



RoHS

Specification

规格书

Customer Name :

客户名称 : _____

Customer P/N :

客户品号 : _____

Factory P/N : HL-AGF-5060H415W-3-S1-T1-HR1

公司品号 : _____

Client approval 客户审核			Hongli approval 鸿利光电审核		
Approval 核准	Audit 确认	Confirmation 制作	Approval 核准	Audit 确认	Confirmation 制作
<input type="checkbox"/> Qualified 接受	<input type="checkbox"/> Disqualified 不接受	DATE: 日期:			

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The White LED which was fabricated using a blue chip and the phosphor

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Optical indicator (

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Notes: ()

1. All dimension units are millimeters. () °

2. All dimension tolerance is ±0.15mm unless otherwise noted. (° °)

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Part No. 型号	Chip Materials 芯片材料	Lens Type 胶体类型
HL-AGF-5060H415W-3-S1-T1-HR1	InGaN	Yellow Diffused

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Part No. 型号	CCT (K) Min	CCT (K) Typ	CCT (K) Max	(lm) Min	(lm) Typ	Test Conditions 测试条件
HL-AGF-5060H415W-3-S1-T1-HR1	5700	6000	6500	20	22	IF=20mA *3
	4750	5000	5300	20	22	IF=20mA *3
	3800	4000	4250	20	22	IF=20mA *3
	2800	3000	3100	19	21	IF=20mA *3

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Parameter (参数)	Symbol (符号)	Min. (最小)	Typ. (平均)	Max. (最大)	Units (单位)	Test Conditions 测试条件
Forward Voltage 正向电压	VF	2.8	--	3.4	V	IF=20mA *3
Viewing Angle 角度	2 1/2	--	120	--	deg	IF=20mA *3
Color Rendering Index 显色性指数	Ra	70	--	--		IF=20mA *3
Reverse Current 反向电流	IR	--	--	10	μA	VR = 5V

Note:()

- 201/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
201/2
- The above luminous flux measurement allowance tolerance is ±10%.
±10%
- The above Color Rendering Index measurement allowance tolerance is 2
以上
- The above forward voltage measurement allowance tolerance is ±0.1V.
±0.1V
- The above color coordinates measurement allowance tolerance is ±0.003.

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Parameter ()	Symbol ()	Rating ()	Units ()
Power Dissipation ()	Pd	306	mW
Forward Current ()	IF	90	mA
Peak Forward Current [1] ()	IFP	300	mA
Reverse Voltage ()	VR	5	V
Electrostatic Discharge (HBM) ()	ESD	1000	V
Operating Temperature ()	Topr	-40 ~ +85	°C
Storage Temperature ()	Tstg	-40 ~ +100	°C
Thermal Resistance (Junction / Soldering point) 热阻	Rthj-s	30	°C/W
Junction Temperature结温	Tj	115	°C

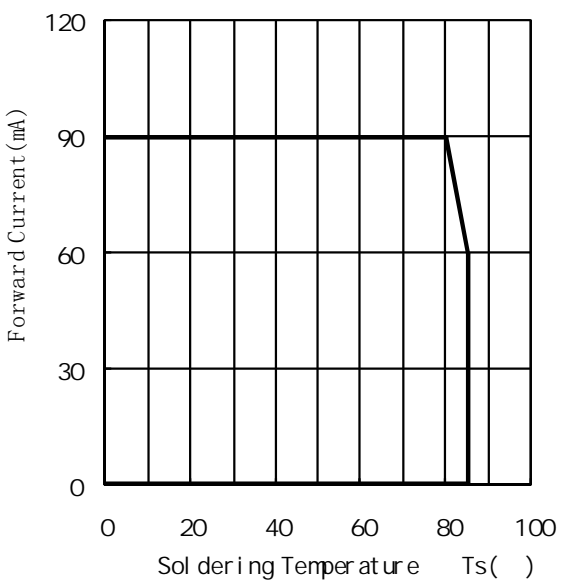
Note: ()

1. 1/10 Duty cycle, 0.1ms pulse width. ()

