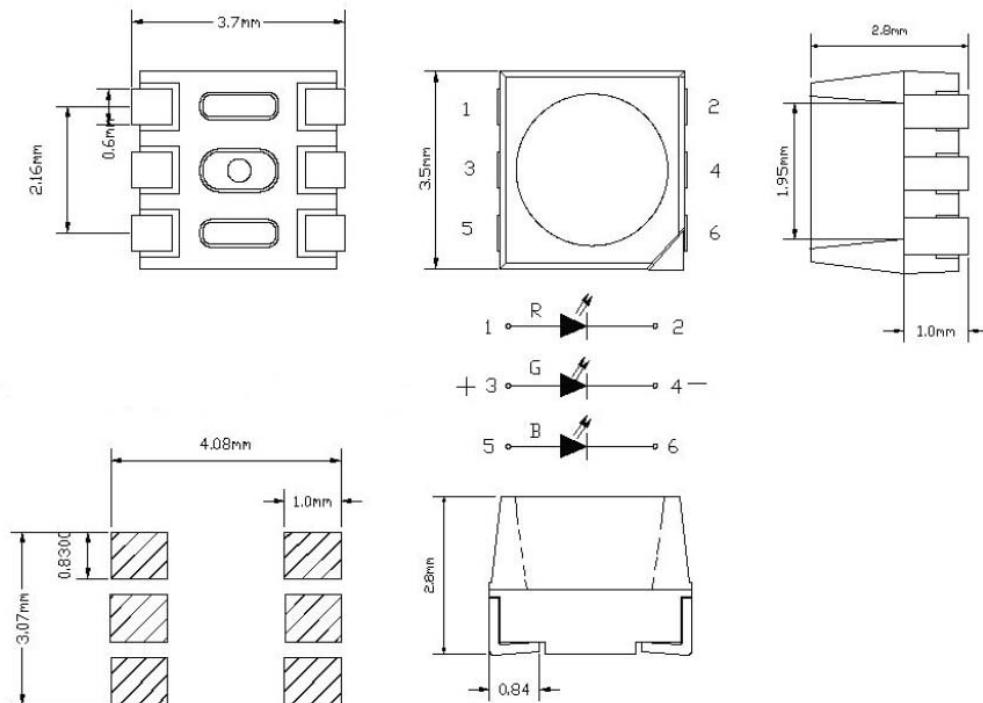


3535 RGB SMD LED with P-LCC-6 Black body (0.2W)

P/N: LLS3535RGB-E07-J

Package Dimensions



NOTES : All dimensions are in millimeter [unit];

Features

- Dimensions: 3.5mm×3.5mm×2.8mm
- Material/Parameters description
 - Emitted color: RGB
 - Chip Materials: InGaN/AlGaNnP
 - Lens type: translucent colloid
 - 0.2W lower power LED
- Suitable for all SMT assembly and solder process
- Moisture sensitivity level: Level 2a
- PB Free and RoHS Compliant



Application

- Outdoor landscape brightening
- Outdoor RGB Signal Sign

Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Maximum	Unit
Power Dissipation	Pd	200	mW
Continuous Forward Current	I _F	3*20	mA
Pulsed Forward Current (1/10 Duty Cycle 0.1ms Pulse Width)	I _{FP}	3*30	mA
Reverse Voltage	V _R	5	V
	R	3000	
Electrostatic Discharge (HBM)	ESD	G 2000	V
	B	2000	
Operating Temperature Range	T _{opr}	-40 to +85	°C
	T _{stg}	-40 to +100	°C
Storage Temperature Range		Humidity < 60	%
Junction Temperature	T _j	≤125	°C
	R	150	
Junction solder point	R _{THJS}	G 200	°C/W
	B	200	

Note: 1/10 Duty cycle, 0.1ms pulse width

Electrical/Optical Characteristics (Ta=25°C)

