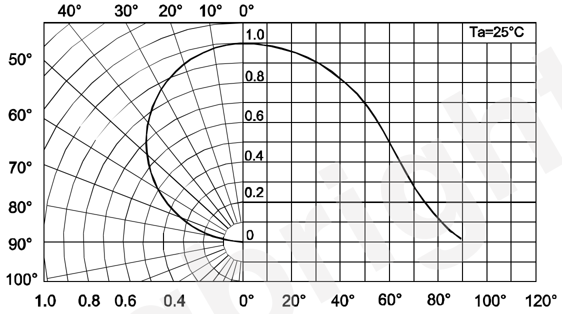
Electrical / Optical Characteristics at T_A=25°C

Parameter	Symbol	Value	Unit
Wavelength at peak emission I_F=100mA [Typ.]	λpeak	445	nm
Dominant Wavelength I_F=100mA [Typ.]	λdom [1]	450	nm
Spectral bandwidth at 50%$F_{REL\ MAX}$ I_F=100mA [Typ.]	Δλ1/2	25	nm
Forward Voltage I_F = 100mA [Min.]	V_F [2]	5.8	V
Forward Voltage I_F = 100mA [Typ.]		6.2	
Forward Voltage I_F = 100mA [Max.]		6.6	
Allowable Reverse Current [Max.]	I_R	85	mA
Temperature coefficient of λpeak I_F = 100mA, -10°C ≤ T≤ 85°C [Typ.]	TCλpeak	0.03	nm/°C
Temperature coefficient of λdom I_F = 100mA, -10°C ≤ T≤ 85°C [Typ.]	TCλdom	0.04	nm/°C
Temperature coefficient of V_F I_F = 100mA, - 10°C ≤ T≤ 85°C [Typ.]	TC_V	-2.6	mV/°C

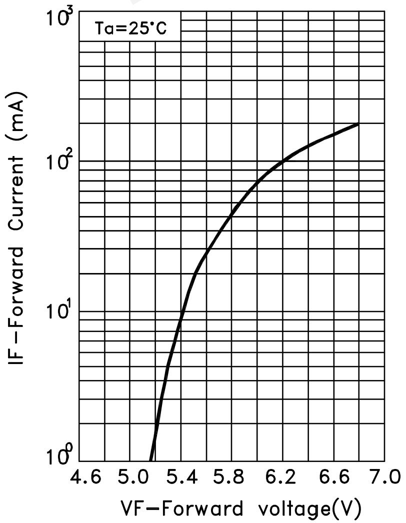
Notes:
1. The dominant Wavelength (λ d) above is the setup value of the sorting machine. (Tolerance λ d : ±1nm.)
2. Forward Voltage: +/-0.1V.
3. Wavelength value is traceable to CIE127-2007 standards.
4. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.



