N3535P31R005WGAS

High Power LED 395nm Emitter

Key Features

1.Emitted Color:395nm.

2.Lens:Glass.

3.3.5*3.5*3.4mm standard package.

4.Suitable foe all SMT assembly methods.

5.Compatible with infrared and vapor phase reflow solder process.

6.Compatible with automatic placement equipment.

7.This product doesn’t contain restriction substance, comply ROSH standard.

8.ALN of substrate.

9.Very low Thermal Resistance (2.89℃/W)

10.Very high Radiant Flux density.

Typical Applications

Curing

Detection

Description

Absolute Maximum Ratings Ta=25℃

Parameter	Symbol	Value			Unit	Test condition
		Min.	Typ.	Max.		
Forward Voltage	Vf	3.2	3.5	3.8	V	If=1000mA
Peak Wavelength	λp	390	395	400	nm	If=1000mA
Reverse Current	Ir	-	-	10	μA	If=1000mA
Viewing angle	2θ1/2	-	30	35	Deg	If=1000mA
Power density	MW	1800	2000	2300	MW	If=1000mA

Duty 1/10 pulse width 0.1ms.

Soldering time max 10sec

Please refer to IF-Ta diagram of curves for the temperature during application

Characteristics

Item	Symbol	Value	Unit
Power Dissipation/DICE	PD	5	W
DC Forward Current/DICE	IF	1000	mA
Single Chip Pulesd Forward Current	IFP	1500	mA
Reverse Voltage	VR	5	V
Operating Temperature	Topr	-30~+80	℃
Storage Temperature	Tstg	-40~+100	℃
Soldering Temperature	Tsol	260for5sec△	℃

N	3535	P3	1R	005W	GA	S
(1)	(2)	(3)	(4)	(5)	(6)	(7)

Part Number System:

1. **N: High power ALN.**
2. **Package Type: 3535**
3. **LED Color: 395nm**
4. **Chip Angle:30°**
5. **005W: Power 5W**
6. **GA: Quartz Glass and Single Chip.**
7. **S: SAN AN**

ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Forward Voltage Bins

Table1:

Bin Code	Minimum Forward Voltage @If=1000mA (V)	Maximum Forward Voltage @If=1000mA (V)
D	3.3	3.4
E	3.4	3.5
F	3.5	3.6

Notes For Table1:

1.LED Ritter maintains a tolerance of ±0.05V on forward voltage measurements.

2.For binning purposes, Forward Voltage for Dental Blue is binned with all three LED dies connected in series.

Radiant Flux Bins

Table2:

Bin Code	Minimum Radiant Flux @If=1000mA (mW)	Maximum Radiant Flux @If=1000mA (mW)
20	1800	1900
21	1900	2000
22	2000	2100
23	2100	2200

Notes For Table1:

1.Radiant flux performance guaranteed within published operating conditions. LED Ritter maintains a tolerances of ±10% on flux measurements.

2.Future products will have even higher levels of radiant flux performance. Contact LED Ritter Sales for updated information.

Peak Wavelength Bins

Table3:

Bin Code	Minimum Peak Wavelength @If=1000mA (Nm)	Maximum Peak Wavelength @If=1000mA (Nm)
U12	390	395
U11	395	400

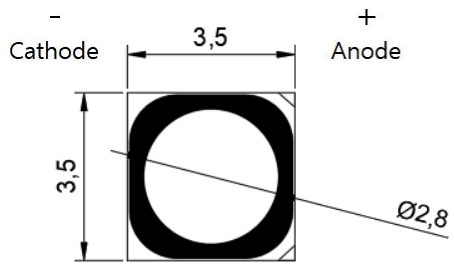
Notes For Table3:

1. LED Ritter maintains a tolerance of ±2.5nm on peak wavelength measurements.

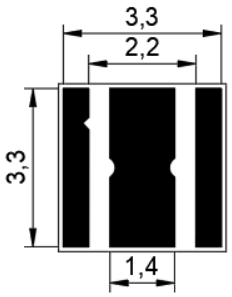
Average Rdiant Flux Maintenance Projections

Base on long-term WHTOL testing, LED Ritter projects that the Series will deliver, on average, 70% Radiant Flux Maintencceat 1000 hours of operation at a forward current of 1000 mA per die. This projection is based on constant current operation with junction temperature maintained at or below 125℃.