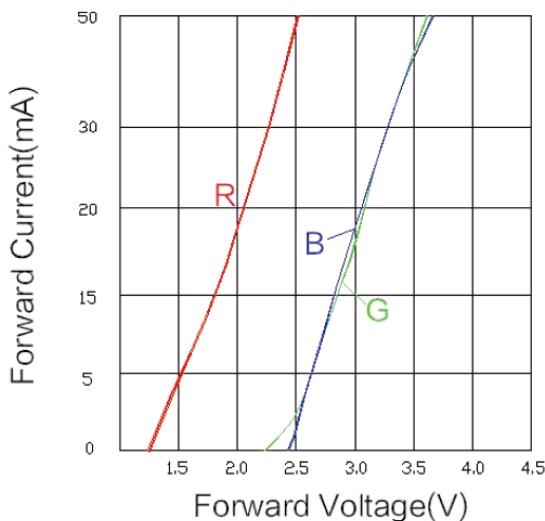
Item	Symbol	Condition	Min.	Typ.	Max	Unit
Forward Voltage	V _F	I _F =20mA	R	2.0	--	2.5
		I _F =20mA	G	2.8	--	3.5
		I _F =20mA	B	2.8	--	3.5
Luminous Intensity	I _V	I _F =20mA	R	600	--	1000
		I _F =20mA	G	1500	--	2200
		I _F =20mA	B	300	--	600
Dominant Wavelength	λ _d	I _F =20mA	R	620	--	630
		I _F =20mA	G	520	--	530
		I _F =20mA	B	460	--	470
Viewing Angle	2θ _{1/2}	I _F =20mA	--	120	--	deg
Reverse Current	I _R	V _R =5V	--	--	10	uA

Note:

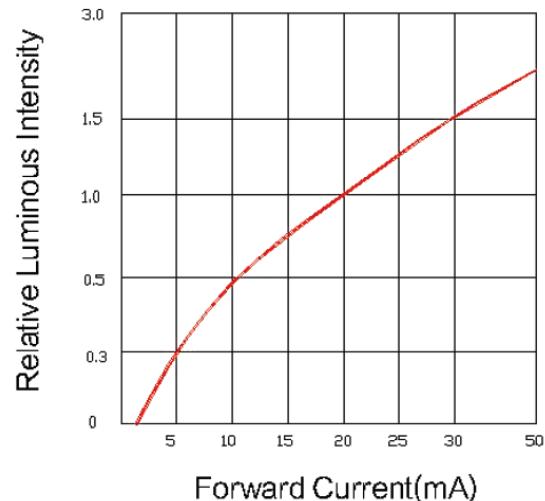
- 1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value
- The above luminous flux measurement allowance tolerance is ±15%.
- The above Color Rendering Index measurement allowance tolerance is ±2
- The above forward voltage measurement allowance tolerance is ±0.1V

