BRIGHTEK
BRIGHTEK (EUROPE) LIMITED
Brighten Up The World With LED !

PRODUCT DATASHEET

ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
SENSITIVE DEVICES

► PLCC2 SMD

► 3528 1.85t Series

► Blue (470nm)

N0B18S73

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3528 1.85t Series

RoHS Compliant

FEATURES:

- **Package:** PLCC2 White Top View SMD Package
- **Forward Current:** 20mA
- **Forward Voltage (typ.):** 3.2V
- **Luminous Intensity (typ.):** 320mcd@20mA
- **Colour:** Blue
- **Wavelength:** 470nm
- **Viewing angle:** 120°
- **Materials:**
  - Die: InGaN
  - Resin: Silicon (Water Clear)
  - L/T Finish: Ag
- **Operating Temperature:** -20~+80°C
- **Storage Temperature:** -30~+100°C
- **Grouping parameters:**
  - Forward Voltage
  - Luminous Intensity
  - Dominant Wavelength
- **Soldering methods:** IR Reflow Soldering
- **Preconditioning:** MSL3 according to J-STD020
- **Packing:** 8mm tape with 2000/reel, ø180mm (7'')

APPLICATIONS:

- Decoration Light
- Indicator
- Switch Lights

CHARACTERISTICS:

Absolute Maximum Characteristics (Ta=25°C)

Parameter	Symbol	Ratings	Unit
DC Forward Current	I_F	30	mA
Pulse Forward Current (Duty 1/10 @10KHz)	I_{PF}	100	mA
Reverse Current @5V	I_R	50	µA
Power Dissipation	P_D	108	mW
Electrostatic Discharge (HBM)	ESD	500	V
Operating Temperature	T_{OPR}	-20~+80	°C
Storage Temperature	T_{STG}	-30~+100	°C

Electrical & Optical Characteristics (Ta=25°C)

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V_F	2.8	3.2	3.6	V	I_F=20mA
Luminous Intensity	I_V	125	320	800	mcd	I_F=20mA
Dominant Wavelength	λ_D	465	470	477	nm	I_F=20mA
Spectral Line Half Bandwidth	$\Delta \lambda$	---	30	---	nm	I_F=20mA
Viewing Angle	$2\theta_{1/2}$	---	120	---	deg	I_F=20mA

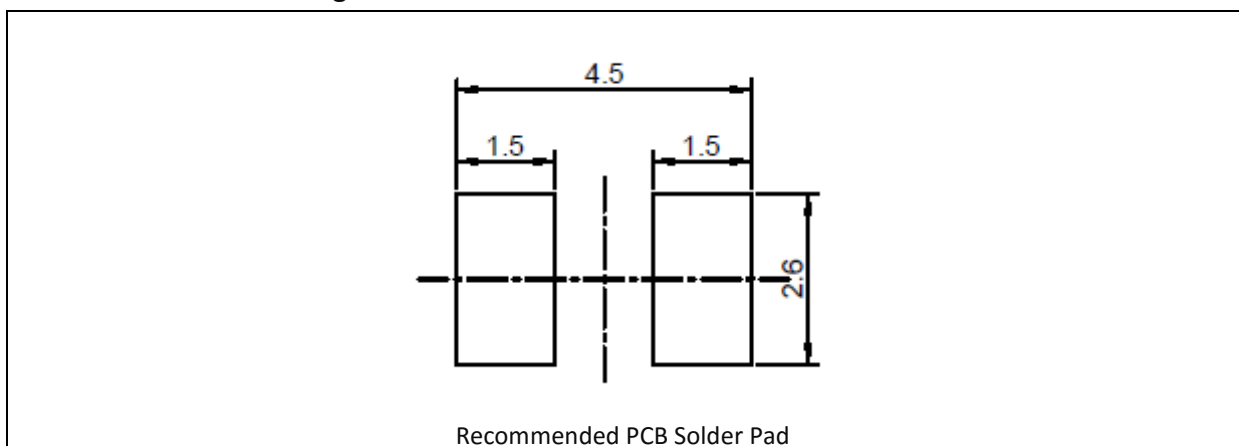1. Luminous intensity (I_V) ±15%, Forward Voltage (V_F) ±0.1V, Viewing angle($2\theta_{1/2}$) ±10°

