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

ISO/TS 16949:2009 | BS EN ISO 14001:2004 | QC 080000 | IECQ HSPM

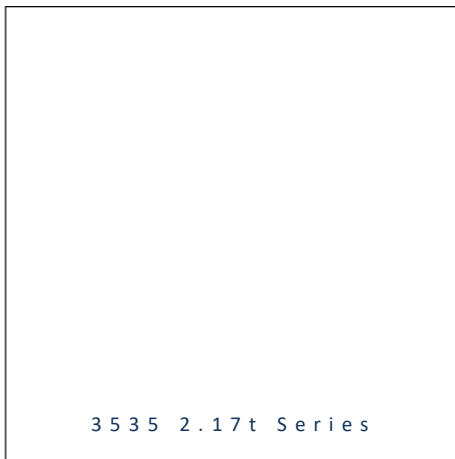# PRODUCT DATASHEET

ATTENTION OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES

► Ceramic High Power

► 3535 Series 2.17t

► Infrared (940nm)

N0F39S90

3 5 3 5   2 . 1 7 t   S e r i e s

3535 2.17t Series

RoHS Compliant | Pb

FEATURES:

- **Package:** Ceramic SMT Package with Silicon Lens
- **Forward Current:** 350mA
- **Forward Voltage (typ.):** 2.0V
- **Radiant Intensity(typ.):** 30mW/sr@350mA
- **Colour:** Infrared (IR)
- **Wavelength:** 940nm
- **Viewing angle:** X=135° Y=70°
- **Materials:**
  - Die: AlGaAs
  - Resin: Silicon (Water Clear)
  - L/F: Ceramic
- **Operating Temperature:** -40~+85°C
- **Storage Temperature:** -40~+100°C
- **Grouping parameters:**
  - Forward Voltage
  - Radiant Intensity
  - Peak Wavelength
- **Soldering methods:** Reflow
- **Preconditioning:** MSL3 according to J-STD020
- **Packing:** 12mm tape with 100pcs Min./reel, ø180mm (7'')

APPLICATIONS:

- Security Camera
- Motion Detection
- Night Viewer
- Switch Sensor
- Smoke Detector

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CHARACTERISTICS:

Absolute Maximum Characteristics (Ta=25°C)

Parameter	Symbol	Ratings	Unit
DC Forward Current	I_F	500	mA
Pulse Forward Current Duty 1/10@10KHz	I_{PF}	1000	mA
Reverse Current @5V	I_R	10	μA
Power Dissipation	P_D	1.3	W
Junction Temperature	T_j	115	°C
Electrostatic Discharge (HBM) 100pf/1.5KΩ	ESD	2000	V
Electrostatic Discharge (MM) 200pf/0KΩ		150	V
Operating Temperature	T_{OPR}	-40~+85	°C
Storage Temperature	T_{STG}	-40~+100	°C
Thermal Resistance	R_{th}	8	°C/W
Soldering Temperature	T_P	260	°C

Electrical & Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Forward Voltage	V_F	1.1	---	2.6	V	I_F=350mA
Radiant Intensity	Ie	10	30	---	mW/sr	I_F=350mA
Peak Wavelength	λ_P	---	940	---	nm	I_F=350mA
Spectral Half Width	Δλ	---	40	---	nm	I_F=350mA
Viewing Angle	$2\theta_{1/2}$	---	X=135 Y=70	---	deg	I_F=350mA

