WEILINSEN TECHNOLOGY CO.,LTD

Specification

Customer Name: _____

Customer P/N: _____

Product P/N: WLS-3535W300-1CD0-SA55M-R95

Sending Date: _____

RoHS

ISO 9001

ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
SENSITIVE DEVICES

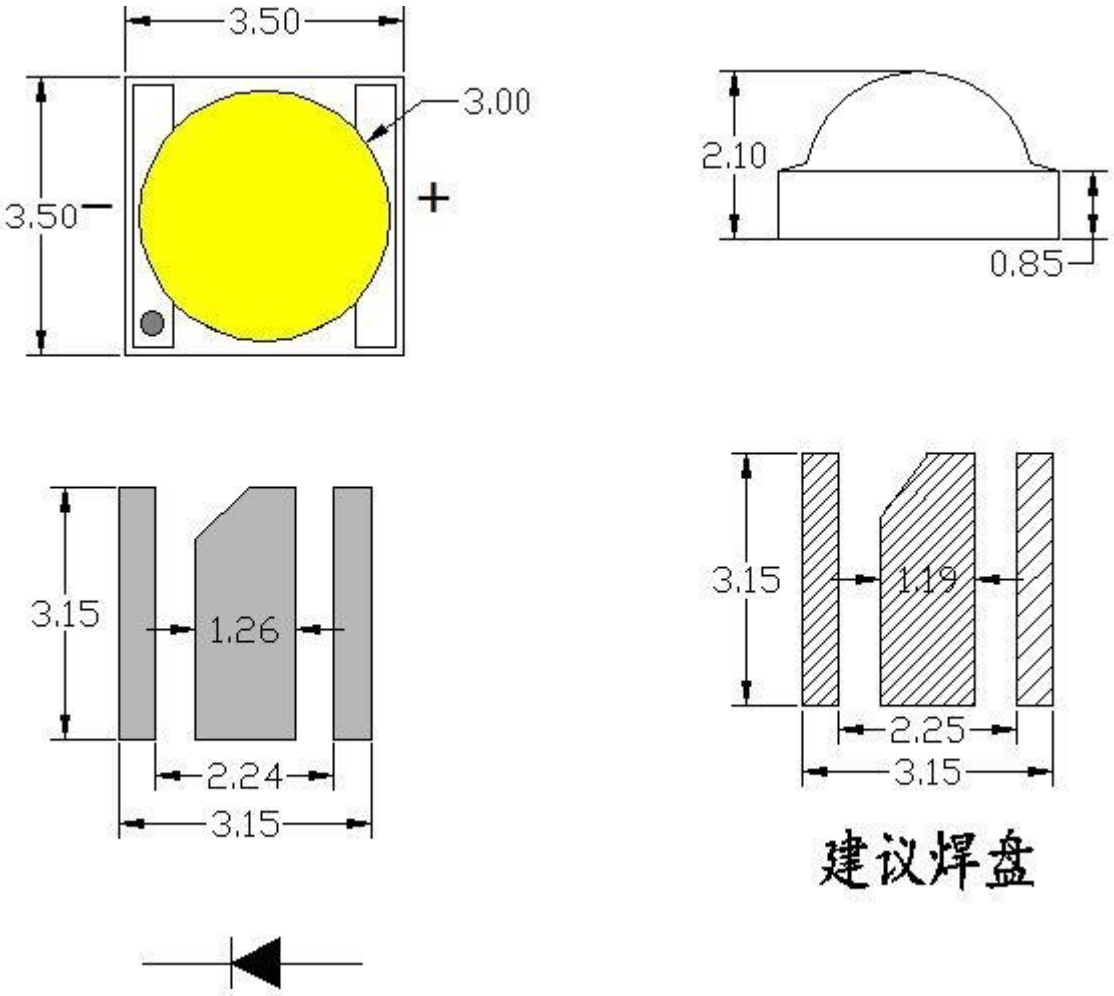
■ Features：

- Small size and high luminous efficiency
- Low operating voltage, instantaneous illumination
- Long operating life
- RoHS certified

■ Applications：

- Portable lightings / (flash lightings, bicycle)
- Landscape lighting, lighting engineering
- General lighting
- Industrial lighting
- Car light

■ Package Dimensions



Notes: All dimensions in mm tolerance is ±0.1mm unless otherwise noted.

■ Absolute Maximum Ratings(At TA =25℃)

Parameter	Symbol	Rating	Unit
DC Forward Current	I_F	1500	m A
Peak pulse Current*	I_{FP}	2000	m A
Power Dissipation	P_D	5	W
Reverse Voltage	V_R	5	V
Reverse Current	I_R	10	μ A
Operating Temperature Range	T_{OPR}	-40 ~ +85	°C
Storage Temperature Range	T_{STG}	-40 ~ +100	°C
LED Junction Temperature	T_J	150	°C

Note:

1. 1/10 Duty cycle, 0.1ms pulse width.
2. Care is to be taken that power dissipation does not exceed the absolute maximum rating of the product.
3. When the LEDs are in operation the maximum current should be decided after measuring the package temperature, junction temperature should not exceed the maximum rate.