Typical Electro-Optical Characteristics Curves

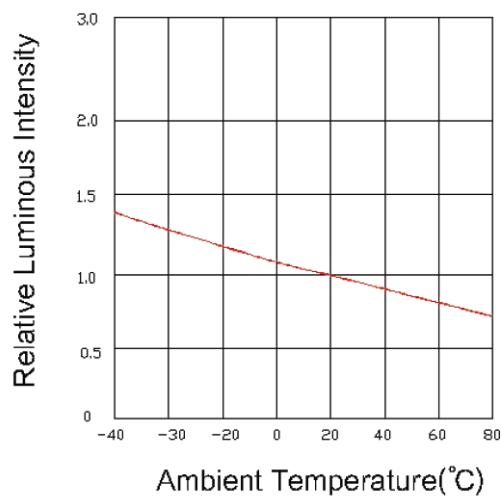
Forward Voltage VS. Forward Current



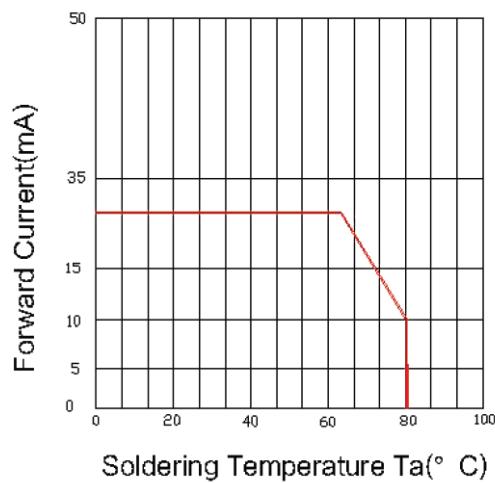
Forward Current VS. Relative Intensity



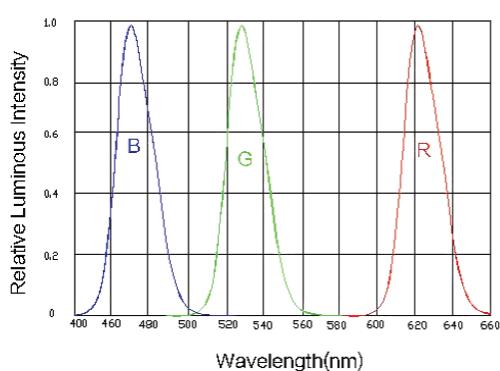
Ambient Temperature VS. Relative Intensity



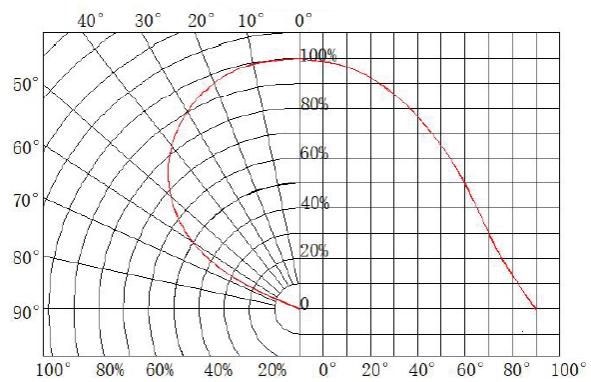
Soldering Temperature VS. Forward Current



Relative Spectral emission



Radiation diagram



·Reliability test items and conditions

Test Items	Ref. Standard	Test Condition	Time	Quantity	Ac/Re
Reflow	IEC/TR 60068-3-12-2014	Temp:260°C max T=8 sec	3 times	22PCS	0/1
Hot and cold impact	IEC60068-2- 14 : 2009	120°C±5°C 15min ↑↓ 5 min -40°C±3°C 30min	500 Cycles	100PCS	0/1
Red ink experiment		After reflow soldering once, place the finished lamp beads into a beaker filled with red ink.	Soak 16H	100PCS	0/1
Bare lamp for high temperature and high humidity storage		Ta=85°C RH=85% Temp:260°C/10min	1000H 3 times	22PCS 22PCS	0/1 0/1
Moisture intrusion simulation test		Ta=85°C RH=85%	1000H	100PCS	
Moisture proof level test		Place the lamp beads naked at room temperature and wet them with water 3-5 times a week.	1 month	100PCS	0/1
High Humidity Heat Life Test	IEC60068-2-78: 2001	Temp:260 max T=8sec Ta=85°C RH=85% 30min Light/30min off IF=3*20mA	3 times 1000H	22PCS	0/1

