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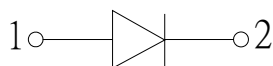
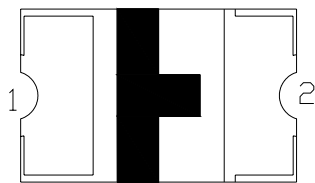
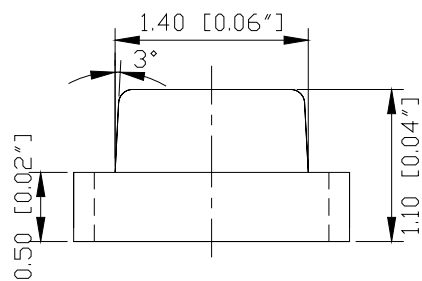
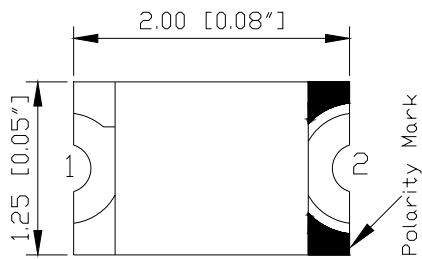
Data Sheet

REVISION	01
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APPROVAL BY	JASON
PREPARED BY	LUOFAXING

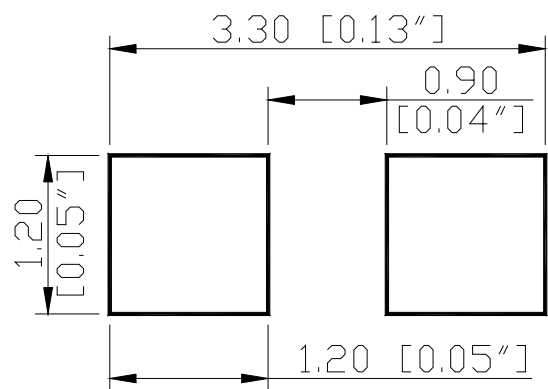
Features:

- 1. Low power consumption
- 2. High efficiency
- 3. Reliable and rugged
- 4. Chip Material: InGaN
- 5. Lens Color: Water clear
- 6. Source Color: Green

Outline Dimensions:



RECOMMEND PAD LAYOUT



Note :

- 1. All dimensions are in millimeters (inches)
- 2. Tolerance is $\pm 0.1\text{mm}$ ($0.004''$) unless otherwise noted
- 3. Specifications are subject to change without notices.

Absolute Maximum Ratings at Ta=25°C :

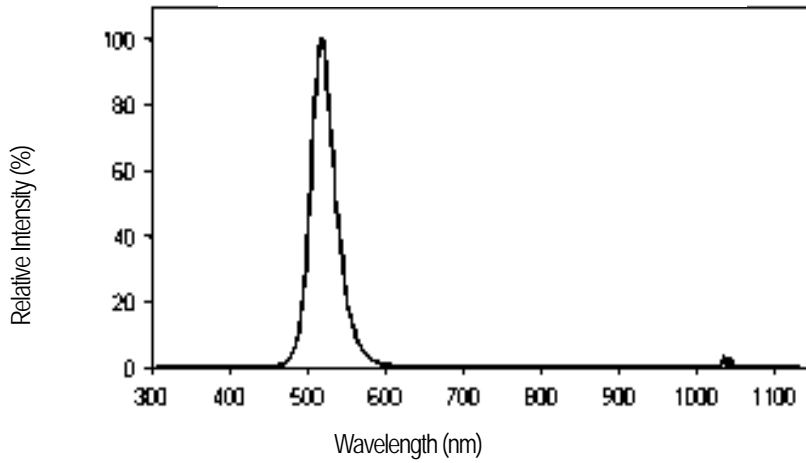
Parameter	Maximum	Unit
Power Dissipation	93	mW
Peak Forward Current (1/10 Duty Cycle,0.1ms Pulse Width)	100	mA
Continuous Forward Current	25	mA
Derating Linear From 50°C	0.4	mA/°C
Reverse Voltage	5	V
Operating Temperature Range	-20°C to + 80°C	
Storage Temperature Range	-30°C to + 85°C	
Lead Soldering Temperature [1.6mm(0.63") from body]	260°C for 3 Seconds	

Electrical/Optical Characteristics at Ta=25°C :