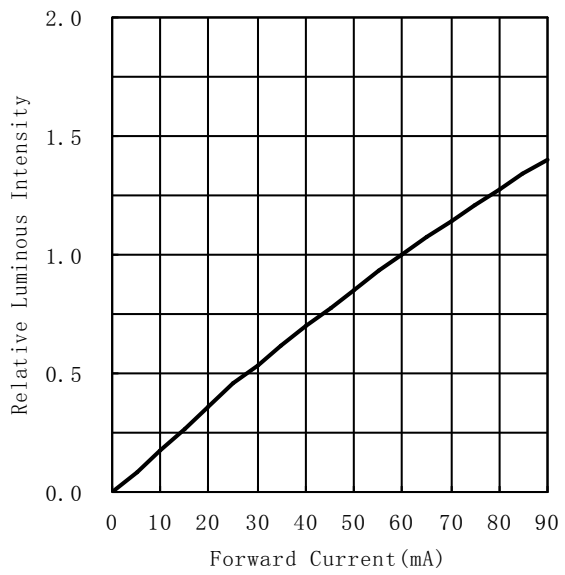
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!B0*\$2 .01*\$2 %<\$/\$%1(/* -1*\$- %4/C(-

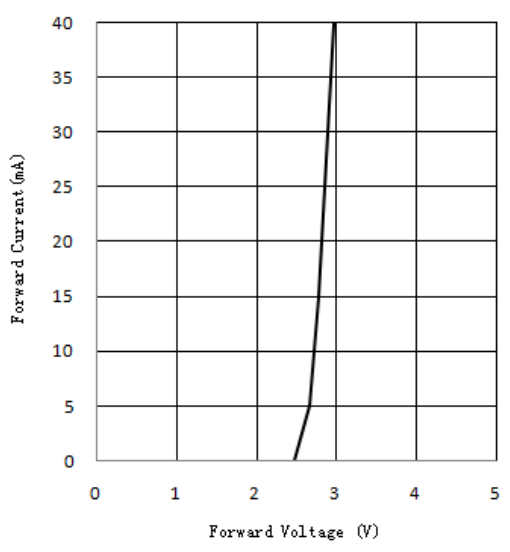
Soldering Temperature vs. Forward Current



