

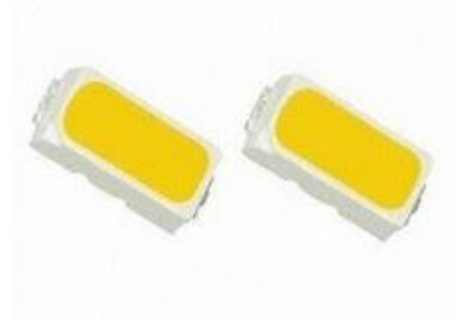
BEELED

СВЕТОДИОДЫ BEELED – ТЕХНИЧЕСКОЕ ОПИСАНИЕ

MODEL: 3014W2C-KHC-E

Features

- 1 \ Chip material: InGaN.
- 2 \ Emitted color: super White.
- 4 \ Low power consumption.
- 5 \ High efficiency.
- 6 \ Versatile mounting on P.C.Board or panel.
- 7 \ Low current requirement.
- 8 \ 3mm diameter package.
- 9 \ This product don't Contained restriction Substance, compliance ROHS standard.



Usage Notes:

- Surge will damage the LED
- When using LED, it must use a protective resistor in series with DC current about 150mA

Applications

- 1 \ For a variety of electronic products, light sources and the state, outdoor signal instructions.
- 2 \ A variety of lighting project and indoor and outdoor Lighting.
- 3 \ Recreational facilities, a variety of media, images and performances such as art lighting.
- 4 \ Infrared transmitting and receiving control.

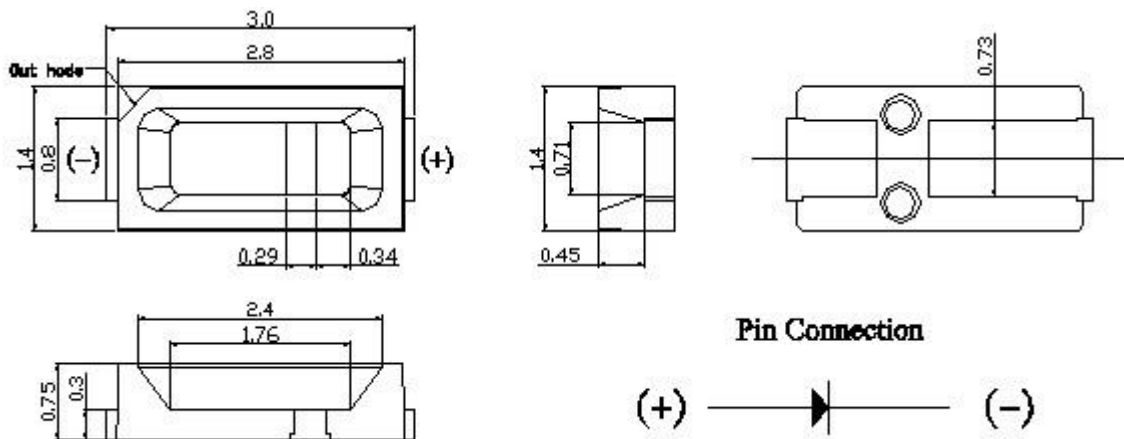
Device Selection Guide

LED Part No.	Chip		Lens Color
	Material	Emitted Color	
3014W2C-KHC-E	InGaN	White	Yellow diffused

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Package Dimensions



Notes:

- 1 \ All dimension are in millimeters(inches)
- 2 \ Tolerance is $\pm 0.25\text{mm}(0.01)$ unless otherwise specified.
- 3 \ Lead spacing is measured where the leads emerge from the package.
- 4 \ Specifications are subject to change without notice.



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Absolute Maximum Rating ($T_a=25^{\circ}\text{C}$)

Parameter	Symbol	Absolute Maximum Rating	Unit
Peak Forward Current (Duty 1/10 @1KHz)	I_F	75	mA
Forward Current	I_{FM}	30	mA
Reverse Voltage	V_R	15	V
Power Dissipation	P_D	0.1	W
Operating Temperature	T_{opr}	-25~+85	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-40~+85	$^{\circ}\text{C}$
Soldering Temperature	T_{sol}	Reflow Soldering : 260 $^{\circ}\text{C}$ for 10 sec. Hand Soldering : 320 $^{\circ}\text{C}$ for 3 sec.	