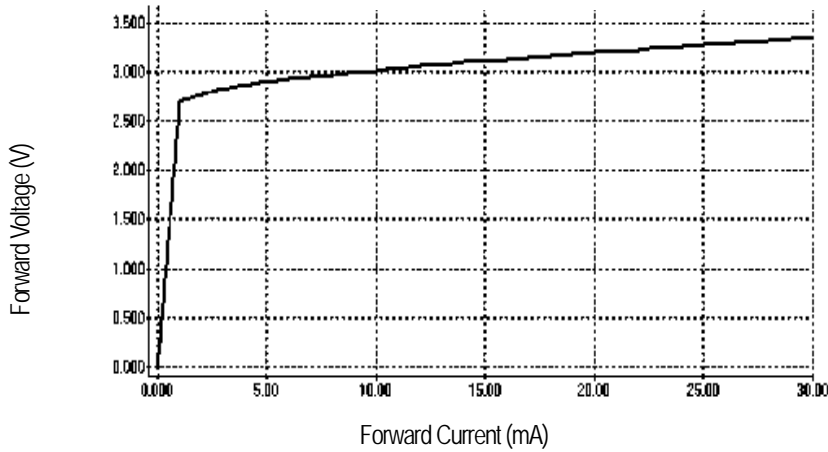
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	I _v	I _F =20mA	250	450	800	mcd
Dominant Wavelength	λ _d	I _F =20mA	520	525	530	nm
Viewing Angle	2θ 1/2	I _F =20mA		140		deg
Forward Voltage	V _F	I _F =20mA	2.8	3.2	3.7	V
Reverse Current	I _R	V _R =5V			10	uA

Typical Electrical/Optical Characteristics Curve:
(25°C Ambient Temperature Unless Otherwise Noted)

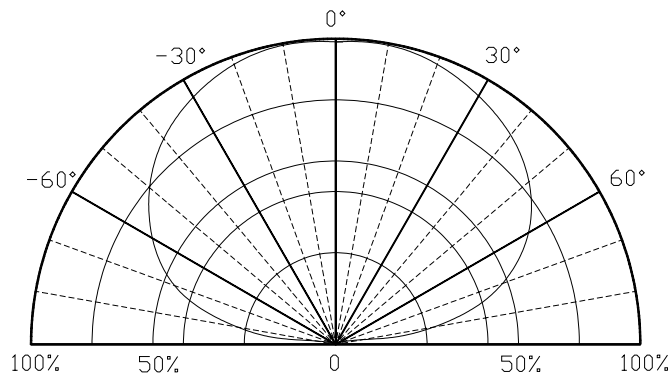
Relative Intensity vs. Wavelength

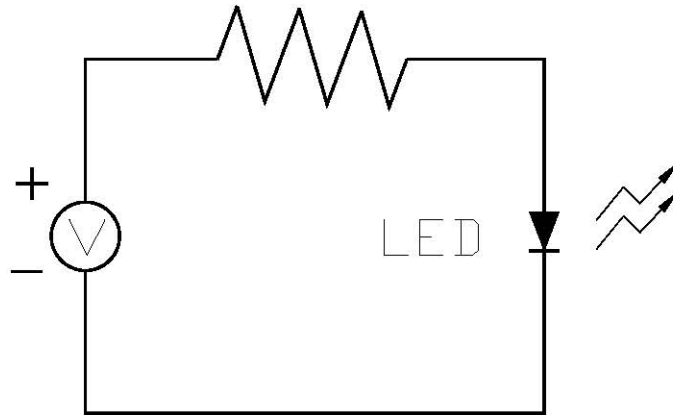


Forward Current vs. Forward Voltage



Directive Characteristics



■ Test circuit**■ Handling precautions****1. Over-current-proof**

Customer must apply resistors for protection; otherwise slight voltage shift will cause big current change (Burn out will happen).

2. Storage

2.1 It is recommended to store the products in the following conditions:

Humidity: 60% R.H. Max.

Temperature : $5^{\circ}\text{C}\sim 30^{\circ}\text{C}$ ($41^{\circ}\text{F}\sim 86^{\circ}\text{F}$)

2.2 Shelf life in sealed bag: 12 month at $< 5^{\circ}\text{C}\sim 30^{\circ}\text{C}$ and $< 30\%$ R.H. after the package is Opened, the products should be used within a week or they should be keeping to stored at ≤ 20 R.H. with zip-lock sealed.

