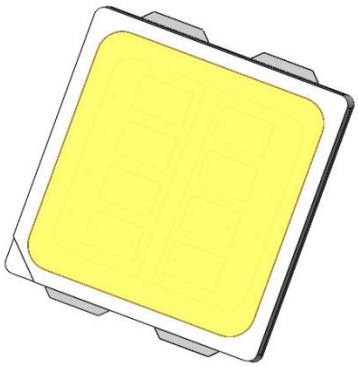
SMD LED Datasheet

WR-EA5W57S05-HJ-S



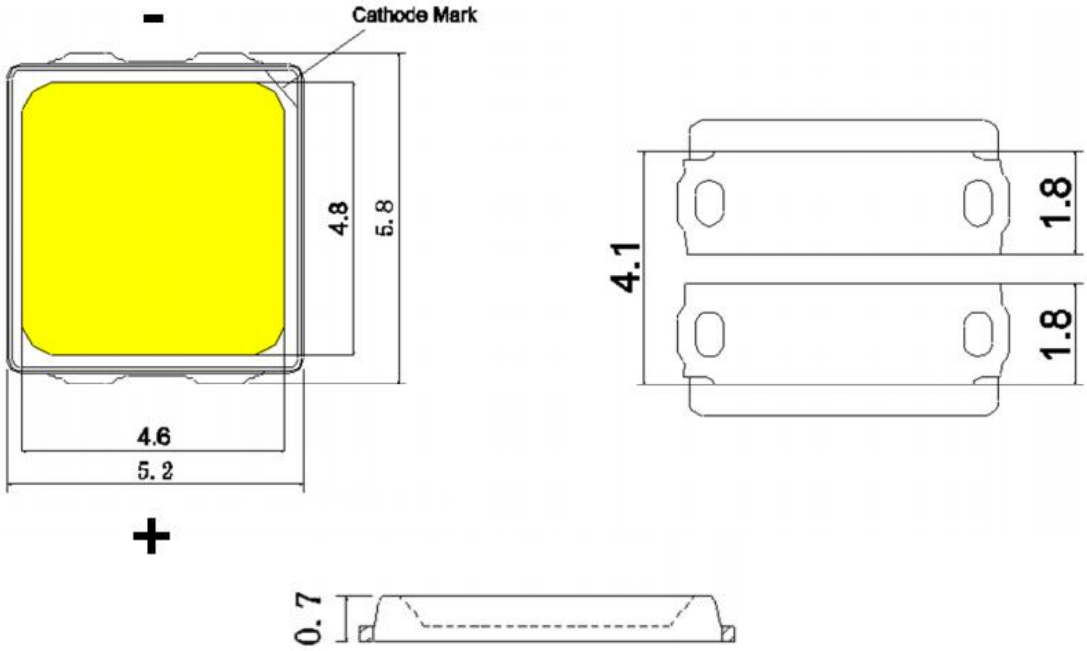
Features

˙High luminous intensityoutput
˙120° viewingangle
˙Pb-free
˙RoHScompliant
˙ANSI Binning

