

N3535P35R003WGAS

High Power LED 395nm Emitter



Key Features

- 1.Emitted Color:395nm.
- 2.Lens:Glass.
- 3.3.5*3.5*1.4mm 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 ROHS standard.
- 8.ALN of substrate.
- 9.Very low Thermal Resistance (2.89°C/W)
- 10.Very high Radiant Flux density.

Typical Applications

Curing

Detection

Description

Absolute Maximum Ratings Ta=25°C

Parameter	Symbol	Value			Unit	Test condition
		Min.	Typ.	Max.		
Forward Voltage	Vf	3.2	3.5	3.8	V	If=1000mA
Peak Wavelength	λ_p	390	395	400	nm	If=1000mA
Reverse Current	Ir	-	-	10	μ A	If=1000mA
Viewing angle	2 θ 1/2	-	120	125	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 Pulsed Forward Current	IFP	1500	mA
Reverse Voltage	VR	5	V
Operating Temperature	Topr	-30~+80	°C
Storage Temperature	Tstg	-40~+100	°C
Soldering Temperature	Tsol	260for5sec Δ	°C

N	3535	P3	5R	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:120°
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 $\pm 0.05V$ 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)
19	1800	1900
20	1900	2000
21	2000	2100
22	2100	2200

Notes For Table1:

- 1.Radiant flux performance guaranteed within published operating conditions. LED Ritter maintains a tolerances of $\pm 10\%$ 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

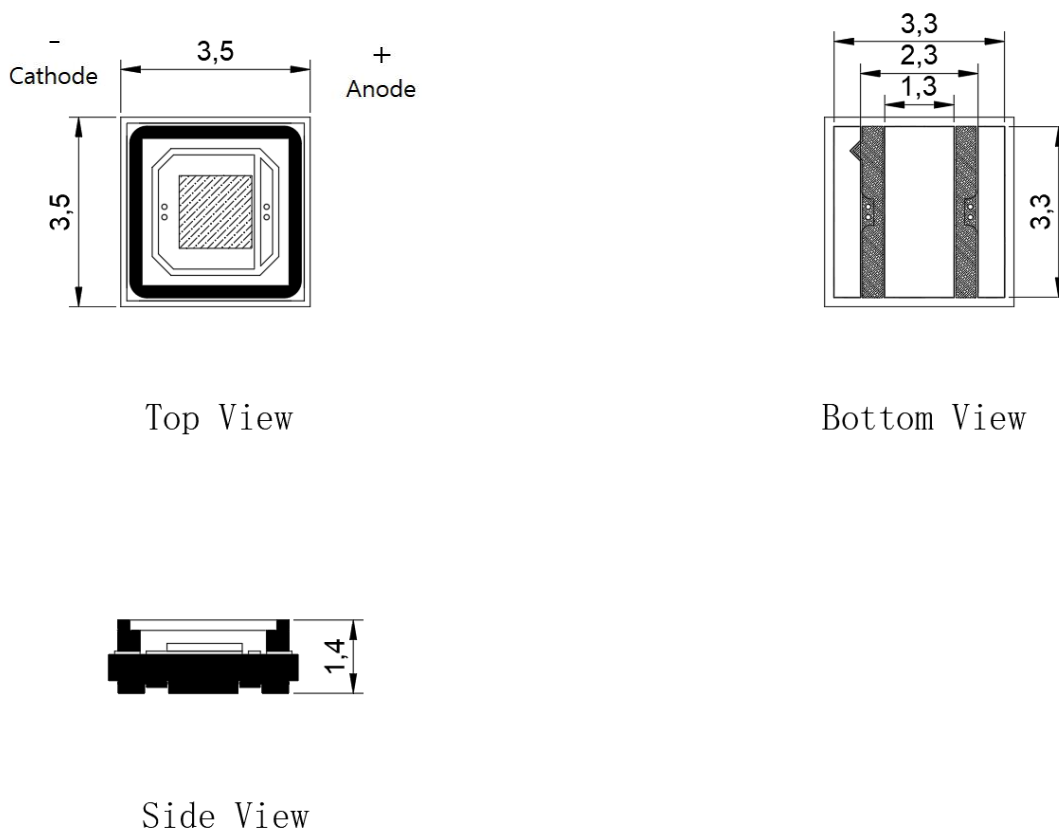
Notes For Table3:

1. LED Ritter maintains a tolerance of $\pm 2.5nm$ on peak wavelength measurements.

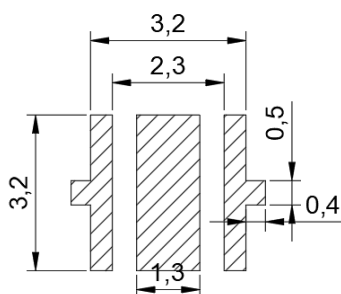
Average Rdiant Flux Maintenance Projections

Base on long-term WHTOL testing, LED Ritter projects that the Series will deliver, on average, 70% Radiant Flux Maintenance at 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°C.