OUTLINE DIMENSION:

Package Dimension:
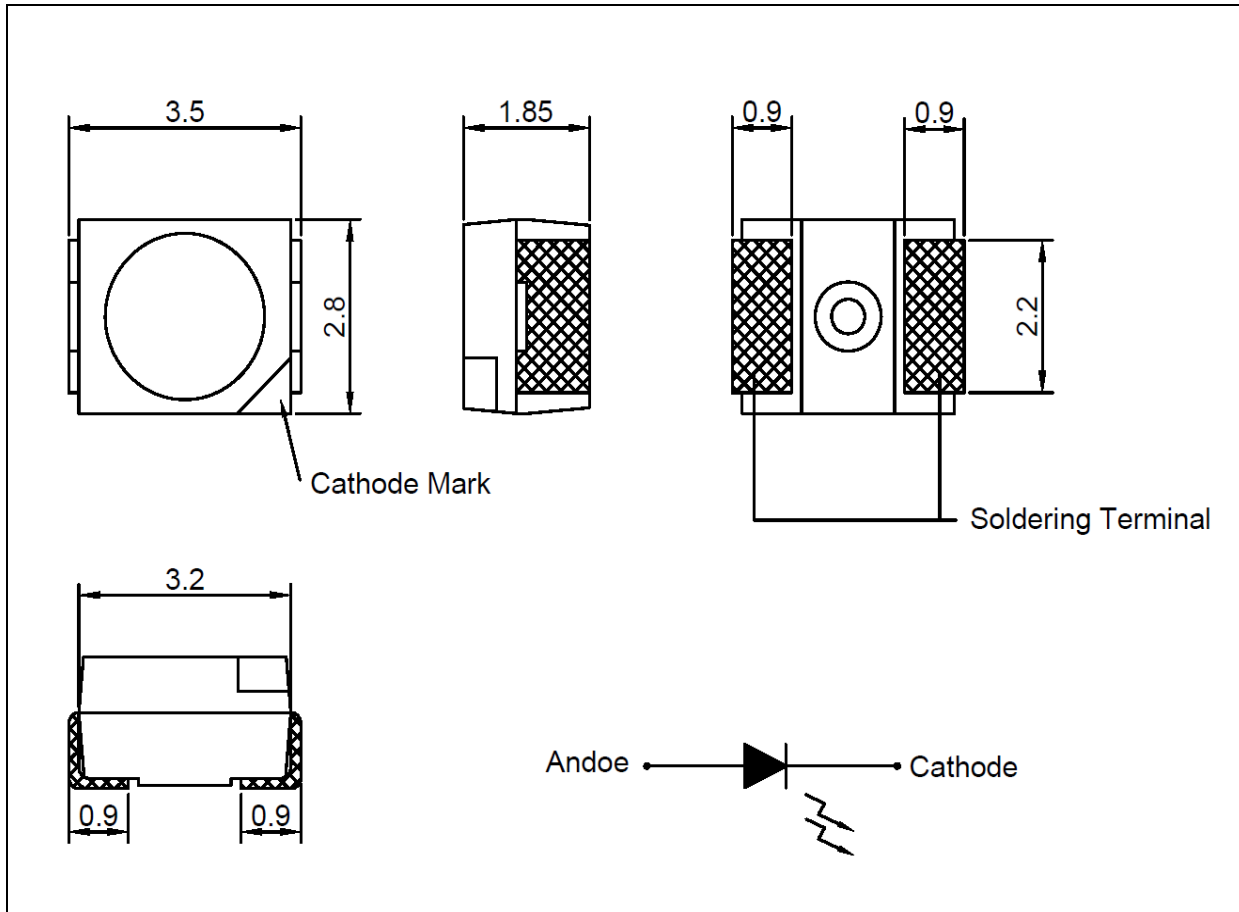
1. All dimensions are in millimetre (mm).
2. Tolerance ±0.2mm, unless otherwise noted.