Applications

• Outdoor lighting
• Industrial lighting

Package outline



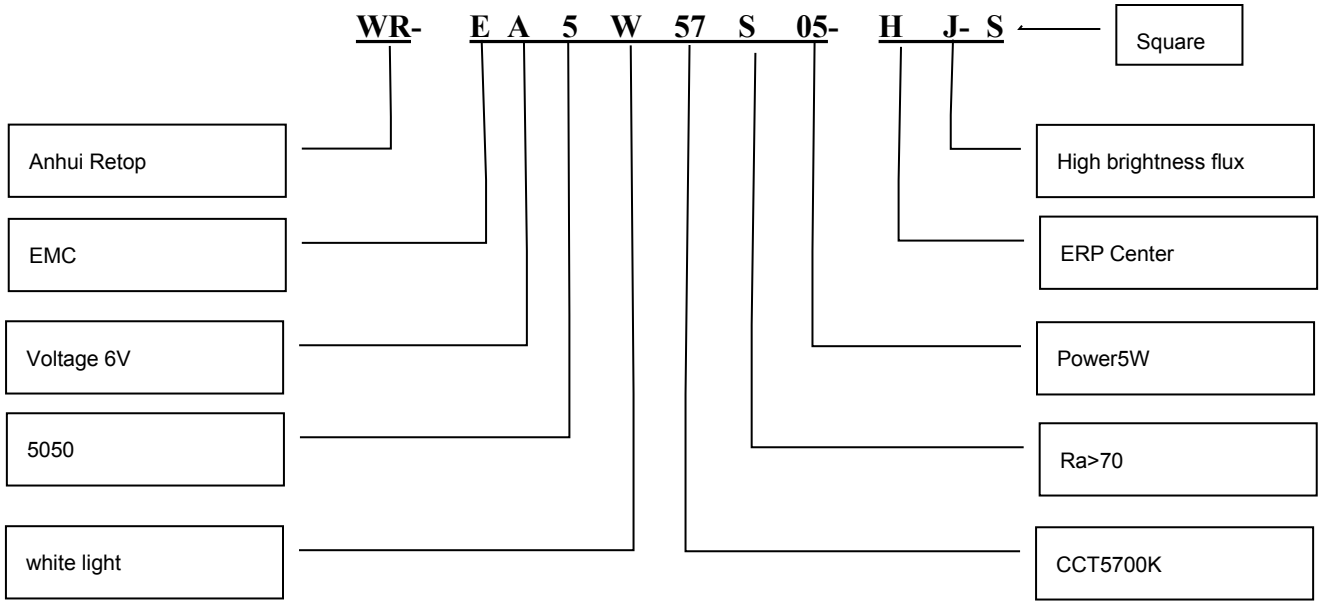
Notes:

1.All dimensions are in millimeters.

2.Tolerances are

X.X ±0.1; .

Coding principle



Absolute maximum ratings at Ta=25℃

Parameter	Symbol	Absolute Maximum Rating	Unit
Continuous Forward current	If	1000	mA
Power Dissipation	PD	5.76	W
Pulse Forward Current[1]	Ifp	1500	mA
Solder Point temperature	Top	-40～+100	℃
Storage temperature range	Tstg	-40～+100	℃
Junction Temperature	Tj	125	℃
Thermal resistance	Rthj,s	2.5	ºC/W
Electrostatic Discharge(HBM)	ESD	2000	V

Notes:

[1]1/10 Duty cycle,0.1ms pulse width.

Electro-optical characteristics at Ta=25℃

Parameter	Symbol	MIN.	TYP.	MAX.	Unit	Test Condition
Forward Voltage	V_F	5.8	6.2	6.6	V	IF=750mA
Luminous Flux	Φ_V	720	810	900	lm	IF=750mA
Color Temperature	CCT	5300	---	6000	K	IF=750mA
Color Rendering Index	Ra	70	---	80	/	IF=750mA
View Angle	$2\theta_{1/2}$	---	120	---	°	IF=750mA

Notes:

1. Tolerance of Luminous flux:±7%.
2. Tolerance of Forward Voltage:±1V.
3. Tolerance of Color Rendering Index:±3
4. Tolerance of View angle2θ1/2:±5

Bin Range of LuminousFlux

Bin Code	Min.	Max.	Unit	Condition
Φv1	720	780	lm	IF=750mA
Φv2	780	840	lm	IF=750mA
Φv3	840	900	lm	IF=750mA

Note:

Tolerance of Luminous flux: ±7 %.