1. Radiant Intensity ±15%, Forward Voltage ±0.1V

2

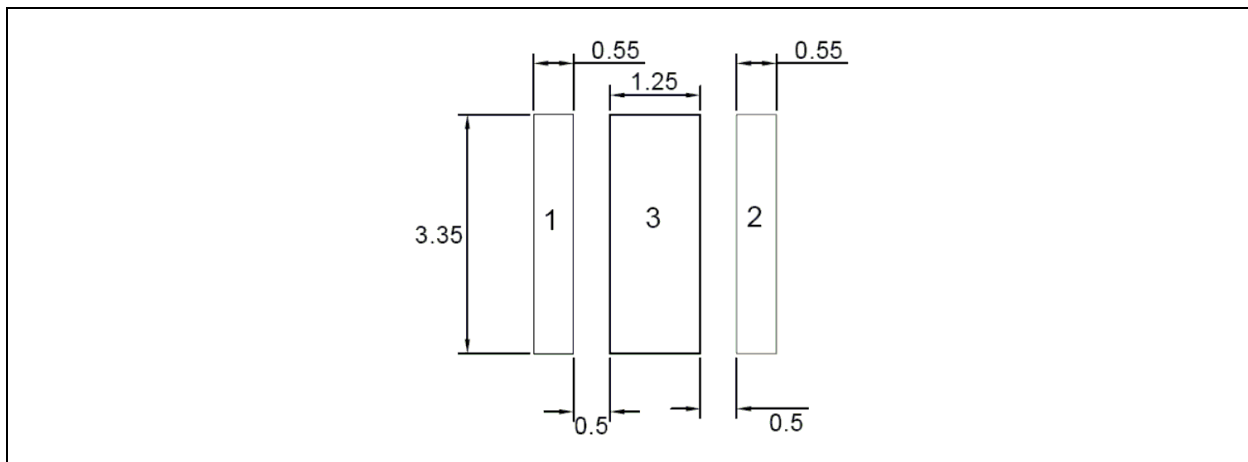## OUTLINE DIMENSION:

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