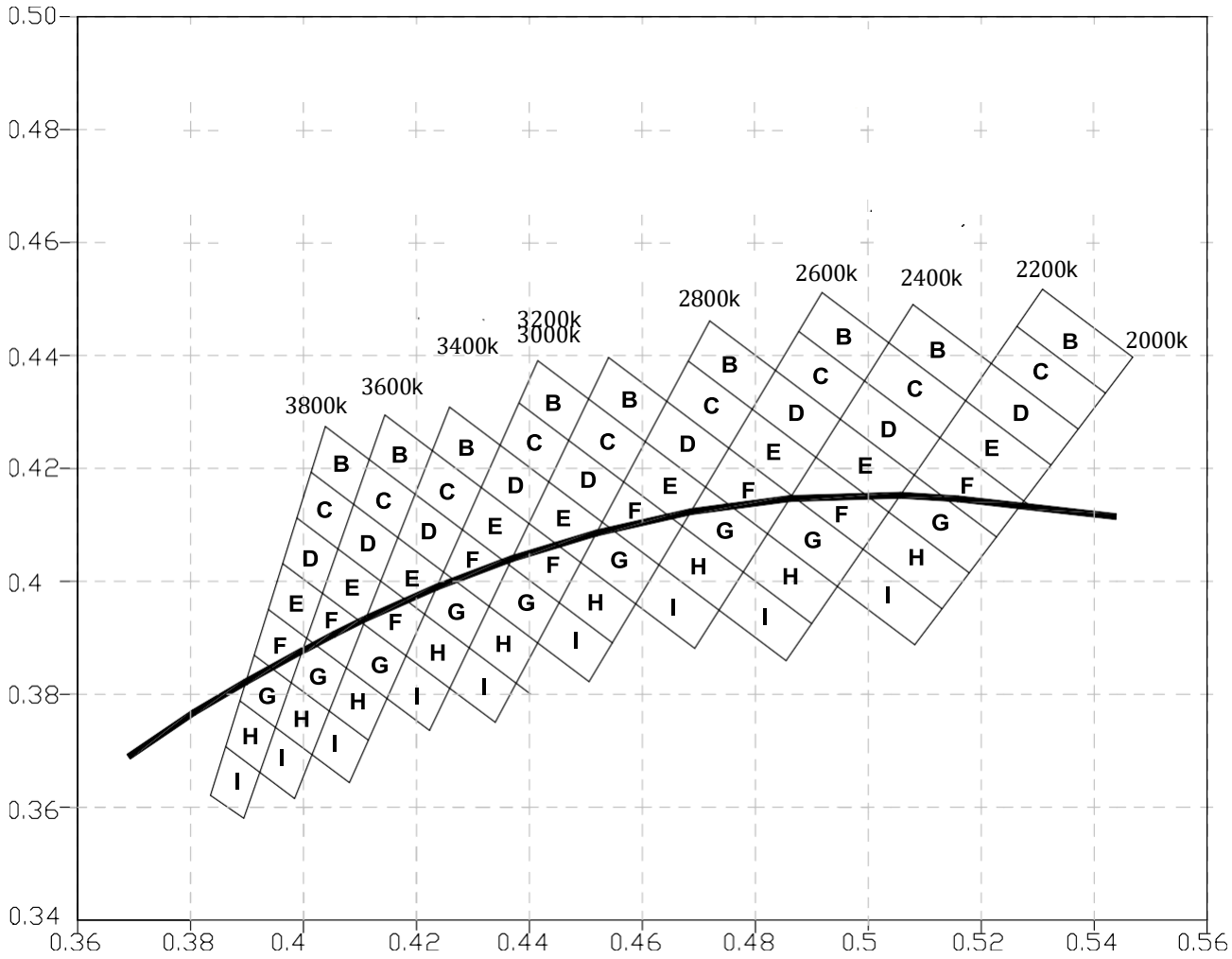
■ Electrical/Optical Characteristics--White (At T_A=25°C)