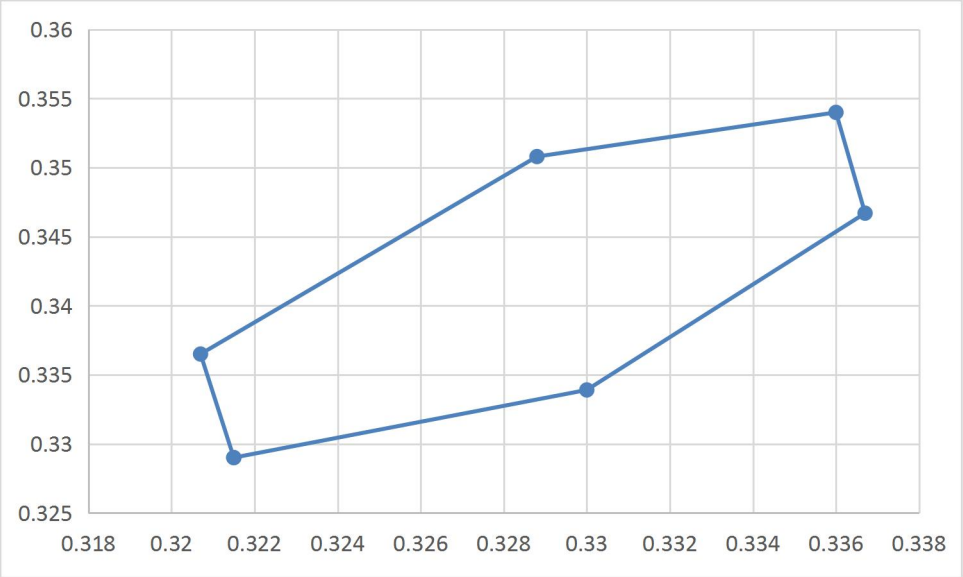
Bin Range of ForwardVoltage

Bin Code	Min.	Max.	Unit	Condition
AM2	5.8	6.0	V	IF=750mA
AN1	6.0	6.2		
AN2	6.2	6.4		
AN3	6.4	6.6		

Note:

Tolerance of Forward Voltage:±0.1V.

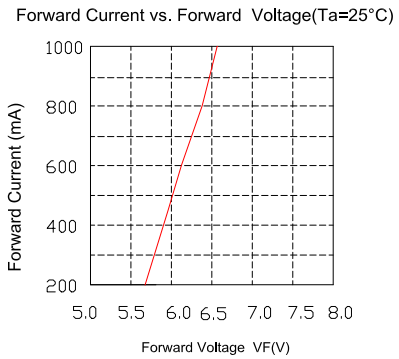
CIE chromaticity

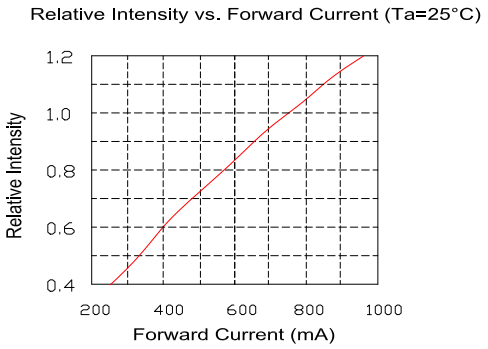


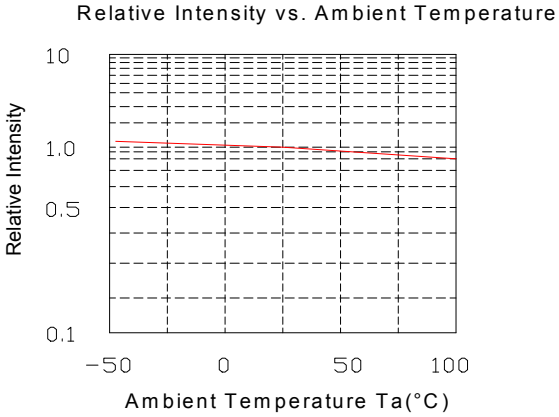
Bin data

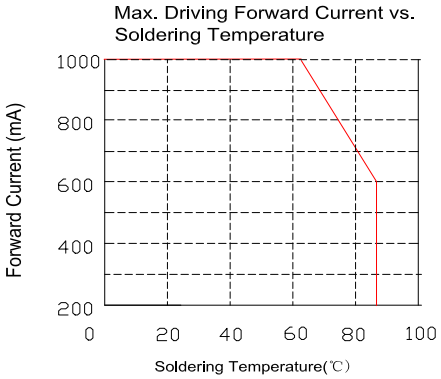
Hue Bin	CIE 1931Chromaticity coordinates							
		Center	1	2	3	4	5	6
57K-B 【5300-6000K】	x	0.3294	0.3207	0.3215	0.3288	0.33	0.336	0.3367
	y	0.342	0.3365	0.329	0.3508	0.3339	0.354	0.3467