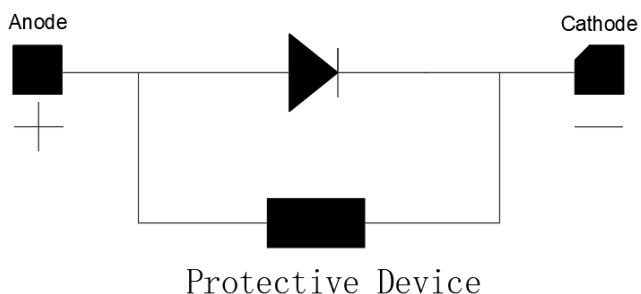
Mechanical Dimensions(mm)



Recommend Solder Pad (mm)



Electrical Internal Circuit



Recommended pad layout

Notes for Figure 1

1. Unless otherwise noted, the tolerance is ± 0.20 mm.
2. Thermal contact, is electrically neutral.

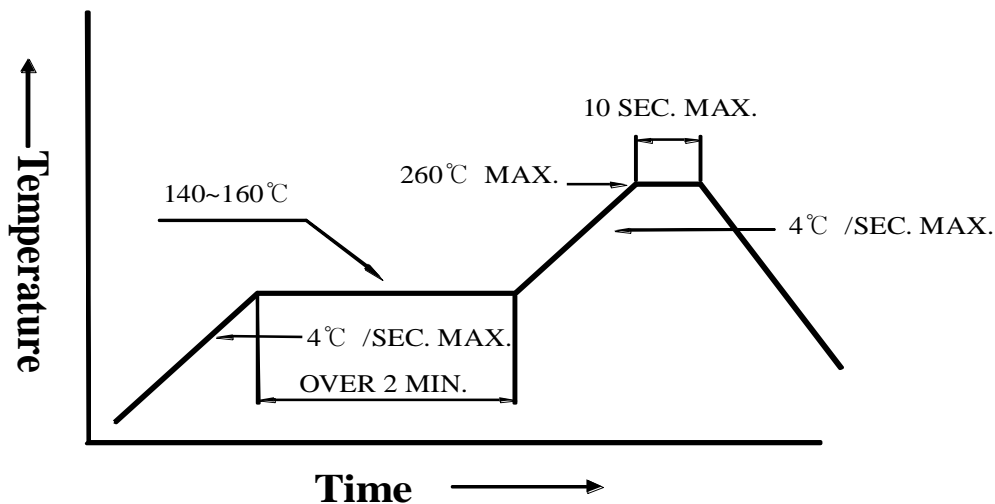
Reflow Soldering Profile

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

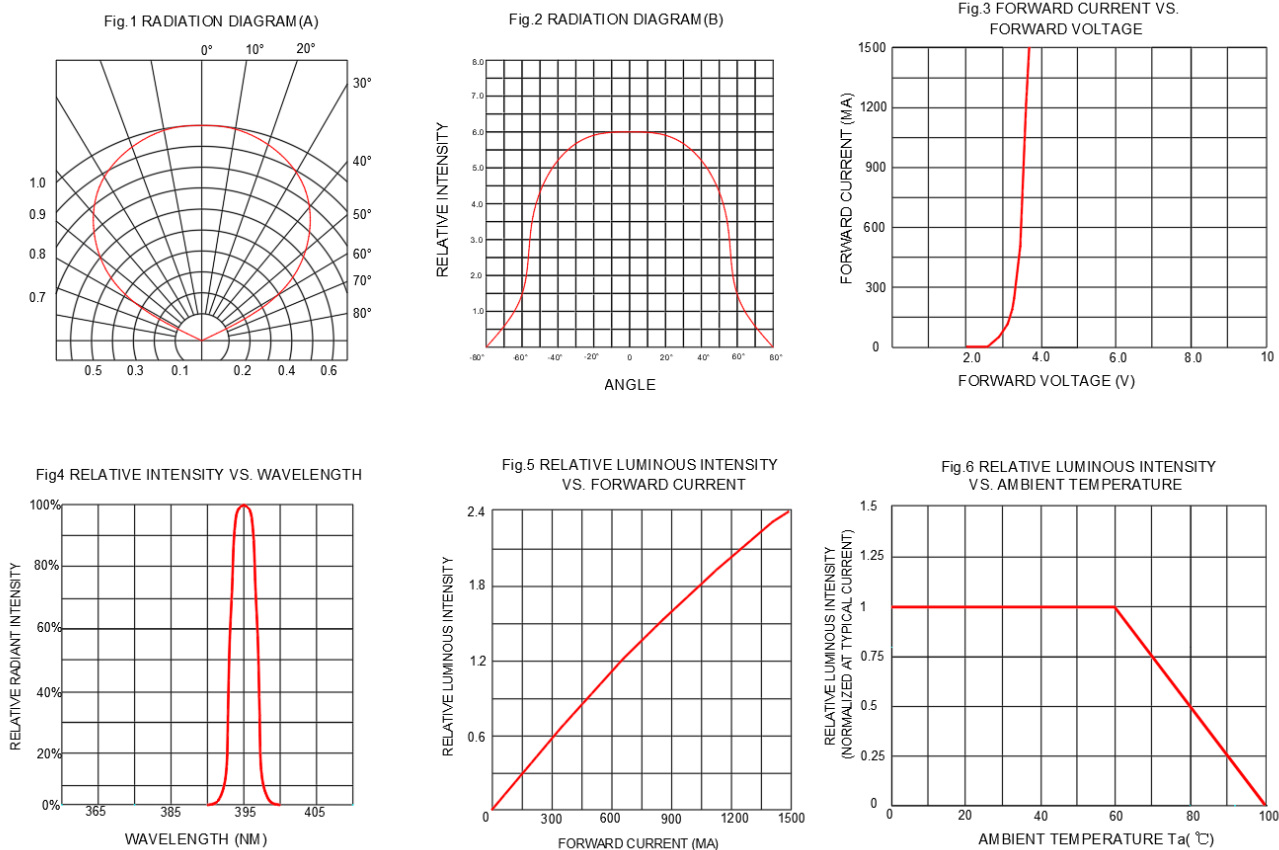
Operation heating : 260°C(Max)within 10seconds.(Max)

Gradual Cooling (Avoid quenching).

Figure 2: Reflow soldering profile for lead free soldering.