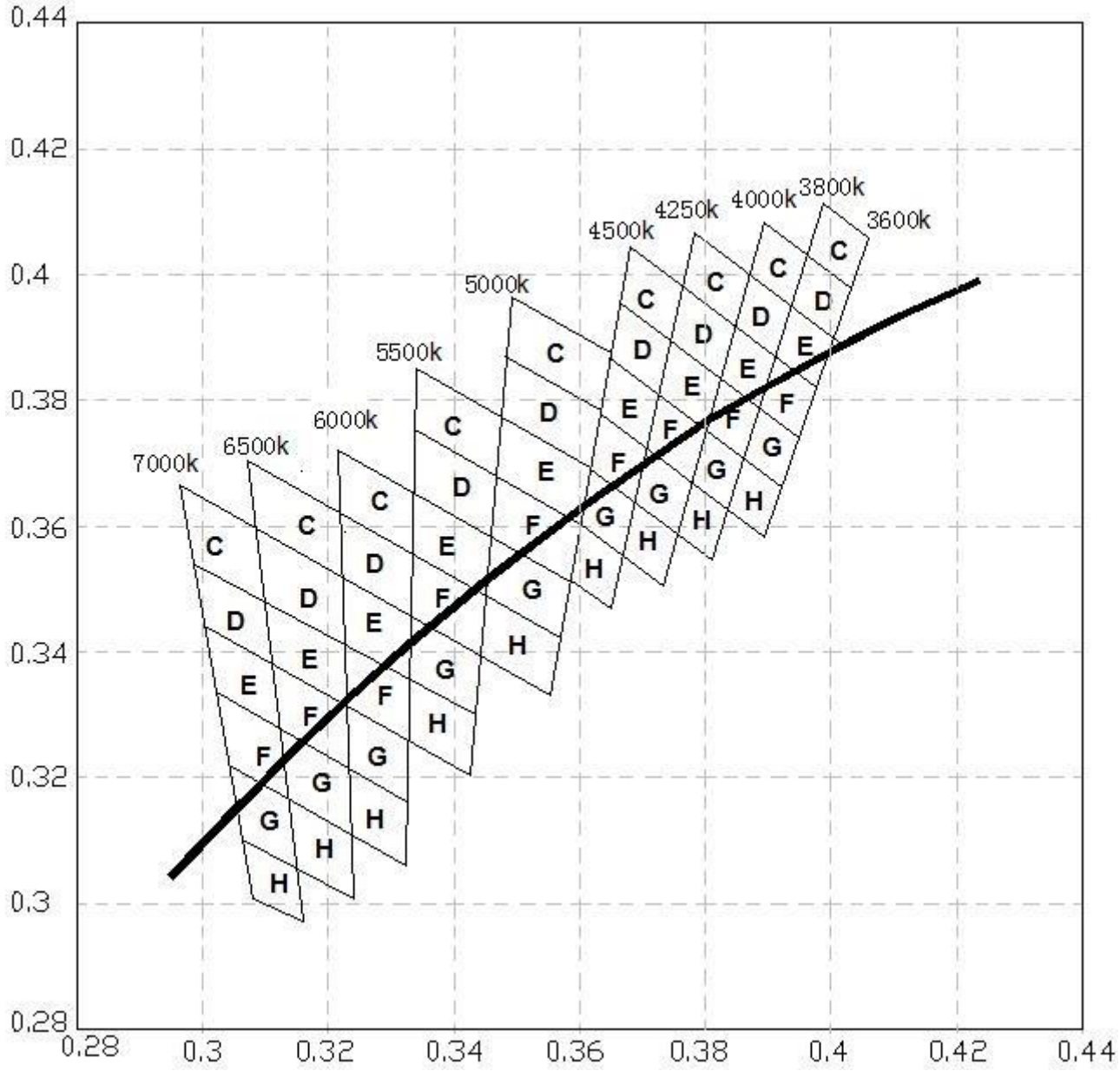
Parameter	Symbol	Conditions	Min	Avg.	Max	Units
Forward Volta	V_F	I_F=1200mA	2.80	--	3.40	V
Thermal Resistance Junction To Board	$R\Theta_{J-B}$	I_F=1200mA	--	5	--	°C/W
Luminous Flux	Φv	I_F=1200mA	280		320	lm
Color Temperature	CCT	I_F=1200mA	2500		3000	K
CRI	Ra	I_F=1200mA	≧95	--	--	--
R9	R9	I_F=1200mA	≧90	--	--	--
Temperature Coefficient of Forward Voltage	$\Delta V_F/\Delta T$	I_F=1200mA	−−	-2	−−	mV/°C
Reverse Current	I_R	V_R=5V	−−	−−	10	μ A
Viewing Angle [1]	$2\Theta_{1/2}$	I_F=1200mA	−−	120	−−	Deg

Note:

1. The above forward voltage measurement allowance tolerance is ±0.1V.
2. The above luminous flux measurement allowance tolerance is ±10%.
3. The above Color Rendering Index measurement allowance tolerance is ±2.
4. The above color coordinates measurement allowance tolerance is ±0.003.
5. 2□1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

■ Color & binning

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0.42
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0.36
0.38
0.4
0.42
0.44
7000k
6500k
6000k
5500k
5000k
4500k
4250k
4000k
3800k
3600k