3. Baking

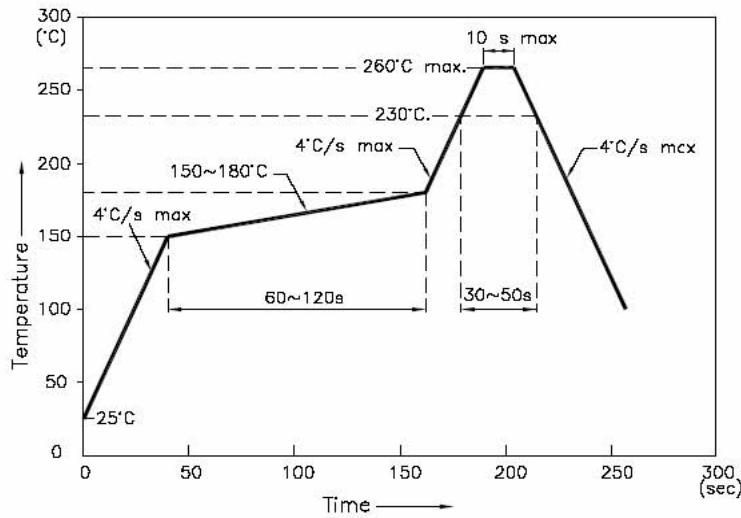
It is recommended to baking before soldering when the pack is unsealed after 72hrs. The Conditions are as followings:

3.1 $60\pm 3^{\circ}\text{C}$ x(12~24hrs) and $< 5\%$ RH, taped reel type

3.2 $100\pm 3^{\circ}\text{C}$ x(45min~1hr), bulk type

3.3 $130\pm 3^{\circ}\text{C}$ x(15~30min), bulk type

■ Reflow Temp/Time



NOTES:

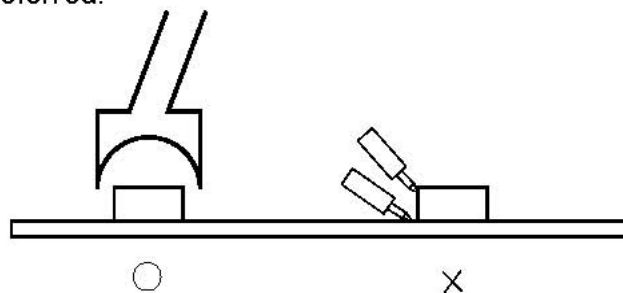
1. We recommend the reflow temperature 245°C (±5°C), the maximum soldering temperature should be limited to 260°C.
2. dont cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

■ Soldering iron

Basic spec is ≤ 5sec when 260°C. If temperature is higher, time should be shorter (+10°C → -1sec). Power dissipation of iron should be smaller than 20W, and temperatures should be controllable. Surface temperature of the device should be under 230°C.

■ Rework

1. Customer must finish rework within 5 sec under 260°C.
2. The head of iron can not touch copper foil
3. Twin-head type is preferred.



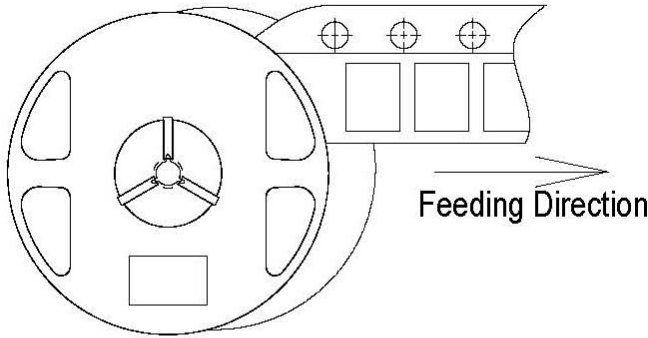
■ Avoid rubbing or scraping the resin by any object, during high temperature, for example reflow、solder etc.