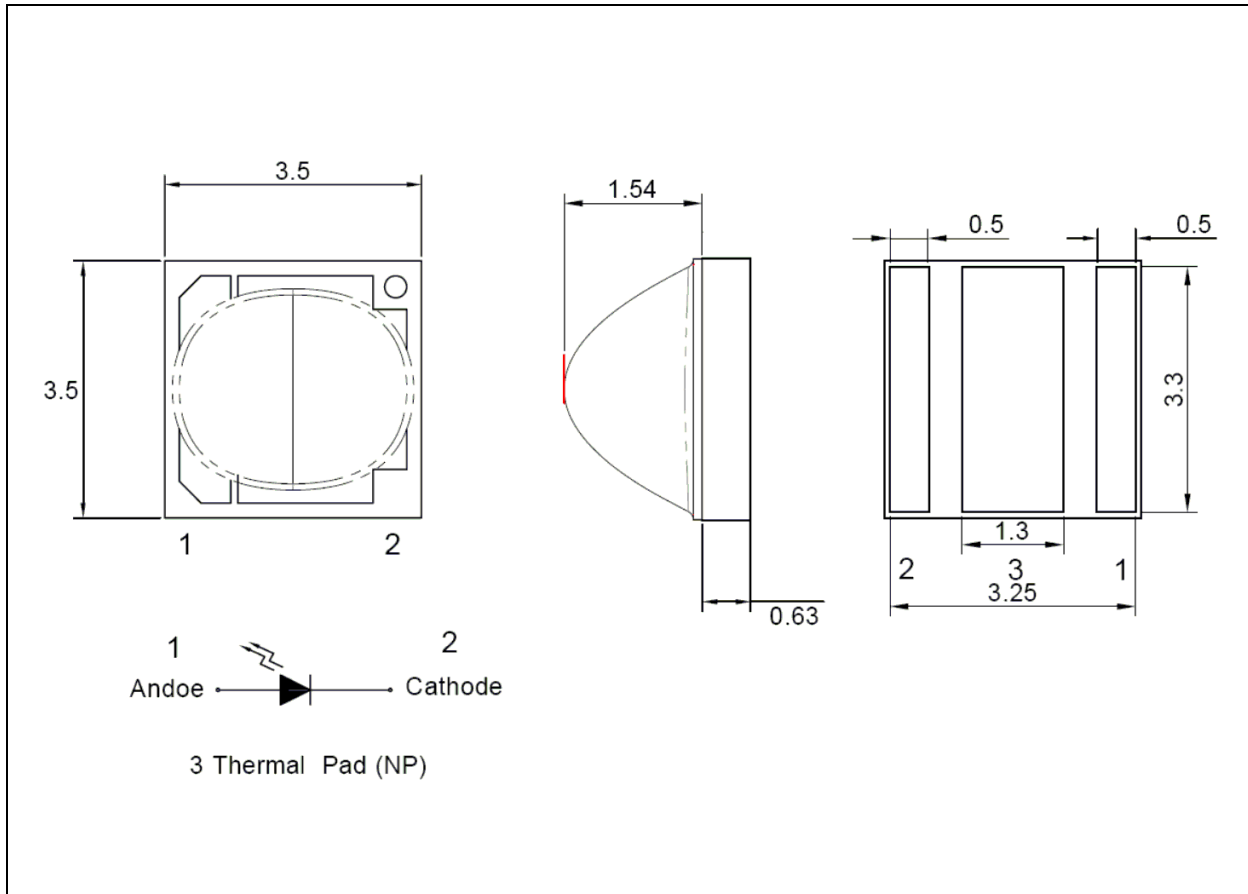
1. All dimensions are in millimetre (mm).
2. Tolerance ±0.2mm, unless otherwise noted.