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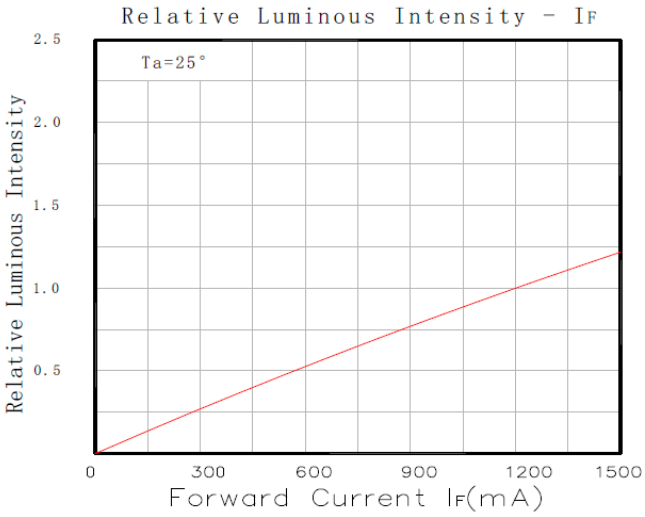
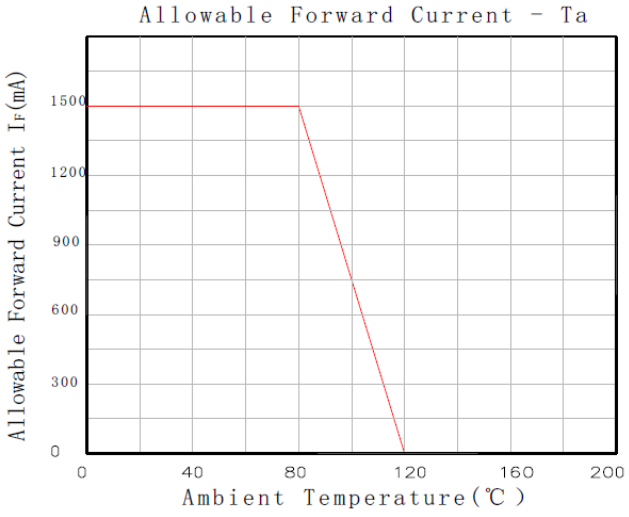
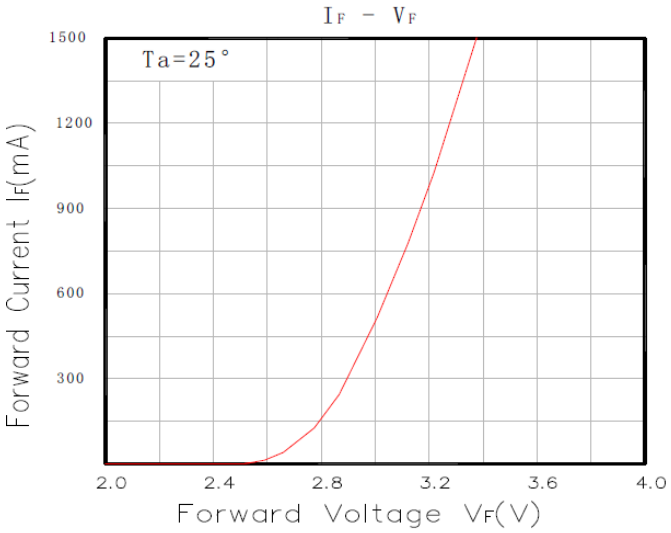
20E 2000-2200K	0.5172	0.432	**20F 2000-2200K**	0.5127	0.4254	**22E 2200-2400K**	0.495	0.4287	**22F 2200-2400K**	0.4907	0.4219
	0.5324	0.4206		0.5275	0.4142		0.5082	0.4188		0.5036	0.4122
	0.5275	0.4142		0.5227	0.4078		0.5036	0.4122		0.4991	0.4057
	0.5127	0.4254		0.5082	0.4188		0.4907	0.4219		0.4865	0.4152
24E 2400-2600K	0.4795	0.4304	**24F 2400-2600K**	0.4753	0.4236	**26E 2600-2800K**	0.4605	0.4247	**26F 2600-2800K**	0.4567	0.4176
	0.4907	0.4219		0.4865	0.4152		0.4712	0.4167		0.4671	0.4098
	0.4865	0.4152		0.4822	0.4084		0.4671	0.4098		0.463	0.4029
	0.4753	0.4236		0.4712	0.4167		0.4567	0.4176		0.4529	0.4105
28E 2800-3000K	0.4434	0.4176	**28F 2800-3000K**	0.4399	0.4102	**30E 3000-3200K**	0.4315	0.4166	**30F 3000-3200K**	0.4281	0.4091
	0.4529	0.4105		0.4491	0.4033		0.4399	0.4102		0.4364	0.4029
	0.4491	0.4033		0.4453	0.3962		0.4364	0.4029		0.4327	0.3951
	0.4399	0.4102		0.4364	0.4029		0.4281	0.4091		0.4248	0.4016
32E 3200-3400K	0.4167	0.4077	**32F 3200-3400K**	0.4137	0.4	**34E 3400-3600K**	0.4061	0.4057	**34F 3400-3600K**	0.4033	0.3978
	0.4248	0.4016		0.4214	0.3942		0.4137	0.4		0.4106	0.3923
	0.4214	0.3942		0.4181	0.3867		0.4106	0.3923		0.4076	0.3846
	0.4137	0.4		0.4106	0.3923		0.4033	0.3978		0.4006	0.3899
36E 3600-3800K	0.3963	0.4031	**36F 3600-3800K**	0.3938	0.395	**38E 3800-4000K**	0.3848	0.3918	**38F 3800-4000K**	0.3825	0.3835
	0.4033	0.3978		0.4006	0.3899		0.3913	0.3869		0.3887	0.3788
	0.4006	0.3899		0.3978	0.382		0.3887	0.3788		0.3862	0.3707
	0.3938	0.395		0.3913	0.3869		0.3825	0.3835		0.3802	0.3752
40E 4000-4250K	0.3746	0.3895	**40F 4000-4250K**	0.3726	0.3809	**42E 4250-4500K**	0.3649	0.3868	**42F 4250-4500K**	0.3633	0.3779
	0.3825	0.3835		0.3804	0.3751		0.3726	0.3809		0.3707	0.3724
	0.3804	0.3751		0.378	0.3669		0.3707	0.3724		0.3688	0.3639
	0.3726	0.3809		0.3707	0.3724		0.3633	0.3779		0.3618	0.3691
45E 4500-5000K	0.3475	0.3775	**45F 4500-5000K**	0.3467	0.3679	**50E 5000-5500K**	0.3327	0.3659	**50F 5000-5500K**	0.3326	0.3559
	0.3618	0.3693		0.3603	0.3602		0.3459	0.3584		0.345	0.3489
	0.3603	0.3602		0.3587	0.3511		0.345	0.3489		0.3442	0.3393
	0.3467	0.3679		0.3459	0.3584		0.3326	0.3559		0.3325	0.3459
55E 5500-6000K	0.3224	0.3517	**55F 5500-6000K**	0.3227	0.3415	**60E 6000-6500K**	0.3102	0.3486	**60F 6000-6500K**	0.3117	0.3377
	0.3325	0.3459		0.3325	0.336		0.3227	0.3415		0.323	0.3313
	0.3325	0.336		0.3324	0.326		0.323	0.3313		0.3234	0.3211
	0.3227	0.3415		0.323	0.3313		0.3117	0.3377		0.3133	0.3268
65E 6500-7000K	0.3009	0.3438	**65F 6500-7000K**	0.3032	0.3325	**70E 7000-7500K**	0.293	0.3383	**70F 7000-7500K**	0.2961	0.3265
	0.3117	0.3377		0.3133	0.3268		0.3032	0.3325		0.3055	0.3212
	0.3133	0.3268		0.3148	0.316		0.3055	0.3212		0.3078	0.3099
	0.3032	0.3325		0.3055	0.3212		0.2961	0.3265		0.2992	0.3148