Electro-Optical Characteristics ($T_a=25^{\circ}\text{C}$)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	I_v				Lm	IF=30mA(Note1)
		12	---	14		
Viewing Angle	$2\theta_{1/2}$	---	120	---	Deg	(Note 2)
Color developing index	R_a		80		%	IF=30mA
Correlated Color Temperature	CCT	6000-7000K			nm	IF=30mA
Forward Voltage	V_F	2.9	---	3.4	V	IF=30mA
Reverse Current	I_R	---	---	10	μA	$V_R=5\text{V}$

Note:

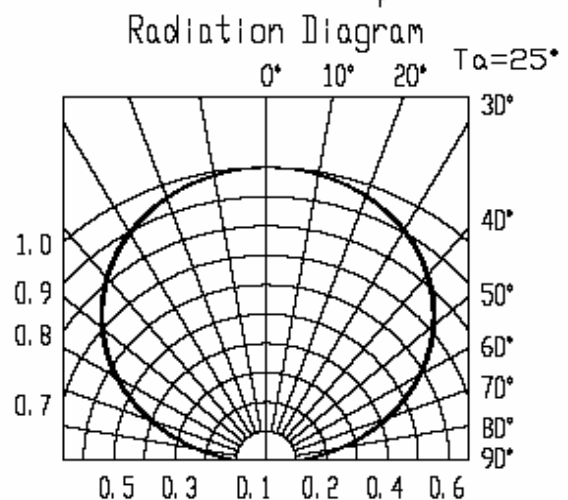
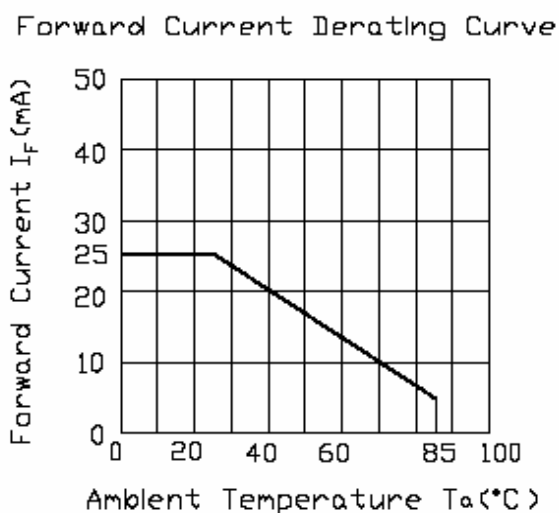
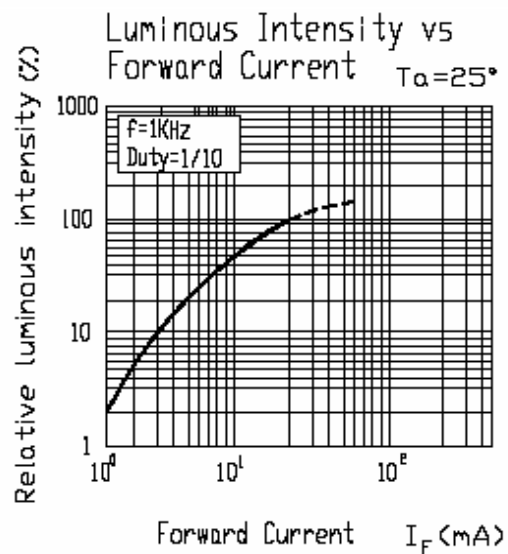
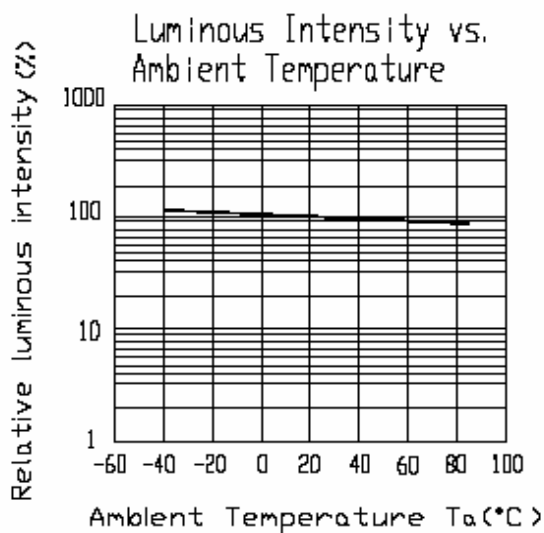
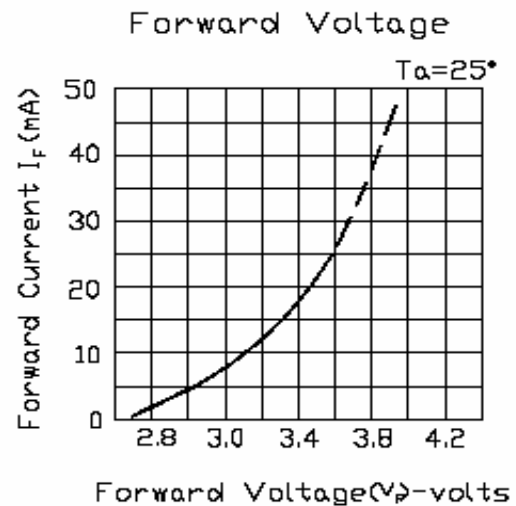
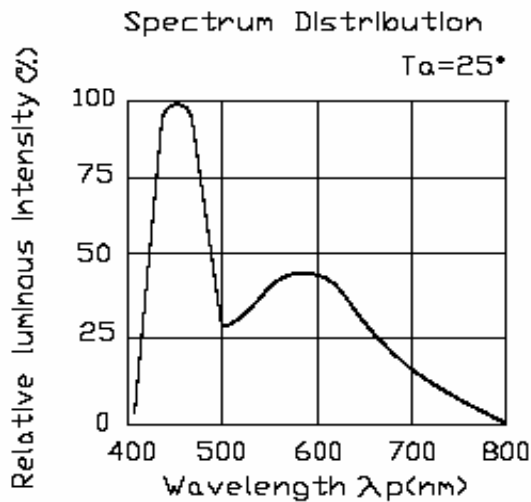
1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. $\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity.