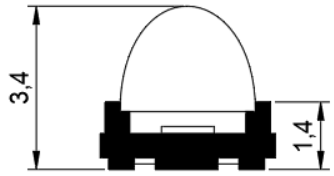
Mechanical Dimensions(mm)



Top View

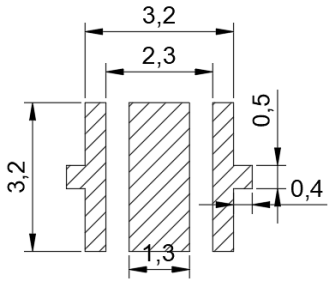


Bottom View

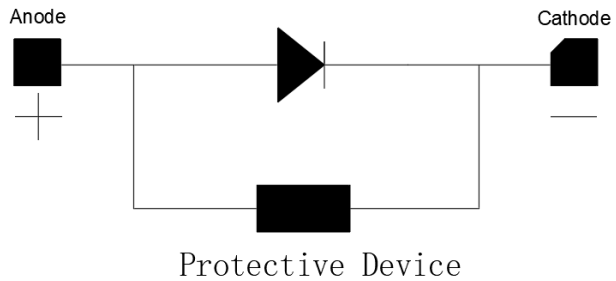


Side View

Recommend Solder Pad（mm）



Electrical Internal Circuit



Recommended pad layout

Notes for Figure 1

1.Unless otherwise noted, the toleranc e= ± 0.20 mm.

2.Thermal contact, is electrically neutral.

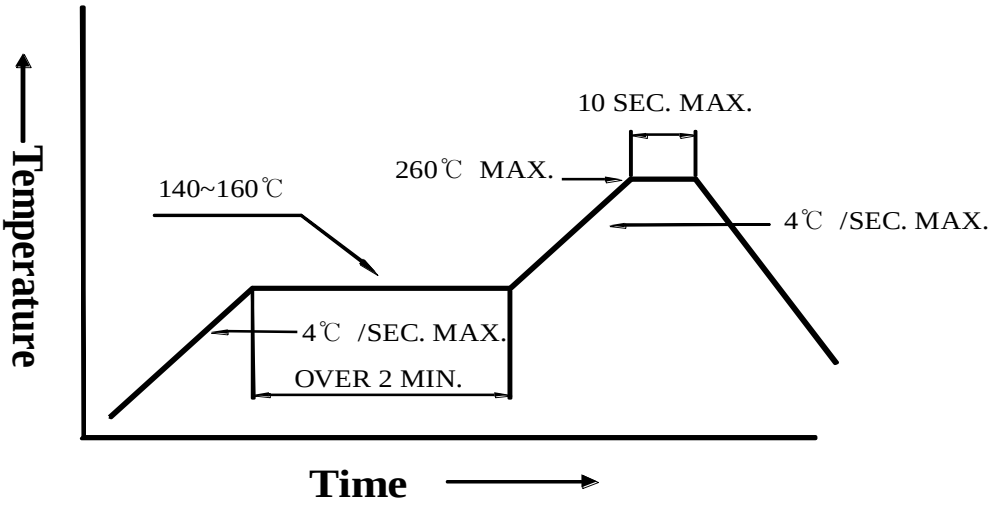
Reflow Soldering Profile

Preheating:140℃~160℃ ±5℃, within 2 minutes.

Operation heating : 260℃(Max)within 10seconds.(Max)

Gradual Cooling (Avoid quenching).

Figure 2: Reflow soldering profile for lead free soldering.