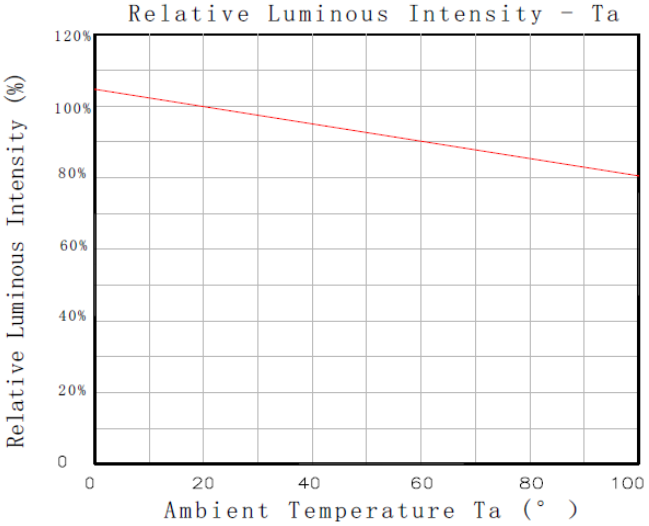
■ Typical Optical/Electrical Characteristics Curves

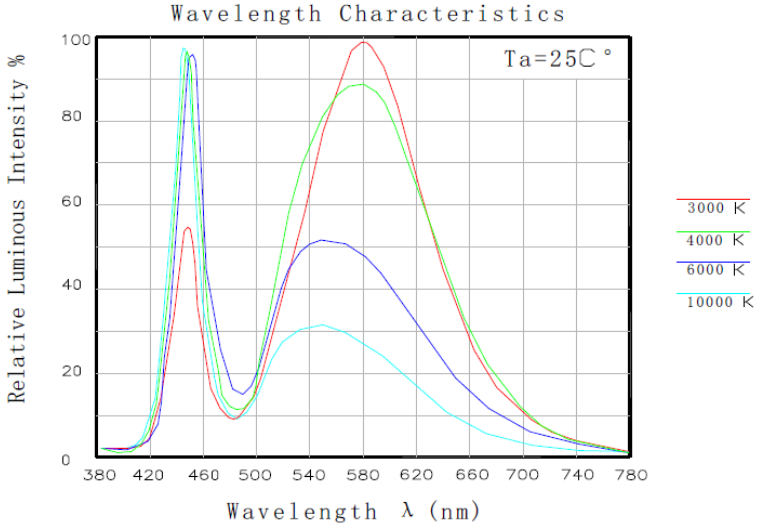
(IF=1200mA, Ta=25℃ Unless Otherwise Noted)

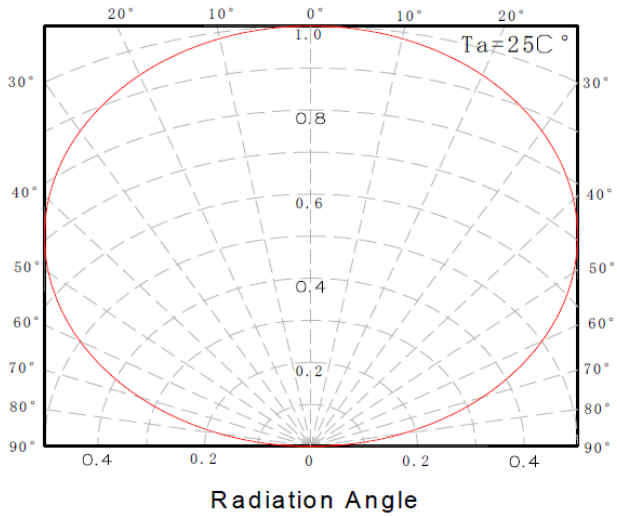












WEILINSEN TECHNOLOGY CO.,LTD

■ Reliability test standards

Test Item	REF. Standard	Test condition	Duration	Sample count	Accept
Temperature Cycle	JESD22-A104 -A	100℃±5 30min~25℃ 30min,5min,30min,5min	100 cycles	22	0/22
Thermal shock	JESD22-A106	-40℃~100℃ 30min, 30min	100 cycles	22	0/22
High Temperature Storage	JEITA ED-4701 200 201	TA=100℃±5℃	1000 Hrs	22	0/22
Low Temperature Storage	JEITA ED-4701 200 202	TA=-40℃±5℃	1000 Hrs	22	0/22
Humidity Heat Storage	JIS C 7021 (1977)B-11	Ta=60℃ RH=85%	1000Hrs	22	0/22
Service life test	JESD22-A108 -A	Ta=25℃ If=1500mA	1000Hrs	22	0/22
High humidity Heat life test	JESD22-A101	Ta=60℃ RH=85% IF=1500mA	1000Hrs	22	0/22