Recommended Soldering Pad Dimension:

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 = 350mA):

Code	Min.	Max.	Unit
1	1.1	1.4	
2	1.4	1.7	
3	1.7	2.0	V
4	2.0	2.3	
5	2.3	2.6	

Radiant Intensity Classifications (I_F = 350mA):

Code	Min.	Max.	Unit
C10	10	20	
D1	20	30	mW/sr
D2	30	40	
D3	40	50	

Peak Wavelength Classifications (I_F = 350mA):

Code	Min.	Max.	Unit
IR1	920	960	nm

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ELECTRO-OPTICAL CHARACTERISTICS:

Relative Intensity (350mA) v.s. Forward Current	Forward Current v.s. Forward Voltage
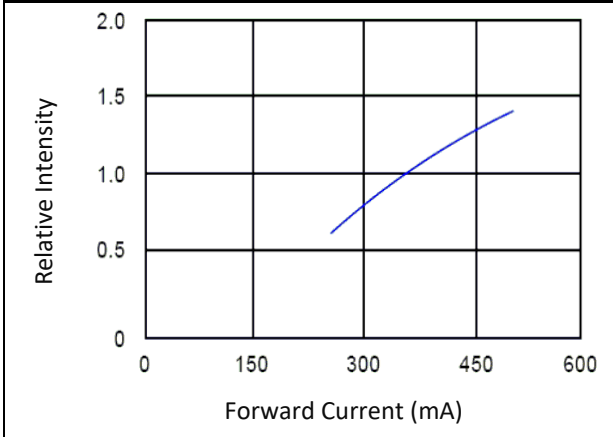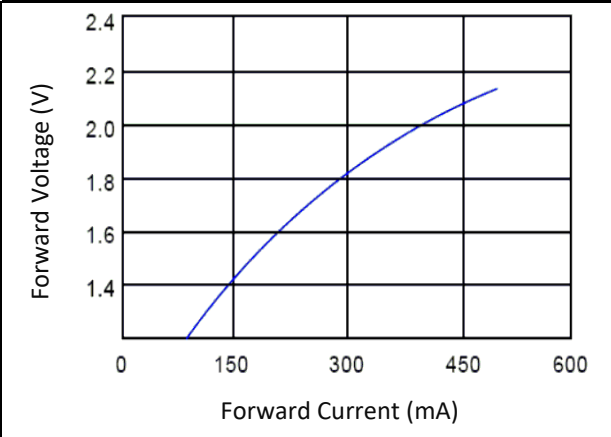
Relative Spectral Power v.s. Wavelength	Max. Driving Current v.s. Ambient Temperature
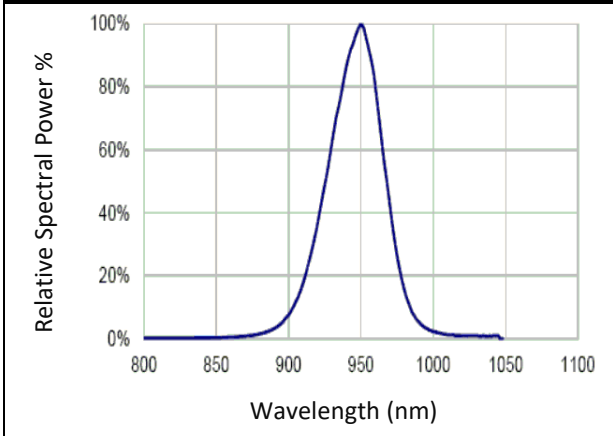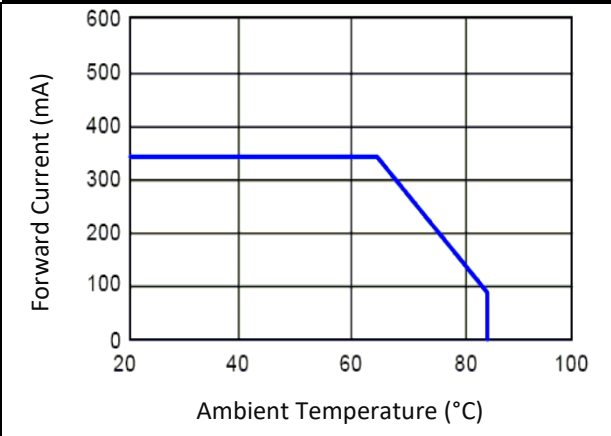
Directive Radiation