Typical Radiation Pattern

Fig.1 RADIATION DIAGRAM(A)

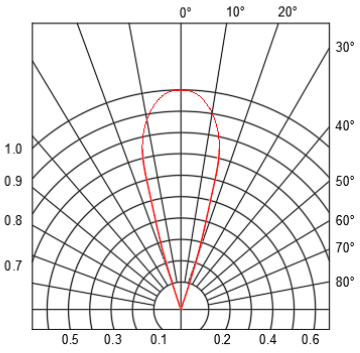


Fig.2 RADIATION DIAGRAM(B)

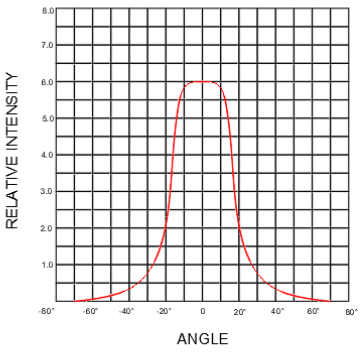


Fig.3 FORWARD CURRENT VS. FORWARD VOLTAGE

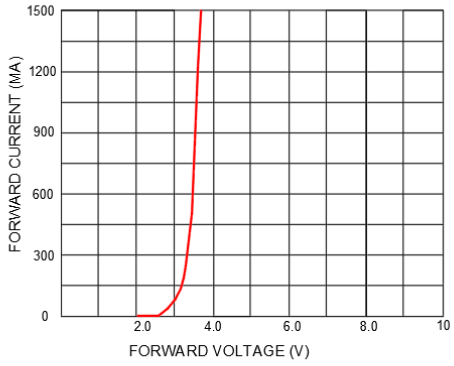


Fig4 RELATIVE INTENSITY VS. WAVELENGTH

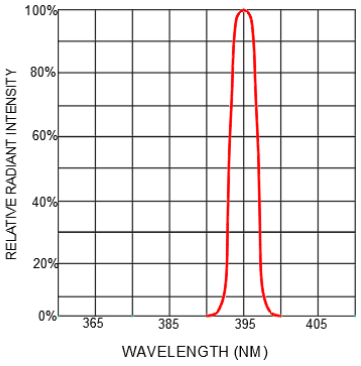


Fig.5 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

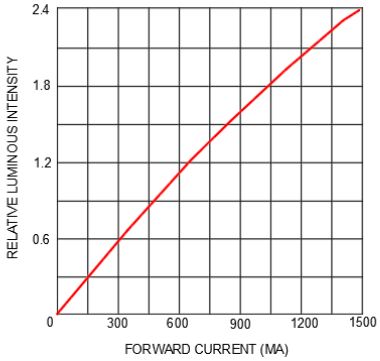
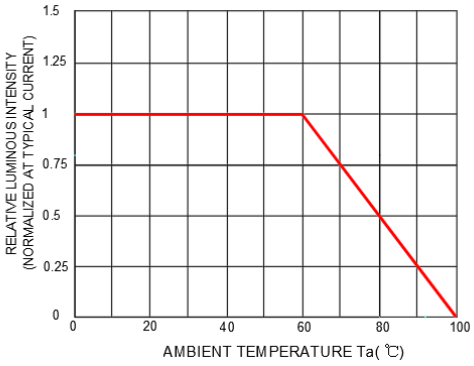