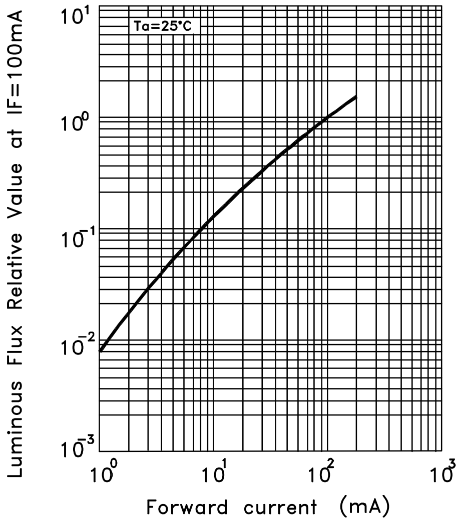
Relative Intensity Vs. Wavelength



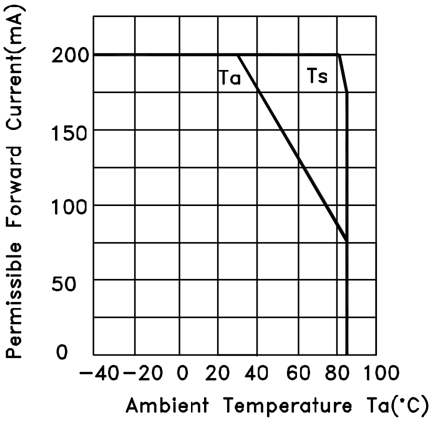
Spatial Distribution



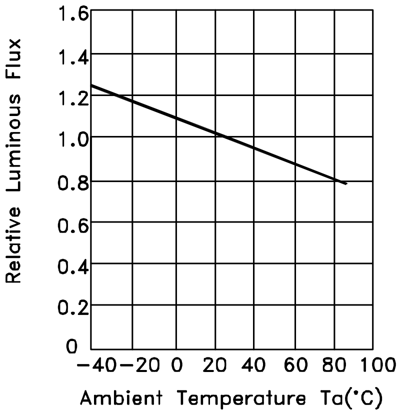
FORWARD CURRENT Vs.
FORWARD VOLTAGE



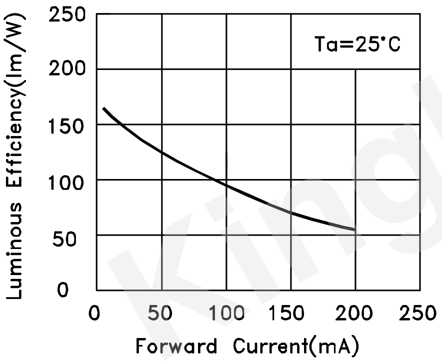
LUMINOUS FLUX Vs.
FORWARD CURRENT



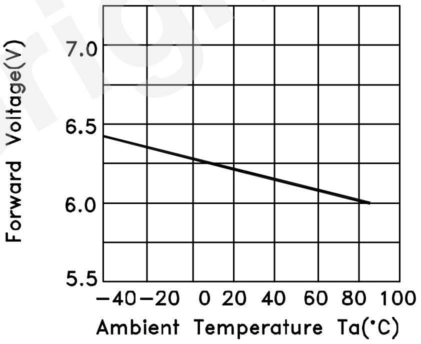
FORWARD CURRENT
DERATING CURVE



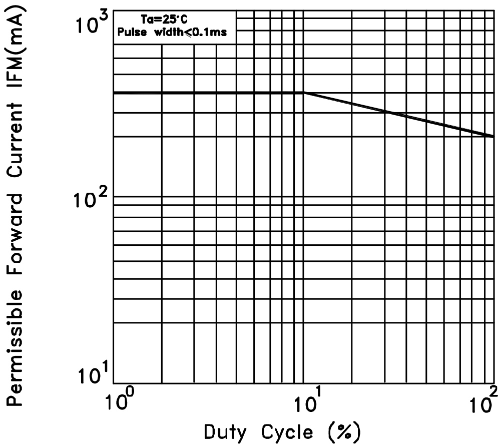
LUMINOUS FLUX VS.
AMBIENT TEMPERATURE



LUMINOUS EFFICIENCY Vs.
FORWARD CURRENT



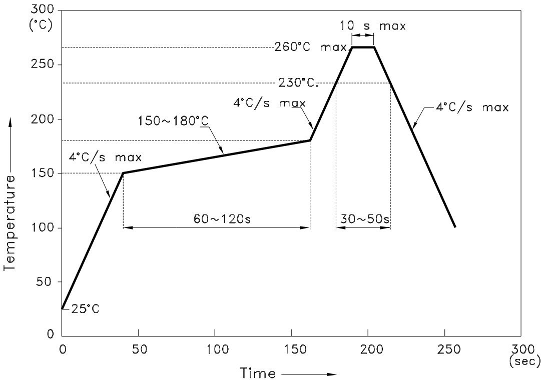
FORWARD VOLTAGE Vs.
AMBIENT TEMPERATURE



Permissible Forward Current VS Duty Cycle

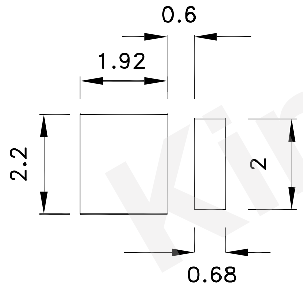
Reflow soldering is recommended and the soldering profile is shown below.
Other soldering methods are not recommended as they might cause damage to the product.

Reflow Soldering Profile For Lead-free SMT Process.