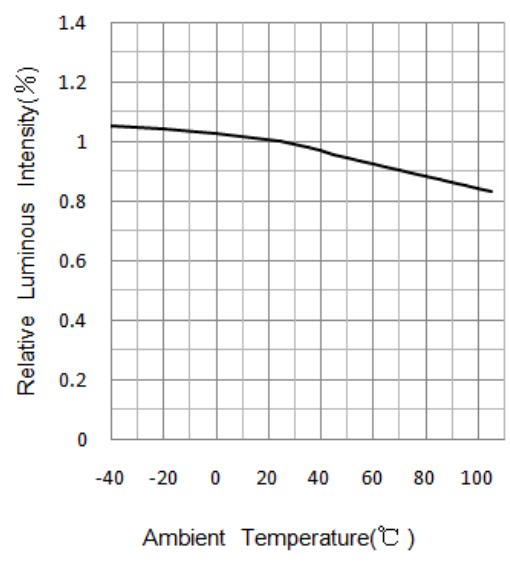
Forward Current VS. Relative Intensity



Forward Voltage VS. Forward Current

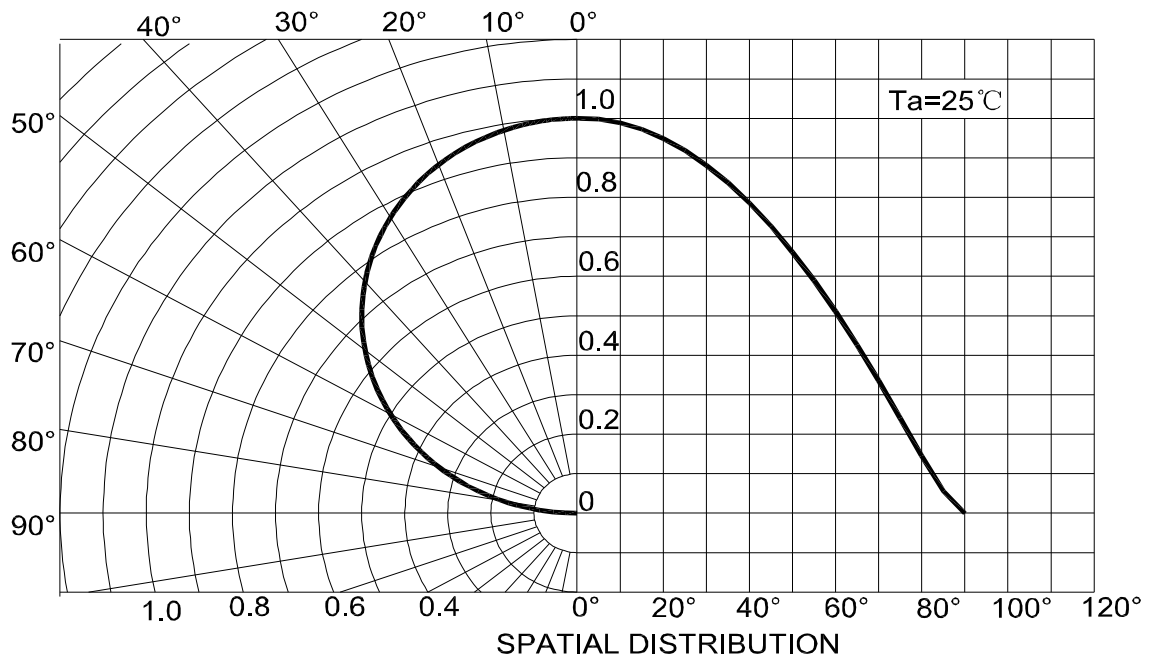


Ambient Temperature VS. Relative Intensity



Relative spectral emission

Radiation diagram





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CCT 色温	Bin Code	Bin代码	CIE_x	CIE_y	Bin Code	Bin代码	CIE_x	CIE_y
6000K	C32	6000-6500K			C42	5700-6000K		
	C33	6000-6500K			C43	5700-6000K		
	C62	5000-5300K			N12	4750-5000K		
	C63	5000-5300K			N13	4750-5000K		
4000K	N42	4000-4250K	0.3731	0.3853	N52	3800-4000K	0.3839	0.3920
			0.3839	0.3920			0.3947	0.3987
			0.3803	0.3777			0.3903	0.3839
			0.3703	0.3716			0.3803	0.3777
	N43	4000-4250K	0.3703	0.3716	N53	3800-4000K	0.3803	0.3777
			0.3803	0.3777			0.3903	0.3839
			0.3767	0.3634			0.3858	0.3690
			0.3675	0.3578			0.3767	0.3634



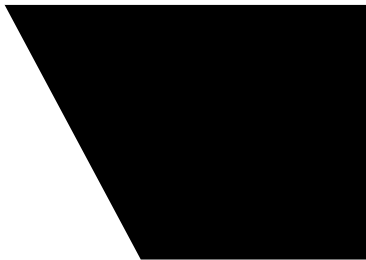
CIE_y	Bin Code	Bin代码	CIE_x	CIE_y
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	W43	3000-3100K		
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	W52	2900-3000K		
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	W54	2900-3000K		
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	W63	2800-2900K		
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Test Items	Ref. Standard	Test Condition	Time	Quantity	Ac/Re
Reflow	JESD22-B106	Temp:260 max T=10 sec	3 times.	22Pcs.	0/1
Temperature Cycle	JESD22-A104	100 ±5 30 min. 5 min -40 ±5 30 min.	100 Cycles	22Pcs.	0/1
High Temperature Storage	JESD22-A103	Temp:100 ±5	1000Hrs.	22Pcs.	0/1
Low Temperature Storage	JESD22-A119	Temp:-40 ±5	1000Hrs.	22Pcs.	0/1
Life Test	JESD22-A108	Ta=25 ±5 IF=20mA*3	1000Hrs.	22Pcs.	0/1
High Temperature High Humidity Life Test	JESD22-A101	85 ±5 / 85%RH IF=20mA*3	1000Hrs.	22Pcs.	0/1