Fig.6 RELATIVE LUMINOUS INTENSITY VS. AMBIENT TEMPERATURE



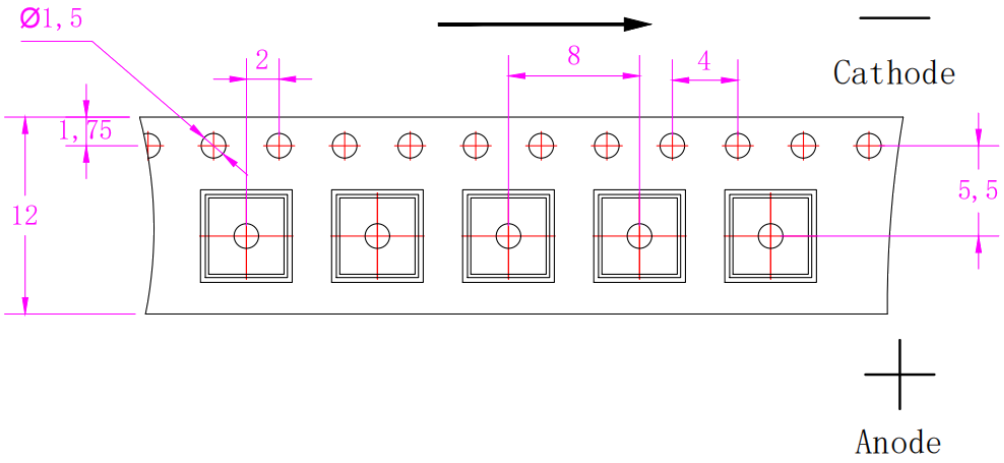
Test items and results of reliability

Type	Test Item	Test Conditions	Note	Number of Damaged
Operation	Life Test	T_a=25℃ IF=1000[mA]	1000 hrs	0/20
	High Humidity Heat Life Test	85℃ RH=85% IF=1000[mA]	500 hrs	0/20
	Low Temperature Life Test	T_a=-20℃ IF=1000[mA]	1000 hrs	0/20
Environmental	Temperature Cycle	0B-45℃ 30min 1B↑↓20min 105℃ 30min	100 cycle	0/20
	Thermal Shock	2B-10℃ 15min 3B↑↓5sec 100℃ 15min	100 cycle	0/20
	High Temperature Storage	T_a=100℃	1000 hrs	0/20
	Humidity Heat Storage	T_a=85% RH=85%	500 hrs	0/20

Judgment criteria of failure for the reliability

Measuring items	Symbol	Measuring conditions	Judgment criteria for failure
Forward voltage	V_F(V)	IF=1000m[A]	Over U^1x1.2
Reverse current	I_R(μA)	V_R=5V	Over U^1x2
Luminous intensity	I_V(mw)	IF=1000m[A]	Below S^1x0.5

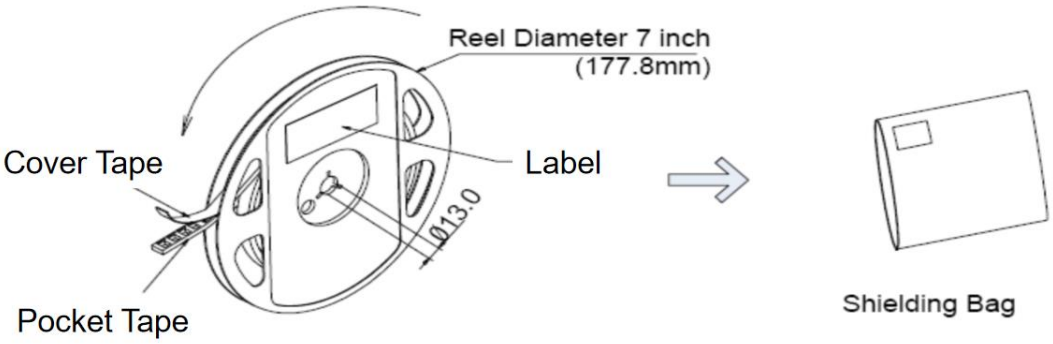
Taping and packaging specifications(Units: mm)



Package Method(unit: mm)

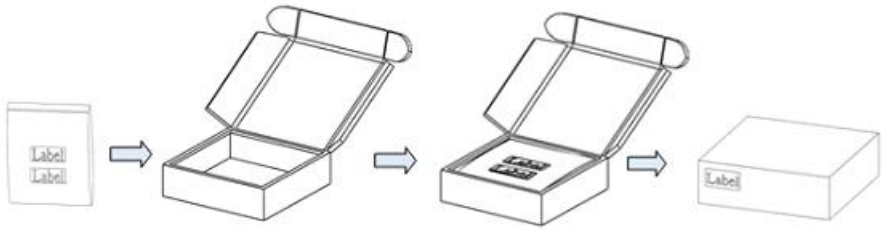
Anti-Static Reel (7 inch)&Shielding Bag

- Max 500pcs/reel
- Min 100pcs/reel



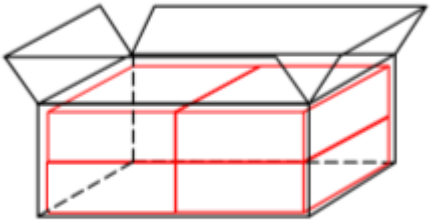
Small Box

- Max 7 bags in 1 inner box
- L * W * H=270*255*100mm



Outer box(small)

- 4 inner boxes in one carton
- L *W*H=525*285*220mm



Outer box(large)

- 8 inner boxes in one carton
- L *W*H=570*280*470mm