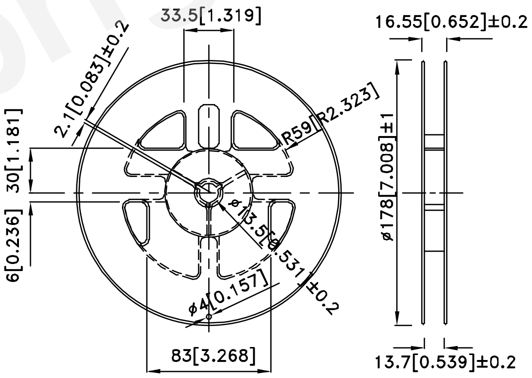


NOTES:
1. We recommend the reflow temperature 245°C(+/−5°C).The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

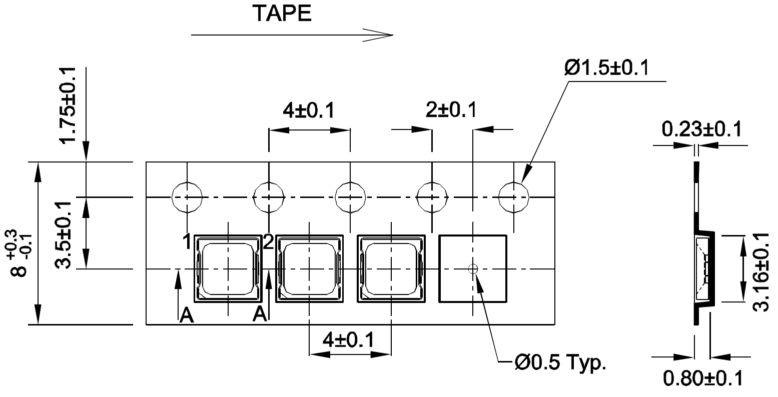
Recommended Soldering Pattern
(Units : mm; Tolerance: ± 0.1)

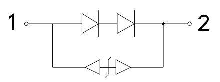


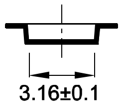
Reel Dimension



Tape Dimensions
(Units : mm)

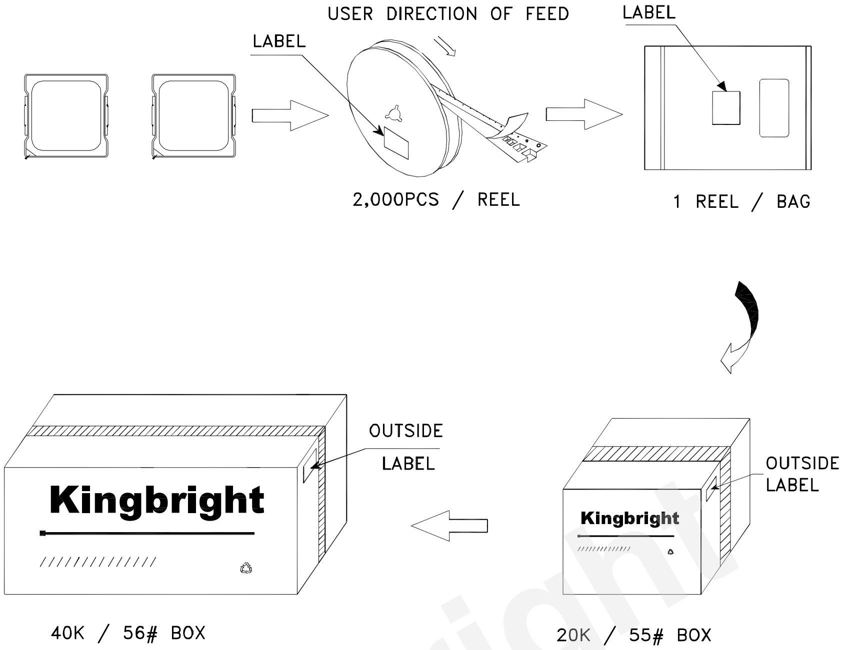


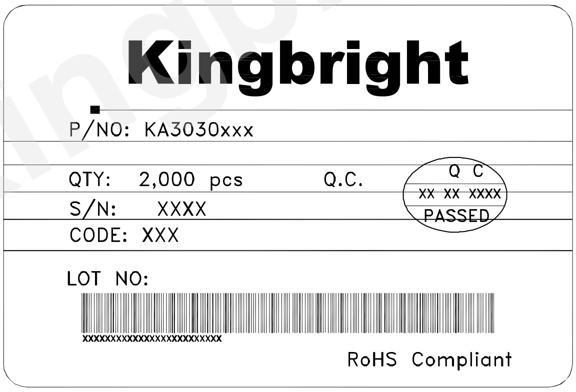




A-A SECTION

PACKING & LABEL SPECIFICATIONS KA3030BR34-S2





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