Recommended Soldering Pad Dimension:

Recommended PCB Solder Pad

1. Dimensions are in millimetre (mm).
2. Tolerance ±0.1mm with angle tolerance ±0.5°.

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BINNING GROUPS:

Forward Voltage Classifications (I_F = 20mA):

Code	Min.	Max.	Unit
1	2.8	3.0	
2	3.0	3.2	V
3	3.2	3.4	
4	3.4	3.6	

Luminous Intensity Classifications (I_F = 20mA):

Code	Min.	Max.	Unit
R	125	200	
S	200	320	mcd
T	320	500	
U	500	800	

Dominant Wavelength Classifications (I_F = 20mA):

Code	Min.	Max.	Unit
0D	465	468	
0C	468	471	nm
0B	471	474	
0A	474	477	

ELECTRO-OPTICAL CHARACTERISTICS:

Relative Luminous Intensity v.s. Forward Current
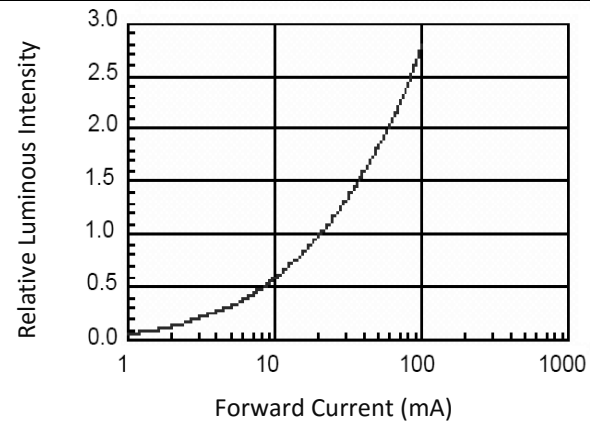
Forward Current v.s. Forward Voltage
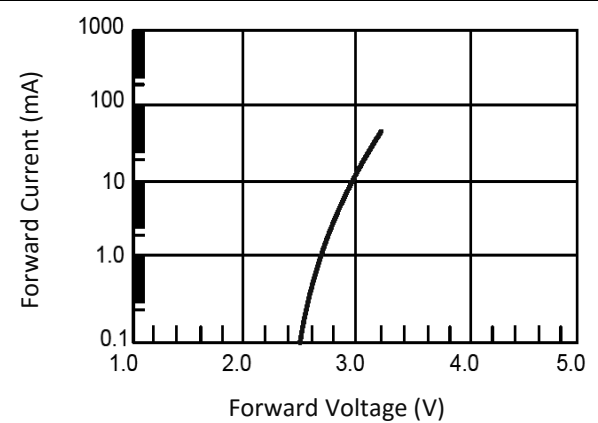
Relative Voltage v.s. Ambient Temperature
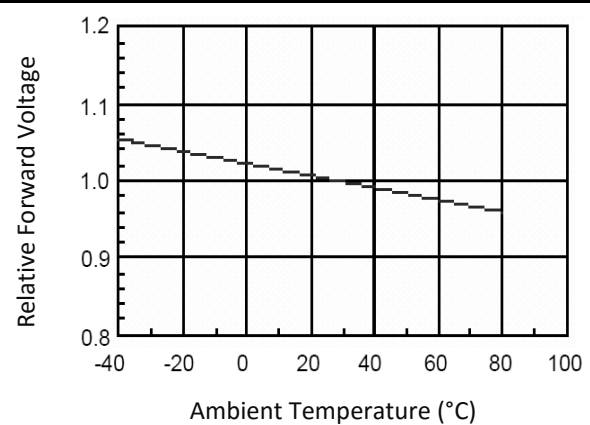
Relative Intensity v.s. Ambient Temperature
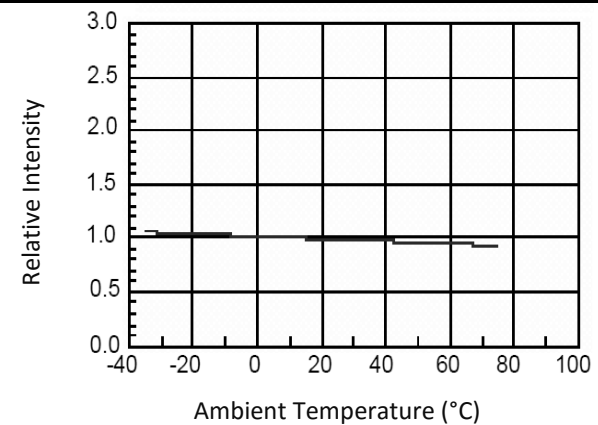
Relative Spectral Power v.s. Wavelength
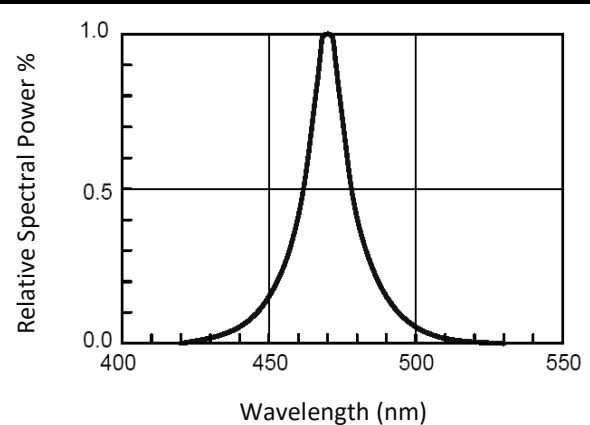
Directive Radiation