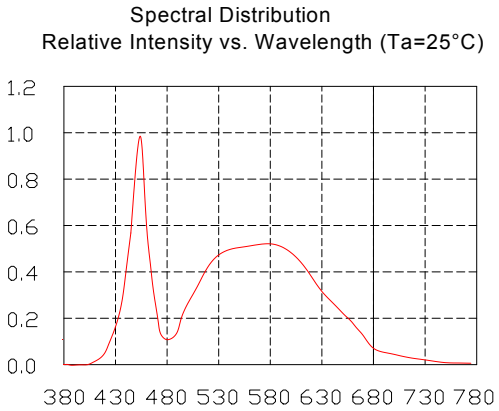
Typical optical characteristics curves（Ta=25℃unless specified）

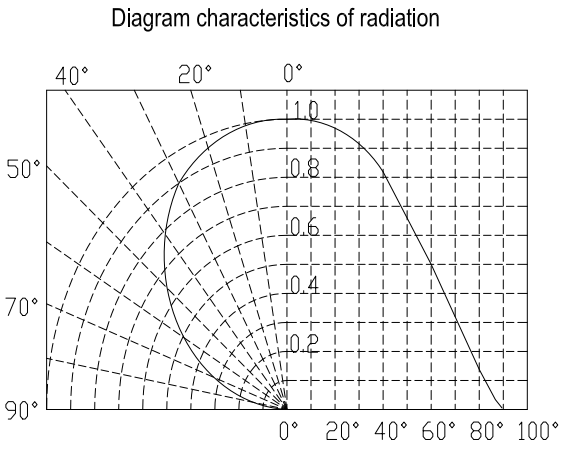












Reliability

Test items and results

Type	Test Item	Ref. Standard	Test Conditions	Note	Number of Damaged
Environmental Sequence	Resistance to Soldering Heat(Reflow Soldering)	JESD22-B106	Tsld=260℃,10sec	3 times	0/22
	Temperature Cycle	JESD22-A104	-40℃ 30min ↑↓5min 100℃ 30min	300 cycle	0/22
	Thermal Shock	JESD22-A106	-40℃ 15min ↑↓ 100℃ 15min	300 cycle	0/22
	High Temperature Storage	JESD22-A103	Ta=100℃	1000 hrs	0/22
	Low Temperature Storage	JESD22-A119	Ta=-40℃	1000 hrs	0/22
Operation Sequence	Life Test	JESD22-A108	Ta=25℃ IF=750mA	1000 hrs	0/22
	High Humidity Heat Life Test	JESD22-A101	60℃ RH=90% IF=750mA	1000 hrs	0/22

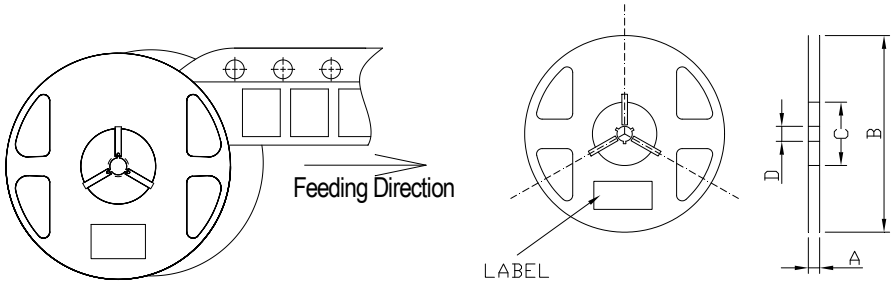
Criteria for judging the damage

Item	Symbol	Test Conditions	Criteria for Judgement	
			Min.	Max.
Forward Voltage	VF	IF=750mA	_	U.S.L*)×1.1
Luminous Intensity	IV	IF=750mA	L.S.L**)×0.7	_