Criteria For Judging Damage：

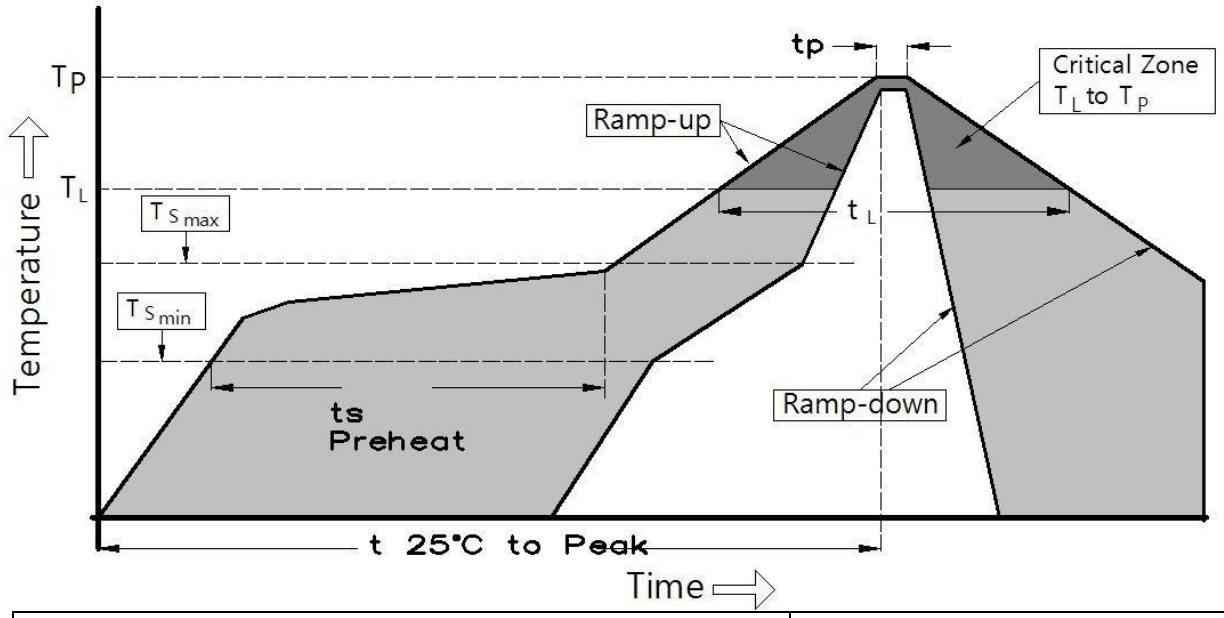
Test Item	Symbol	Test condition	Criteria For Judgement	
			Min.	Max.
Forward Voltage	VF	IF=1500mA	--	U.S.L*)1.1
Reverse Current	IR	VR=5V	--	10uA
Luminous Flux	Lm	IF=1500mA	L.S.L*)0.7	--
Lamp bead lighting test	/	IF=1500mA	No open circuit, short circuit, flicker	

U.S.L：Upper standard level　　L.S.L：Lower standard level

Note

The above technical data is only the typical value of the product, not as any application conditions and application mode guarantee.

■ SMT Reflow Soldering Instructions SMT



Average rate of temperature rise (Tsmax to Tp)	Up to 3 °C/sec
Preheating: minimum temperature (Tsmin)	130 °C
Preheating: Maximum temperature (Tsmax)	180 °C
Preheating: time (tsmin to tsmax)	60 - 120 sec.
Time-limited maintenance of high temperature: temperature (TL)	200 °C
Time limit to maintain high temperature: time (tL)	Up to 60 seconds
Peak / Classification Temperature (Tp)	240 °C
Limit Peak Classification Temperature:Time (tp)	Up to 10 seconds
Holding time within 5 °C of actual peak temperature (tp)	Up to 30 seconds
Cooling rate	Up to 6 °C/sec
Time from 25 °C to peak temperature	Up to 8 minutes

●Notes for reflow [if reflow products are needed]

1. Reflow soldering should not be done more than two times. In the case of more than 24 hours passed soldering after first, LEDs will be damaged.
2. When welding, do not press hard on the colloid surface when the material is heated.
3. Scrape the heat-conducting solder paste on the aluminum base plate, stir the solder paste clockwise for 10-15 minutes before scraping the solder paste, and place the aluminum base plate on the solder paste scraping tool. Scrape the solder paste evenly and thickly
4. Scrape solder paste steel mesh needs to be made into a cross, so as to allow air circulation, avoid

solder paste lifting caused by LED poor heat dissipation

5. Note that the lamp should be installed flat and the two pins of the LED light source should be installed on the welding pad position of the aluminum substrate.
6. Scrape the aluminum base plate of solder paste in 2 hours to install all the light source, light source installed in the aluminum base plate, the operator should self-check whether the light source is installed (can't have reverse, light source bottom suspension) to tilt 45 degrees Angle to check each light source
7. After reflow welding, check whether the light source is in the position of the welding pad, and do not have eccentric phenomenon, or the line will be broken in the second light distribution lens, resulting in open circuit.
8. Rapid cooling is not allowed after reflow soldering.
9. Do not weld on deformed PCB.