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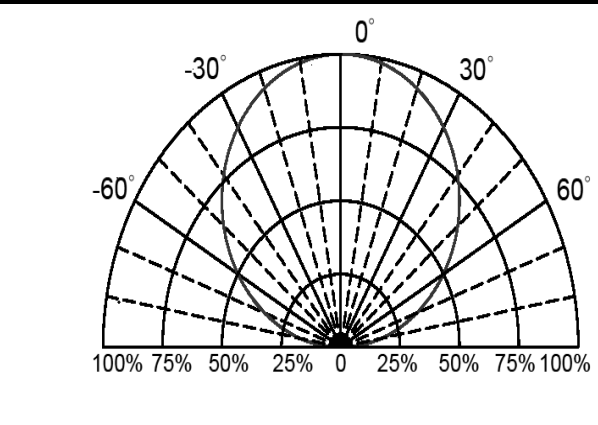
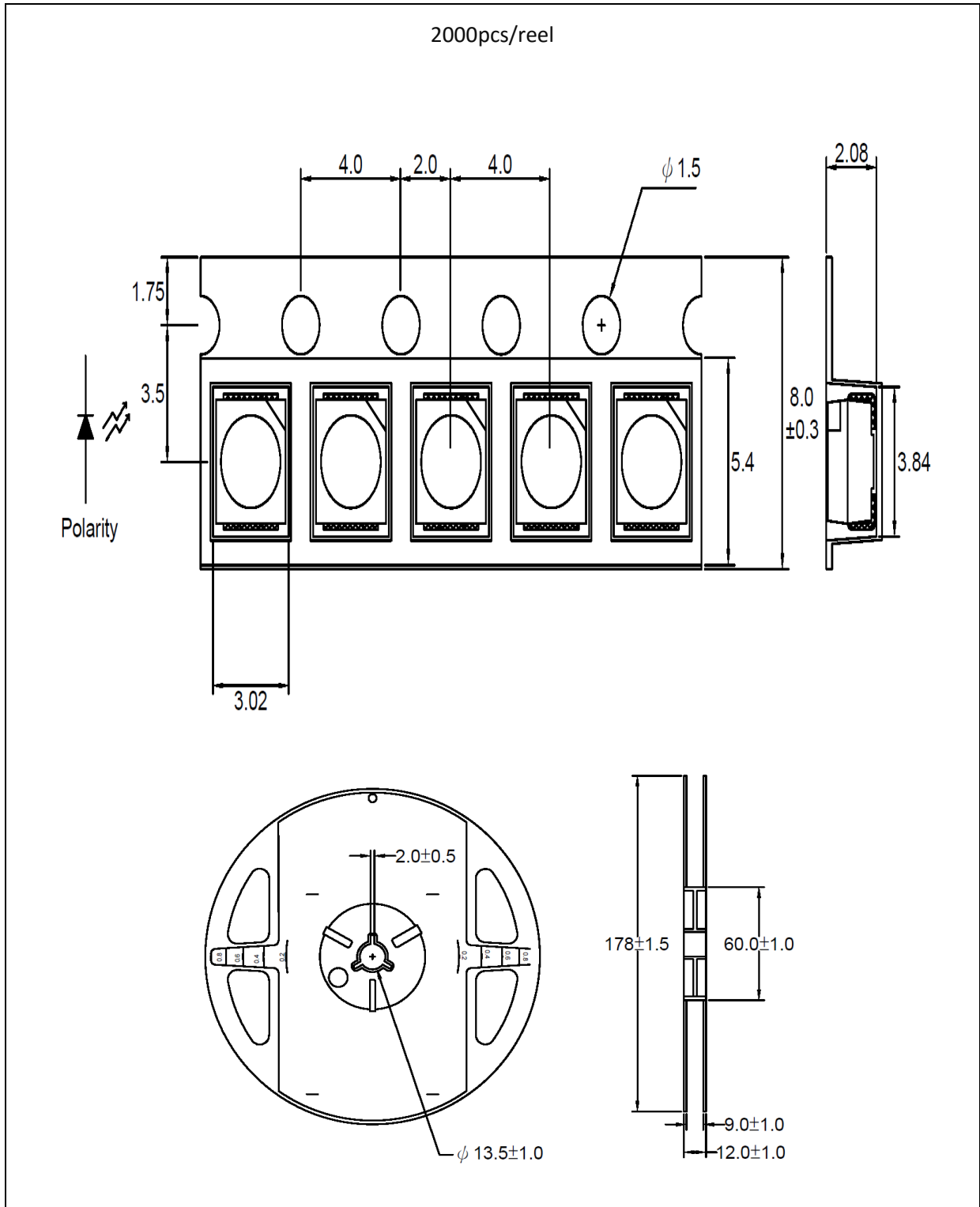## RECOMMENDED SOLDERING PROFILE:

Reflow Lead-free Solder:
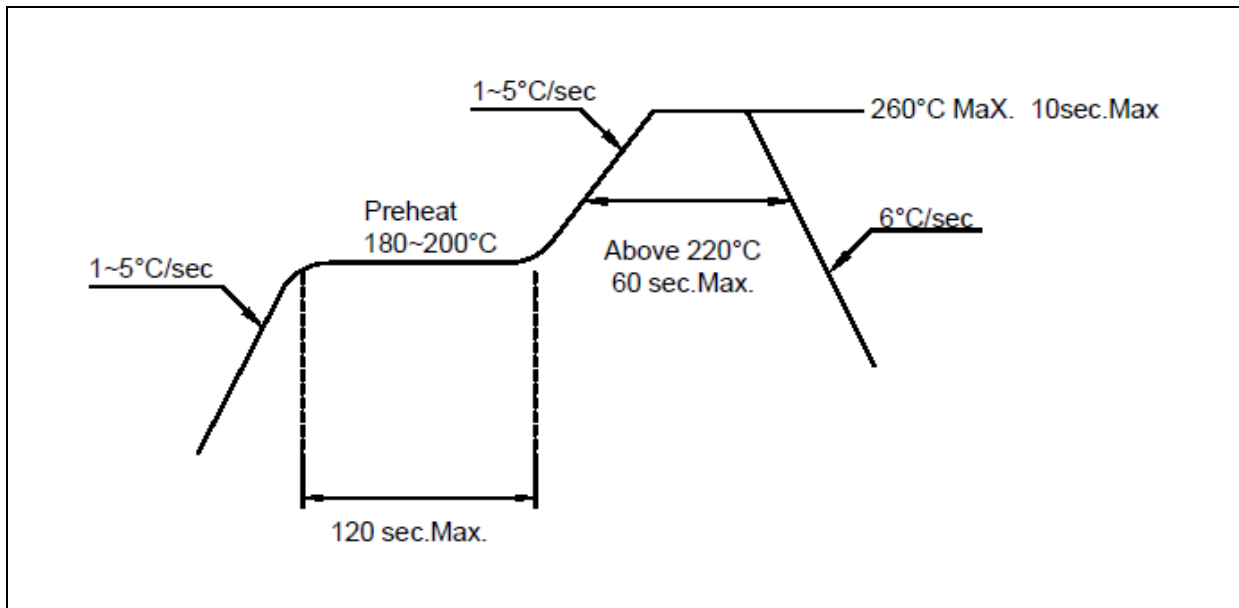
Note:
1. Maximum reflow soldering: 2 times.
2. Before, during, and after soldering, should not apply stress on the components and PCB board.