U.S.L.: Upper Standard Level **L.S.L.: Lower Standard Level**

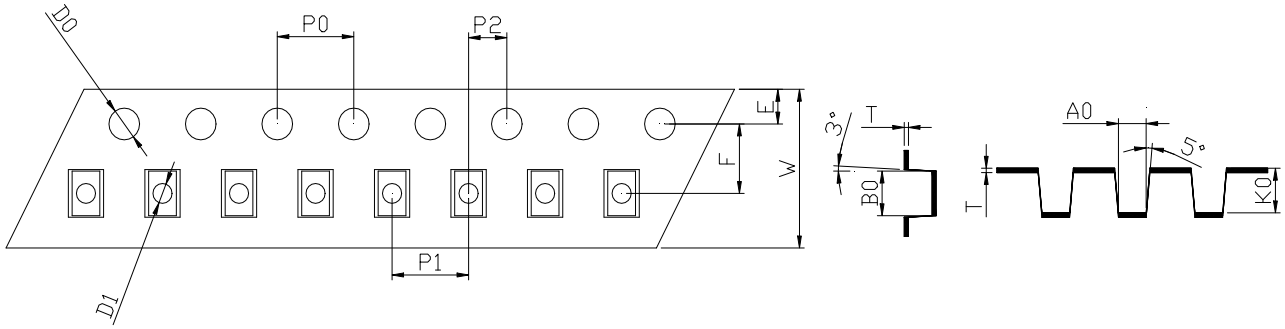
Packaging specifications

● Feeding direction ●Dimensions of reel (unit: mm)



A	8.0±0.1mm
B	178±1mm
C	60±1mm
D	13.0±0.5mm

● Arrangement of tape



Notes:

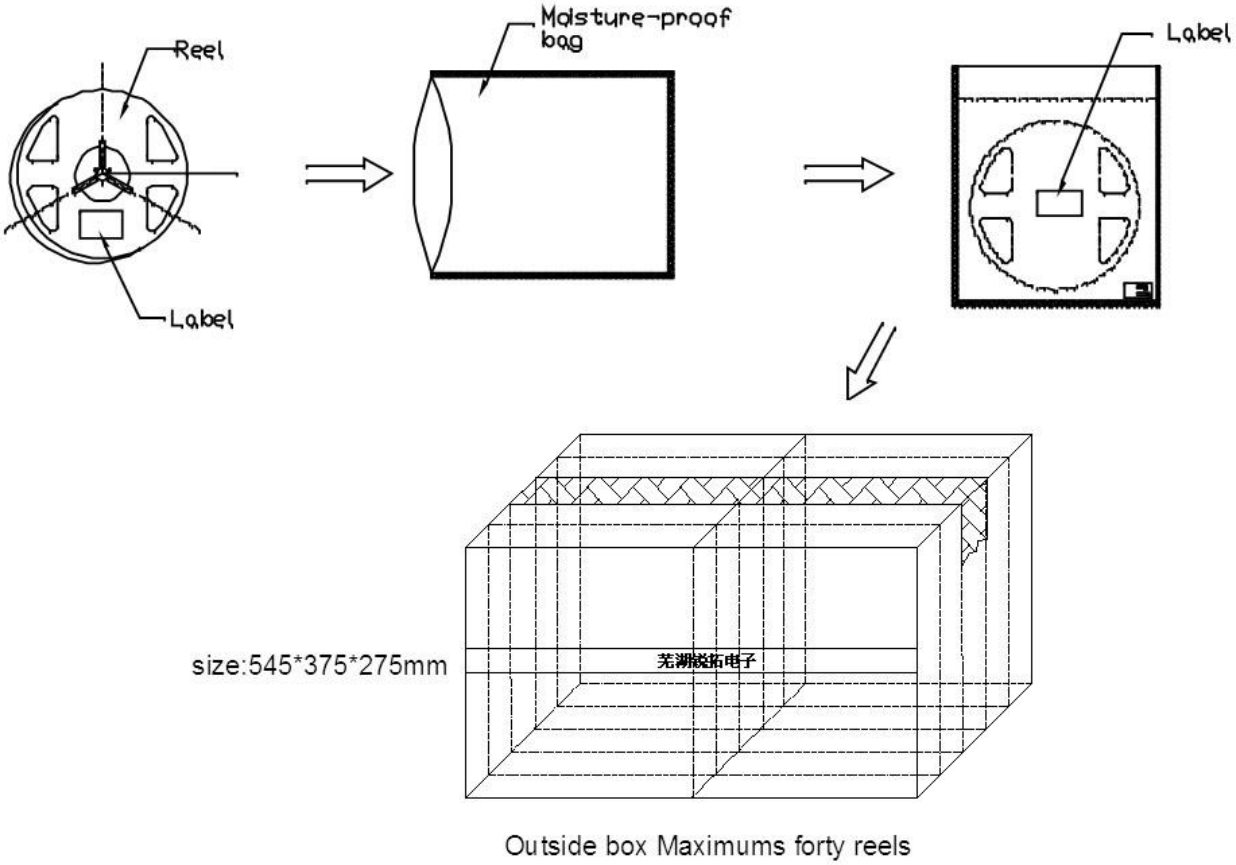
1.Empty component pockets are sealed with top cover tape.