●Soldering Iron

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

●Repairing

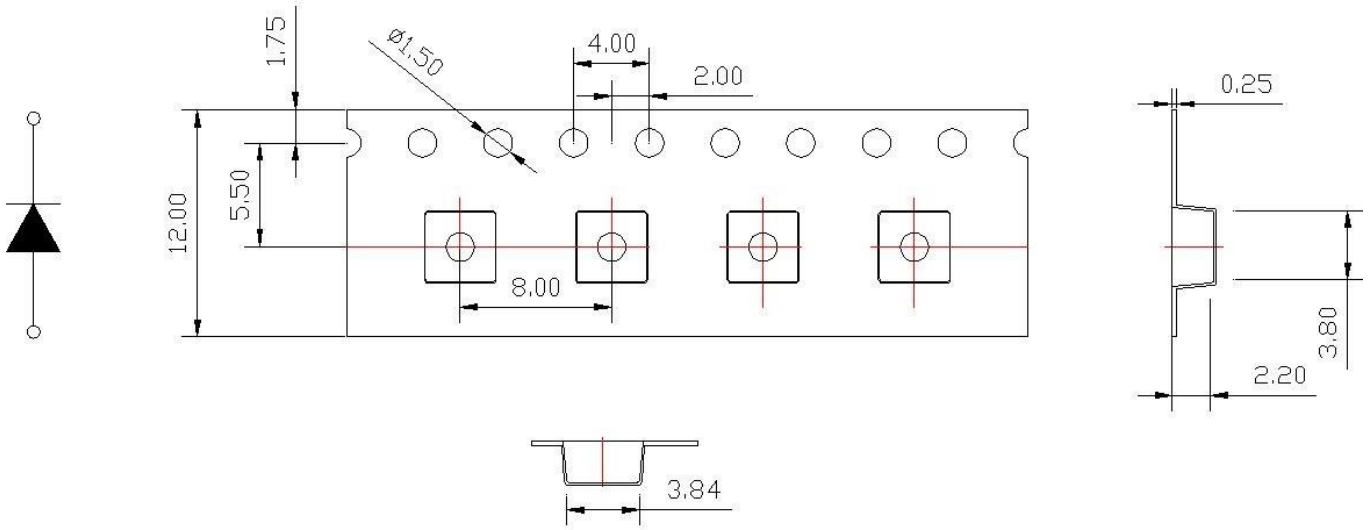
Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed in advance whether the characteristics of LEDs will or will not be damaged by repairing.

●Cautions

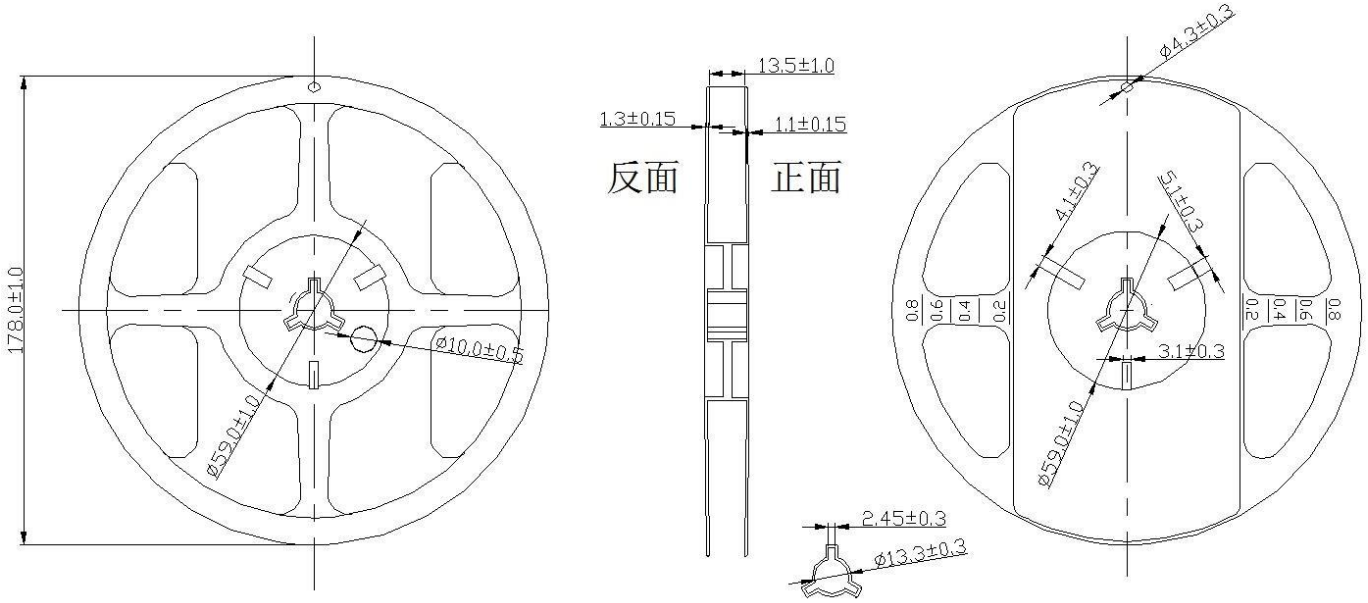
1. LED product is lens package, the surface is relatively brittle, pressing the lens surface will affect the LED reliability, so there should be preventive measures to avoid pressing the device, when using the nozzle, the pressure on the lens surface should be appropriate.
2. Components should not be mounted on warped (non coplanar) portion of PCB. After soldering, do not warp the circuit board.
3. Do not apply mechanical force or excess vibration during the cooling process to normal temperature after soldering. Do not rapidly cool device after soldering.