·Failure Criteria

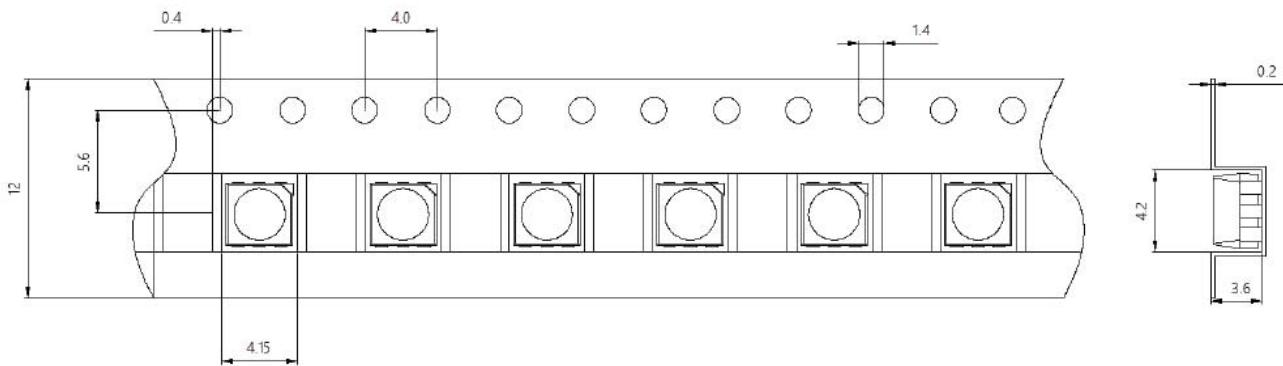
Test Items	Symbol	Test Condition	Failure criteria	
			Min.	Max.
Forward voltage	VF	IF=3*20mA	--	U.S.L*) x1.1
Reverse Current	IR	VR = 5V	--	10uA
Luminous Intensity	Im	IF=3*20mA	L.S.L*) x0.7	

U. S.L: Upper Specification Limit

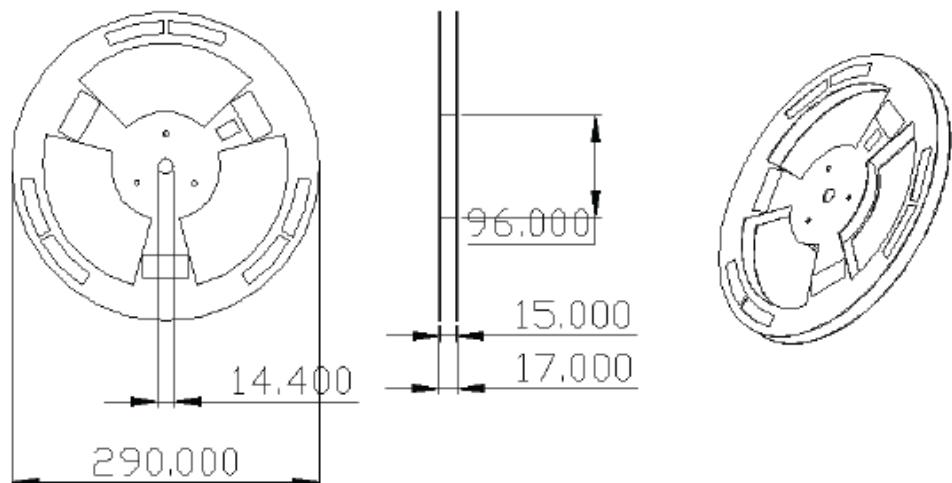
L.S.L: Lower Specification Limit

·Package Tape specifications (2004 pcs/Reel)

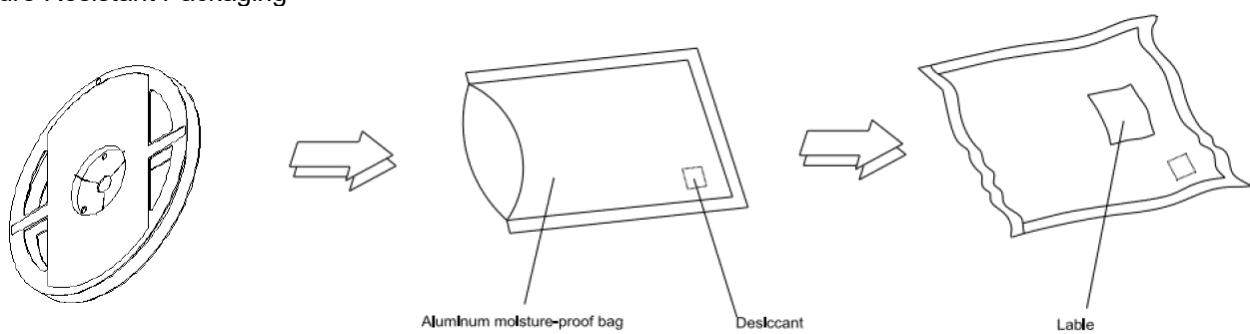
Packing unit 2004pcs/reel



Adhesion Strength of Cover Tape : Adhesion strength to be 0.1 – 0.7N when the cover tape is turned off from the carrier at 10°angle to be the carrier tape
 Reel Dimensions