Test items and results of reliability

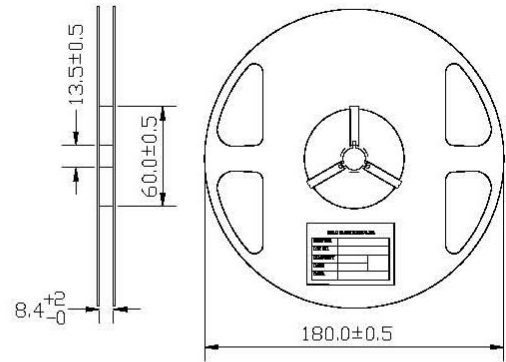
Type	Test Item	Test Conditions	Note	Number of Damaged
Environmental Sequence	Temperature Cycle	-20°C 30min ↑ ↓ 80°C 30min	100 cycle	0/22
	Thermal Shock	-20°C 15min ↑ ↓ 80°C 15min	100 cycle	0/22
	High Humidity Heat Cycle	30°C ↔ 65°C 90%RH 24hrs/1cycle	10 cycle	0/22
	High Temperature Storage	T _a =80°C	1000 hrs	0/22
	Humidity Heat Storage	T _a =60°C RH=90%	1000 hrs	0/22
	Low Temperature Storage	T _a =-30°C	1000 hrs	0/22
Operation Sequence	Life Test	T _a =25°C I _F =20mA	1000 hrs	0/22
	High Humidity Heat Life Test	60°C RH=90% I _F =10mA	500 hrs	0/22
	Low Temperature Life Test	T _a =-20°C I _F =20mA	1000 hrs	0/22

Tape & Reel of 170 series:

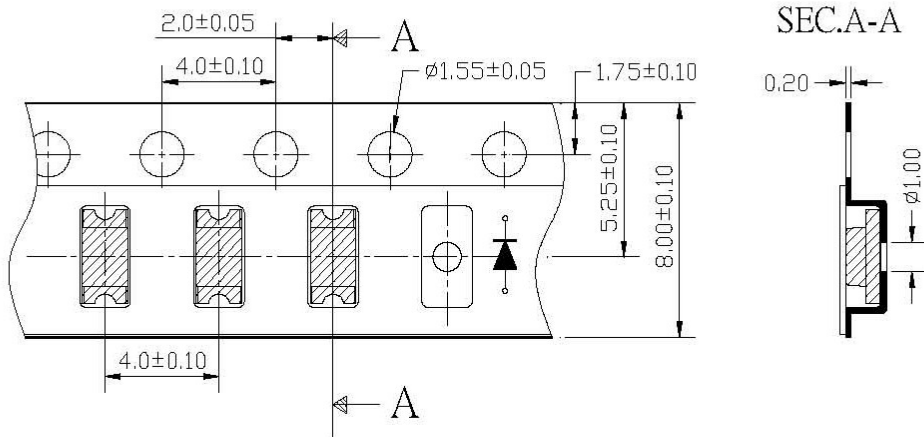
● **Feeding Direction**



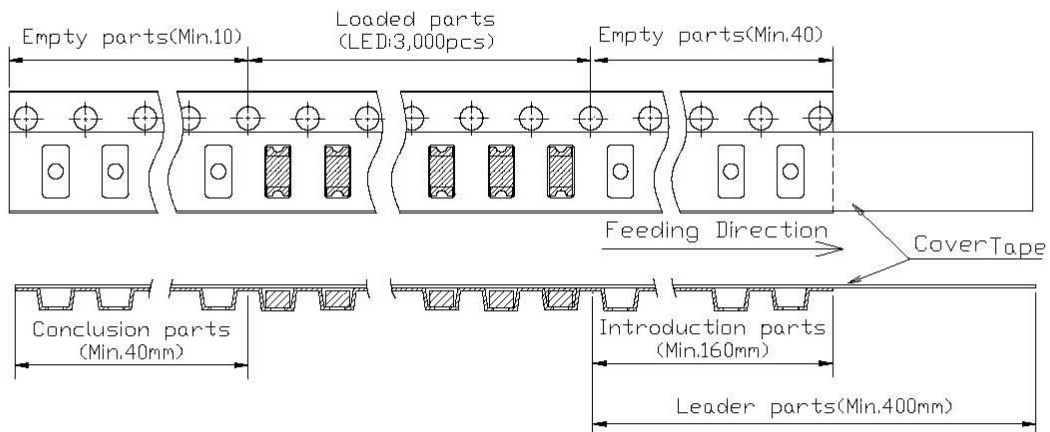
● **Dimensions of Reel (Unit: mm)**



● **Dimensions of Tape (Unit: mm)**



● **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.
4. 3,000 pcs/Reel

Bin Table:

Forward Voltage @20mA (unit:V)		
Grade	Min.	Max.
f	2.8	3.1
g	3.1	3.4
h	3.4	3.7

Luminous Intensity @20mA (unit:mcd)		
Grade	Min.	Max.
N	250	320
O	320	400
P	400	500
Q	500	630
R	630	800

Wave Length @20mA (unit:nm)		
Grade	Min.	Max.
U	520	522.5
V	522.5	525
W	525	527.5
X	527.5	530