■ Packing Standard

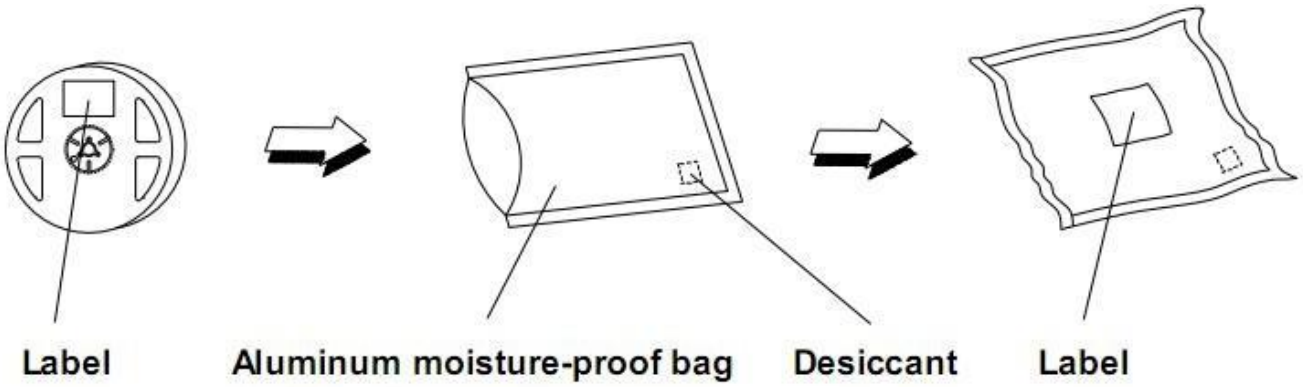
Normal packing quantity: 1000pcs/reel



Reel Specifications



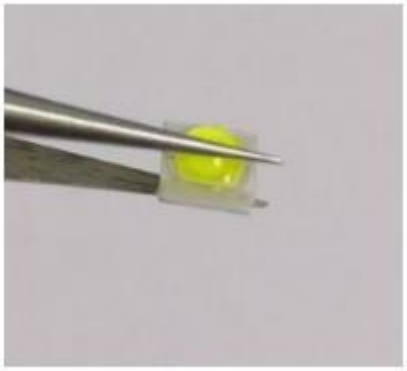
Moisture Resistant Packaging



■ Product specification

I. Storage/use:

1. In order to avoid moisture absorption, it is suggested to store the products in a drying cabinet with desiccant. The storage temperature is 5℃~30℃, and the humidity is ≤60%HR.
2. After storage for six months, it is recommended to re-use the spectral separation to prevent changes in photoelectric parameters.
3. It is recommended to dry products that have been sealed and stored for more than six months before use. The drying condition is 65℃±5℃ for 10 hours.
4. The product shall be used within 24h after opening, otherwise it shall be baked at 65℃ for 4-6h before reflow welding.
5. Do not press the gel surface with any sharp object (such as tweezers).Do not leave fingerprints
6. on the surface of the colloid. The positive normal pressure of the colloid should be less than 2 newtons and the number of press should be less than 3 times. The lateral pressure of the lens body is less than 1.5 newtons and the number of press is less than 3 times. Pick up materials correctly
7. (as shown below).



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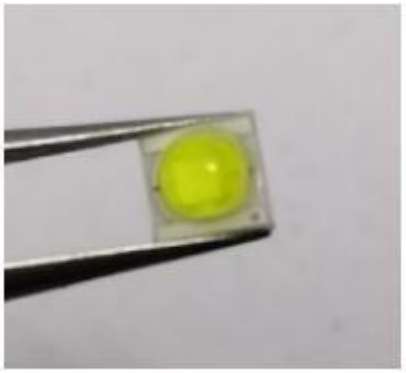

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II. Products should not be in contact with water, oil or organic solutions.

III. The operating current value of the product should consider LED junction temperature.

IV. Repackage unused products in moisture-proof bags and store in a dry place.

V. External dimensions are subject to change without prior notice.

VI. Anti-static requirements: when using products, must wear anti-static ring or anti-static gloves, all equipment, devices, machines must be effectively grounded. This product belongs to electrostatic sensitive device, pay attention to anti-static protection!

VII. When LED working, push the temperature of PCB board should not exceed 60℃.

VIII. Anti - vulcanization, chlorination, bromination and other treatments.

IX. In the closed, high temperature environment, the lamp may contain sulfur/chlorine/bromine and other substances, these sulfur, chlorine and bromine elements will volatilize into gas and corrosion LED light source. Because the LED seal silica gel has porous structure, and the light source silver plating reaction occurred. After curing reaction of LED light source, the functional area of the product will darken, the luminous flux will gradually decline until it becomes slightly bright, and the color temperature will drift obviously, and the LED light source will eventually fail. It is recommended to conduct sulfur emission test of lamps first to ensure that LED light source works in sulfur-free/chlorine/bromine and other material environment.

X. When the customer applies LED, it shall refer to the parameters of this specification and the requirements of operating environment. If the LED is used beyond the parameters or standard conditions without verification, our company will not make any quality guarantee.