2.The maximum number of missing lamps is two.

3.The cathode is oriented towards the tape sprocket hole in accordance with ANSI/EIA RS-481 specifications.

4.1,500 pcs/ Reel.

Packaging specifications



Outside box Maximums forty reels

Label

Anhui Retop Electronics Co.,Ltd
Part No：
Lot No：

RoHS

VF:		IF:	
Φv:		BIN:	
IV:		QTY:	
CIE:		DATE:	

- VF: Forward VoltageRank
- IF: Forward Current
- ϕv: Luminous IntensityRank
- CIE:XYRank
- BIN: Retop Rank
- QTY: PackingQuantity
- DATE: Date of shipment

Cautions

Package specifications

Reeled products (numbers of products are 1,000pcs) packed in a seal off moisture-proof bag along with a desiccant one by one, Eighty moisture-proof bag of maximums are put the outside box (size: about 545mm x about 375mm x about 275mm) Together with buffer material, and it is packed. (Pare No., Lot No., quantity should appear on the label on the moisture-proof bag, part No. And quantity should appear on the label on the cardboard box.) The number of the loading steps of outside box (cardboard box) has two steps.

Storage conditions

Before opening the package:

The LEDs should be kept at 30℃ or less and 70%RH or less. The LEDs should be used within a year. When storing the LEDs, moisture proof packaging with absorbent material (silica gel) is recommended.

After opening the package:

The LEDs should be kept at 30℃ or less and 50%RH or less. If unused LEDs remain, they should be stored in moisture proof packages, such as sealed containers with packages of moisture absorbent material (silica gel). It is also recommended to return the LEDs to the original moisture proof bag and to reseal the moisture proof bag again.

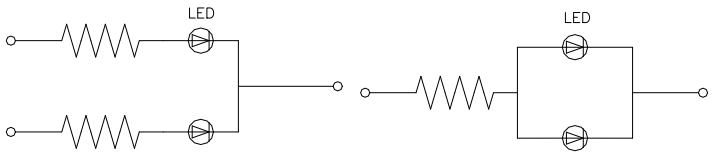
Cleaning

Use alcohol-based cleaning solvents such as isopropyl alcohol to clean the LED if necessary.

Drive method

An LED is a current-operated device. In order to ensure intensity uniformity on multiple LEDs connected in parallel in an application, it is recommended that a current limiting resistor be incorporated in the drive circuit, in series with each LED as shown in Circuit A below.

Circuit model A Circuit model B



(A) Recommended circuit.

(B) The brightness of each LED might appear different due to the differences in the I-V characteristics of those LEDs.

Reflow profile

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 using the picking up nozzle, the pressure on the silicone resin should be proper.