~ \$ * 2 4 / (; / * 1 (/ * \$ 失效判定标准

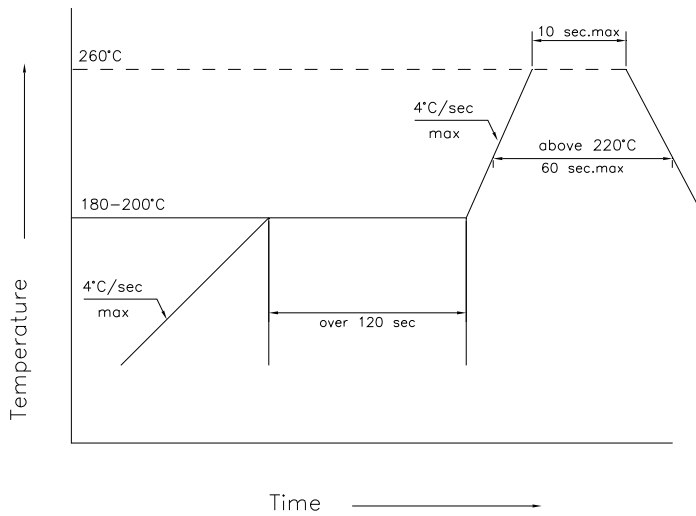
Test Items	Symbol	Test Condition	Failure Criteria	
			Min.	Max.
Forward Voltage	VF	IF=20mA*3	--	U.S.L*)x1.1
Reverse Current	IR	VR = 5V	--	10uA
Luminous Flux	Lm	IF=20mA*3	L.S.L*)x0.7	--

U.S.L: Upper Specification Limit 规格上限

L.S.L: Lower Specification Limit 规格下限

*The technical information shown in the data sheets are limited to the typical characteristics and circuit examples of the referenced products. It does not constitute the warranting of industrial property nor the granting of any license.

1. Reheat Soldering Temperature Profile



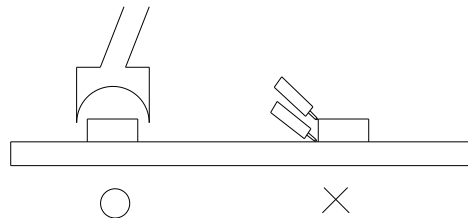
1. Reheat soldering should not be done more than two times.
2. When soldering, do not put stress on the LEDs during heating

2. Hand Soldering Temperature

1. When hand soldering, keep the temperature of iron below less 300°C less than 3 seconds
2. The hand solder should be done only one times

3. Repairing LED

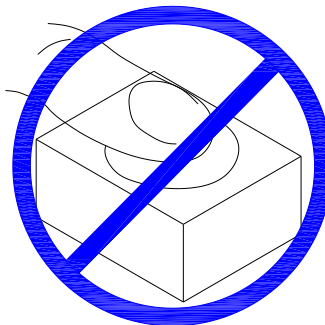
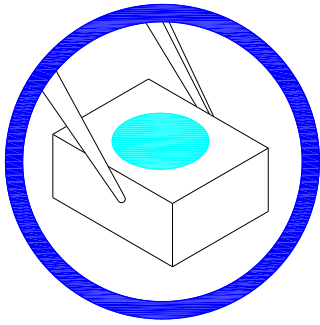
Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed in advance whether the characteristics of LEDs will or will not be damaged by repairing.



4. Pick Up LED

The encapsulated material of the LEDs is silicone. Therefore the LEDs have a soft surface on the top of package. The pressure to the top surface will be influence to the reliability of the LEDs. Precautions should be taken to avoid the strong pressure on the encapsulated part. So when use the picking up nozzle, the pressure on the silicone resin should be proper.

1. Handle the component along the side surface by using forceps or appropriate tools; do not directly touch or Handle the silicone lens surface, it may damage the internal circuitry.



5.LED operating environment and sulfur element composition cannot be over 100PPM in the LED mating usage material.

6.When we need to use external glue for LED application products, please make sure that the external glue matches the LED packaging glue. Additionally ,as most of LED packaging glue is silica gel, and it has strong Oxygen permeability as well as strong moisture permeability; in order to prevent external material from getting into the inside of LED, which may cause the malfunction of LED, the single content of Bromine element is required to be less than 900PPM,the single content of Chlorine element is required to be less than 900PPM,the total content of Bromine element and Chlorine element in the external glue of the application products is required to be less than 1500PPM



7.Other points for attention, please refer to our LED user manual.



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