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Typical Electro-Optical Characteristics Curves





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Reliability Test Items And Conditions

No	Item	Test Condition	Sample Number	Criteria for Judging	Ac/Re
1	Solderability	T=235±5°C T=5sec.	15	Good wetting	0/1
2	Soldering heat	T=260±5°C T=10sec.	15	IV≥LSL* VF≤USL* IR≤USL	0/1
3	Rapid change of temperature followed by: damp heat, cyclic	L:-40°C 10min (2~3) min H:+100°C 10min 5cycle T=(25~55) °C RH:(90~95) % 2cycle 48h recovery time 2h	11	IV≥LSL VF≤USL IR≤USL	0/1
4	Damp heat, cyclic	T=(25~55)°C RH=(90~95) % 6 cycle 144h recovery time 2h	11	IV≥0.7LSL VF≤1.1USL IR≤2USL	0/1
5	Electrical endurance	I _F =30mA T=1000h	22	IV≥0.7LSL VF≤1.1USL IR≤2USL	0/1
6	Storage at high temperature	T _{stg} =100±2°C t=1000h	15	IV≥LSL VF≤USL IR≤USL	0/1
7	Terminal strength	Tensile: W=5N t= 30s Bending: W=2.5N 2times	15	No damage	0/1

*U.S.L.: Upper Standard Level

* L.S.L.: Lower Standard Level

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APPLICATION NOTES:

1) Soldering:

① Manual soldering by soldering iron:

The use of a soldering iron of less than 25W is recommended and the temperature of the iron must be kept at no higher than 300°C.

② Reflow soldering:

a. The temperature profile as shown in Fig.3 is recommended for soldering SMD LED by the reflow furnace.

b. Care must be taken that the products be handled after their temperature has dropped down to the normal room temperature after soldering.

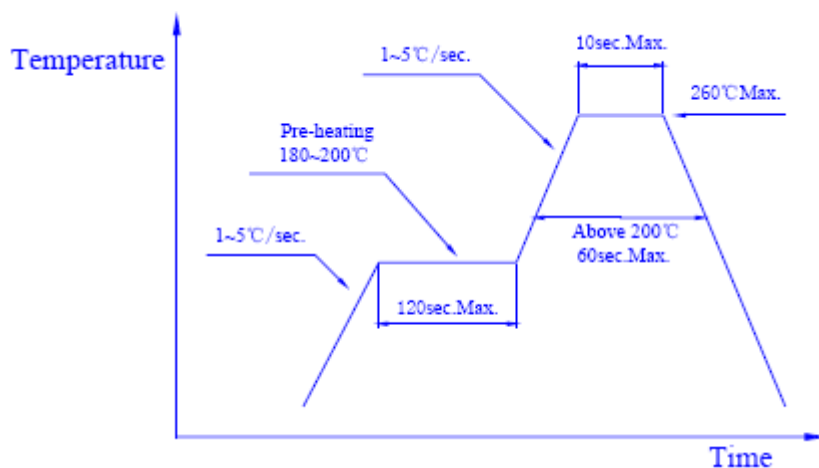


Fig.3

Solder = Sn63-Pb37	Solder = Lead-Free
Average ramp-up rate = 4°C/sec. max.	Average ramp-up rate = 4°C/sec. max
Preheat temperature: 100~150°C	Preheat temperature: 150~200°C
Preheat time = 100 sec. max.	Preheat time = 100 sec. max.
Ramp-down rate = 6°C/sec. max.	Ramp-down rate = 6°C/sec. max.
Peak temperature = 230°C max.	Peak temperature = 260°C max.
Time within 5°C of actual peak temperature = 10 sec. max.	Time within 5°C of actual peak temperature = 10 sec. max.
Duration above 183°C is 80 sec. max.	Duration above 217°C is 80 sec. max.



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2) Post solder cleaning:

When cleaning after soldering is needed, the following conditions must be adhered to.

- ① Cleaning solvents: Freon TF or equivalent or alcohol.
- ② Temperature: 50°C Max. for 30 seconds or 30°C Max. for 3 minutes
- ③ Ultrasonic: 300W Max.

3) OTHERS:

a. Care must be taken not to cause stress to the epoxy resin portion of SMD LED while it is exposed to the high temperature.

b. Care must be taken not to rub the epoxy resin portion of SMD LED with a hard or sharp edged article such as the sand blast and the metal hook as the epoxy resin is rather soft and liable to be damaged.