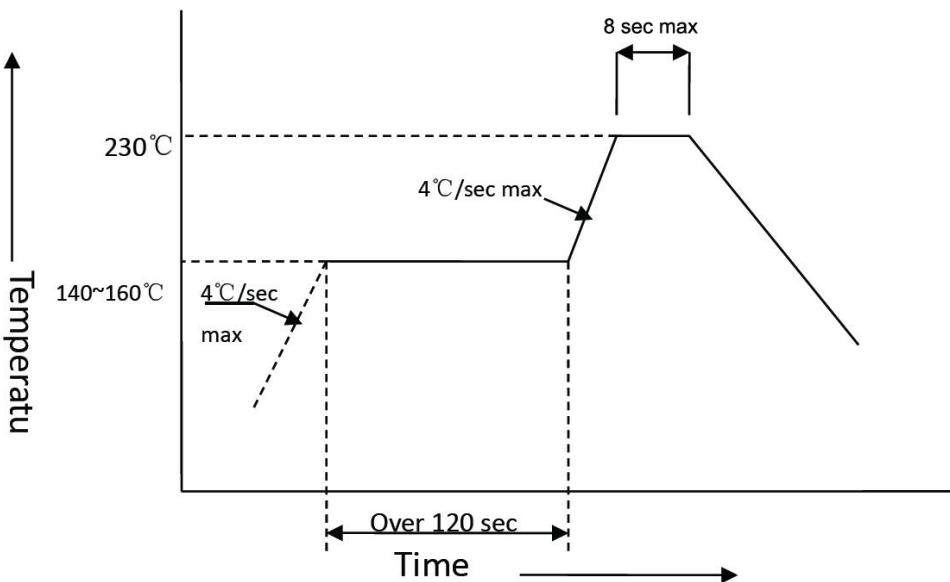
Moisture Resistant Packaging



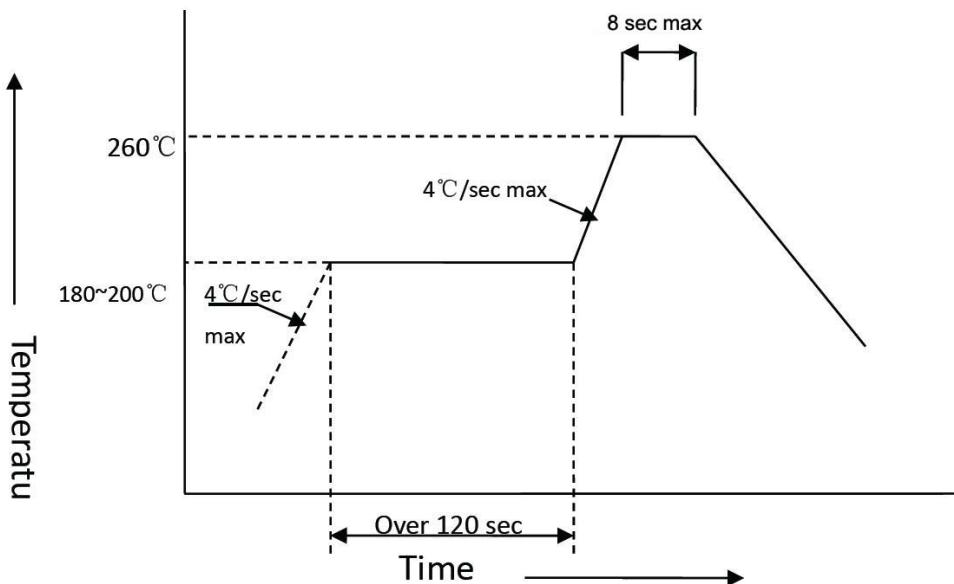
· Reflow soldering instructions:

1. The number of reflow processing shall be only 1 time.

A. Lead Solder :



B. Lead-Free Solder:





SMD LED Instruction Manual

Thank you for your trust and support in our company. To enhance your understanding of the product characteristics of our company, it is convenient for you to grasp the characteristics of its use during use, to minimize or avoid unnecessary product damage or performance mismatch caused by human factors. Specifically, as below:

1. Moisture Resistant and vacuum Packaging

All the SMD LEDs are packed in moisture-proof and anti-static aluminum foil bags. During handling, it is necessary to avoid squeezing and puncturing the packaging bags to cause leakage of the moisture-proof bags.

2. Material confirmation

Please check the package for leaks, other damage, and check if the label matches your company's requirements. If you find an abnormality, please contact us in time.

3. Unopened SMD led storage

The unopened SMD led should not be stored for a long time as much as possible, because the storage environment is not easy to control. You can choose a recent delivery based on your production schedule.

The storage environment is best to choose moisture proof cabinet, the temperature is about 30 degrees, the humidity is below 60%, and in this case:

- (1) RGB products can be stored for 30 days.
- (2) White light products can be stored for 60 days.
- (3) 3528 dome series and 3535 RGB moisture proof series can be stored for 2-3 months.

◎ Regardless of whether the storage time is exceeded or not, please be sure to perform the first test before production. If you find an abnormality, please contact us in time.

◎ If the LEDs have not been used in time, it is recommended to use oven baking dehumidification (The dehumidification conditions be adjusted according to products).

4. Precautions after unpacking

After receiving the SMD led from our company, please arrange the production as soon as possible. Due to the different storage environments of each warehouse, it is not recommended to make large quantities of stocks.

After opening the package:

- ◎ If the package is Intact, it will be better to bake at 70° for 12 hours before reflow soldering process.
- ◎ It is not recommended to store the SMD led after unpacking. Please accurately calculate the demand for the production line. If storage is required, it is recommended to store it in a 60-degree oven.
- ◎ In the conditions of $25\pm5^{\circ}\text{C}$ and $45\pm15\%$ RH, the soldering process must be completed within 12 hours.
- ◎ If it is not in the range of $25\pm5^{\circ}\text{C}$ and $45\pm15\%$ RH, the soldering process must be completed within 6 hours. If not completed, a) unsealing, it is recommended to be stored in the oven at 70-degree low temperature before use; b) vacuum packing, it is best to choose moisture proof cabinet, the temperature is about 30 degrees, the humidity is below 60%.

5. It is not recommended to mix different batches of SMD led

Test before production according to the first inspection standard. If you find any abnormality in the SMD led, please contact us. Please do not mix different batches of SMD led during the production process. If you can't avoid it, you need to use the LEDs of the previous batch. Please confirm the package is normal and then confirm the first piece. Finally, the products produced by this batch of SMD led are separately distinguished.

6. In the production process, please fill in the reflow soldering after the patch is completed, **and the reflow soldering is not repeatable.** Reflow soldering. Check the ESD protection measures during soldering and assembly.

7. SMD led for outdoor applications, the finished product design is to use a cover lens as much as possible and then potting seal. It is not recommended to seal directly on the surface of the lamp. The potting glue should try to choose glue with low permeability and oxygen permeability and good adhesion to aluminum. The controller's negative pressure should be minimized.

8. Finished luminaires that have been installed outdoors. If the luminaires cannot be used in time after commissioning, please pay attention to the timing aging. Please use a small current to illuminate all the chips in the early stage of aging. Do not scan the program. After aging for two hours, the current is gradually amplified; do not scan the program and often age for 4 hours once a month. In the initial stage of use, please adjust the speed of the controller to the slowest and the color conversion speed is the slowest.