Typical Radiation Pattern



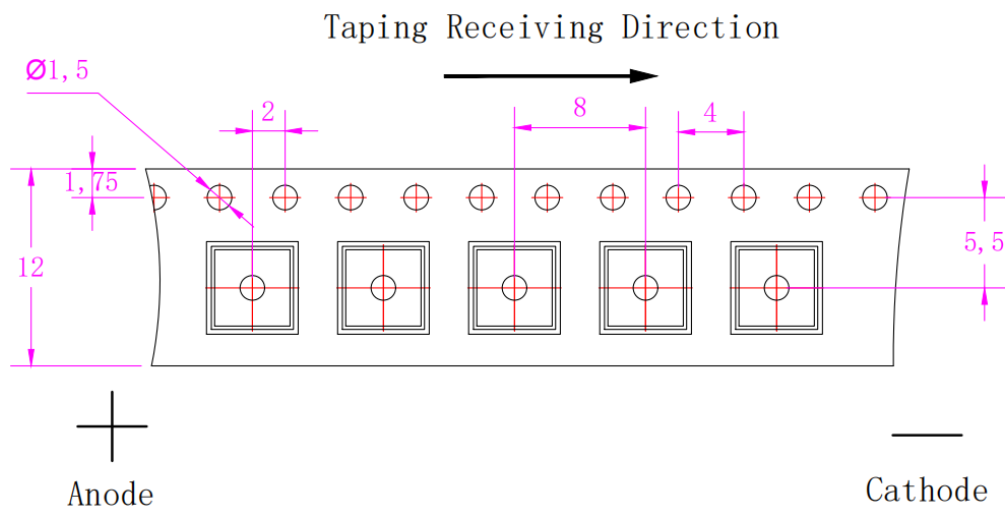
Test items and results of reliability

Type	Test Item	Test Conditions	Note	Number of
				Damaged
Operation	Life Test	$T_a=25^{\circ}\text{C}$	1000 hrs	0/20
		$I_F=1000[\text{mA}]$		
	High Humidity Heat Life Test	$85^{\circ}\text{C RH}=85\%$	500 hrs	0/20
		$I_F=1000[\text{mA}]$		
	Low Temperature Life Test	$T_a=-20^{\circ}\text{C}$	1000 hrs	0/20
		$I_F=1000[\text{mA}]$		
Environmental	Temperature Cycle	0B- 45°C 30min	100 cycle	0/20
		1B $\uparrow\downarrow$ 20min		
		105 $^{\circ}\text{C}$ 30min		
	Thermal Shock	2B- 10°C 15min	100 cycle	0/20
		3B $\uparrow\downarrow$ 5sec		
		100 $^{\circ}\text{C}$ 15min		
	High Temperature Storage	$T_a=100^{\circ}\text{C}$	1000 hrs	0/20
	Humidity Heat Storage	$T_a=85\%$	500 hrs	0/20
		$\text{RH}=85\%$		

Judgment criteria of failure for the reliability

Measuring items	Symbol	Measuring conditions	Judgment criteria for failure
Forward voltage	$V_F(\text{V})$	$I_F=1000\text{m}[\text{A}]$	Over $U^1 \times 1.2$
Reverse current	$I_R(\mu\text{A})$	$V_R=5\text{V}$	Over $U^1 \times 2$
Luminous intensity	$I_v(\text{mw})$	$I_F=1000\text{m}[\text{A}]$	Below $S^1 \times 0.5$

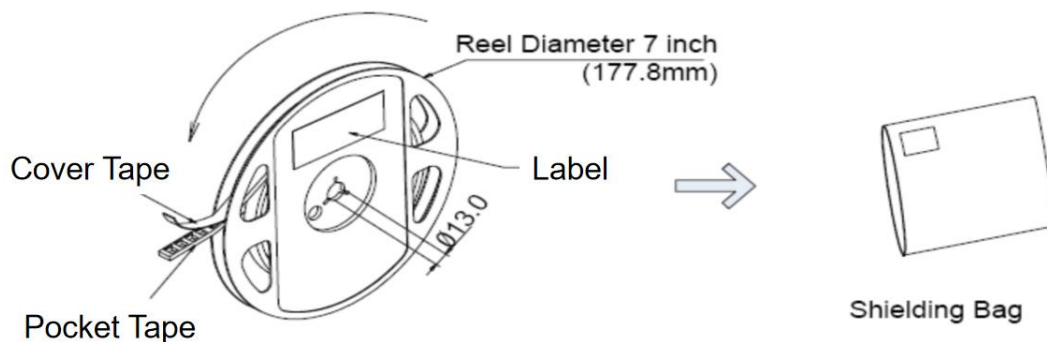
Taping and packaging specifications(Units: mm)



Package Method(unit: mm)

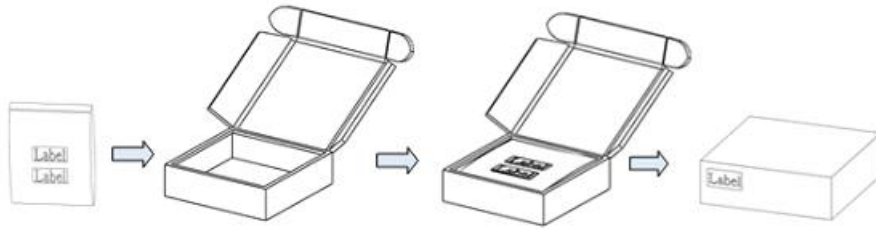
Anti-Static Reel (7 inch)&Shielding Bag

- Max 1000pcs/reel
- Min 100pcs/reel



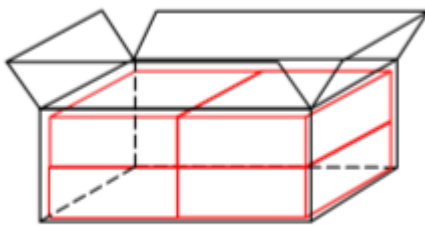
Small Box

- 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