PACKING SPECIFICATION:

Reel Dimension:

2000pcs/reel

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PRECAUTIONS OF USE:

Storage:

It is recommended to store the products in the following conditions:
- Humidity: 60% R.H. Max.
- Temperature: 5°C~30°C (41°F ~86°F).

Shelf life in sealed bag: 12 month at 5°C~30°C and <60% R.H.

Once the package is opened, the products should be used within a week. Otherwise, they should be kept in a damp-proof box with descanting agent and apply baking at 60°C±5°C for 15hrs before use.
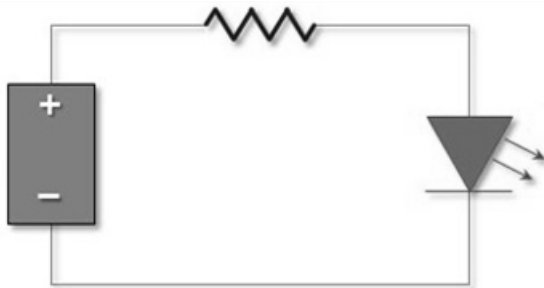
Baking:

It is recommended to bake the LED before soldering if the pack has been unsealed for longer than 24hrs. The suggested baking conditions are as followings:
- 60±5°C x 15hrs and <5%RH, taped / reel package.

It's normal to see slight color fading of carrier (light yellow) after baking in process.

Testing Circuit:

Must apply resistor(s) for protection (over current proof).

Cleaning:

Use alcohol-based cleaning solvents such as isopropyl alcohol to clean the LED carrier / package. Avoid putting any stress force directly on to the LED lens.

ESD (Electrostatic Discharge):

Static Electricity or power surge will damage the LED. Use of a conductive wrist band or anti-electrosatic glove is recommended when handing the LED all time. All devices, equipment, machinery, work tables, and storage racks must be properly grounded.

In the events of manual working in process, make sure the devices are well protected from ESD at any time.

REVISION RECORD:

Version	Date	Summary of Revision
A1.0	28/07/2015	Datasheet set-up.
A1.1	20/06/2017	Revise test condition.

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