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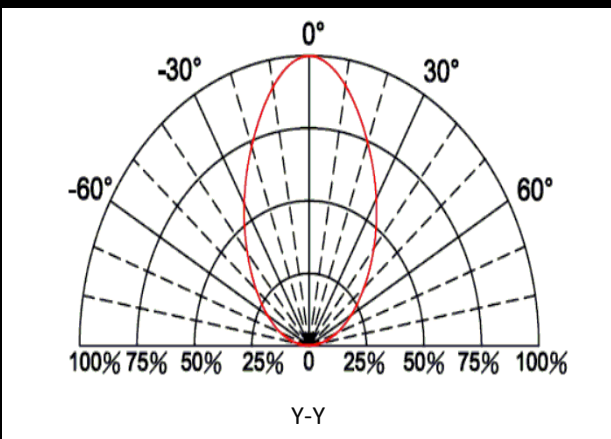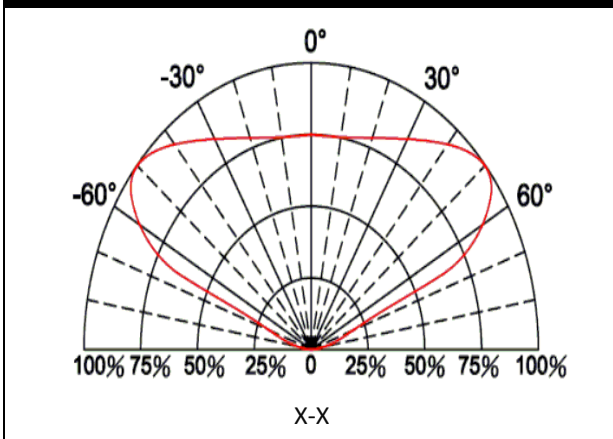
RECOMMENDED SOLDERING PROFILE:
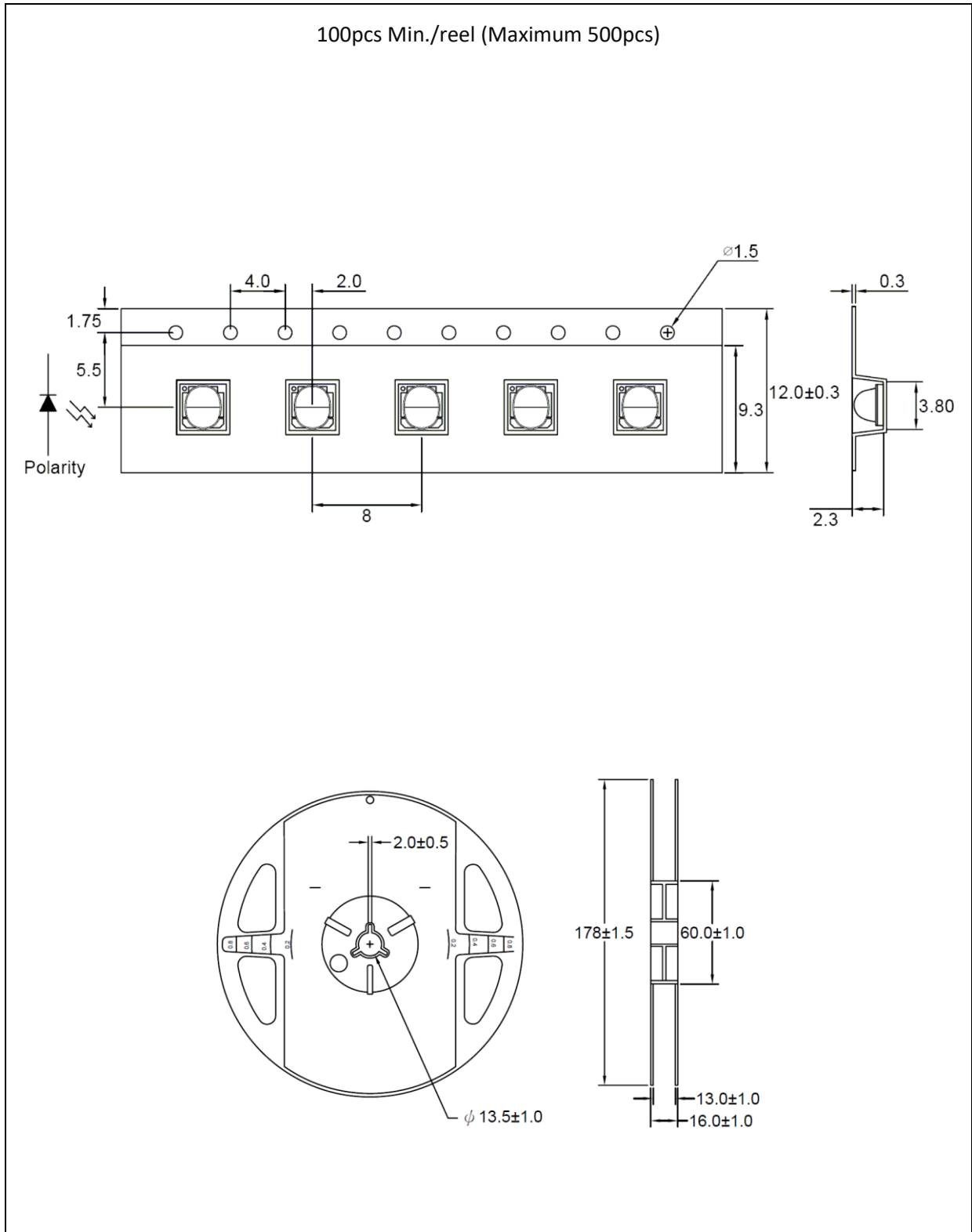
Reflow Lead-free Solder:
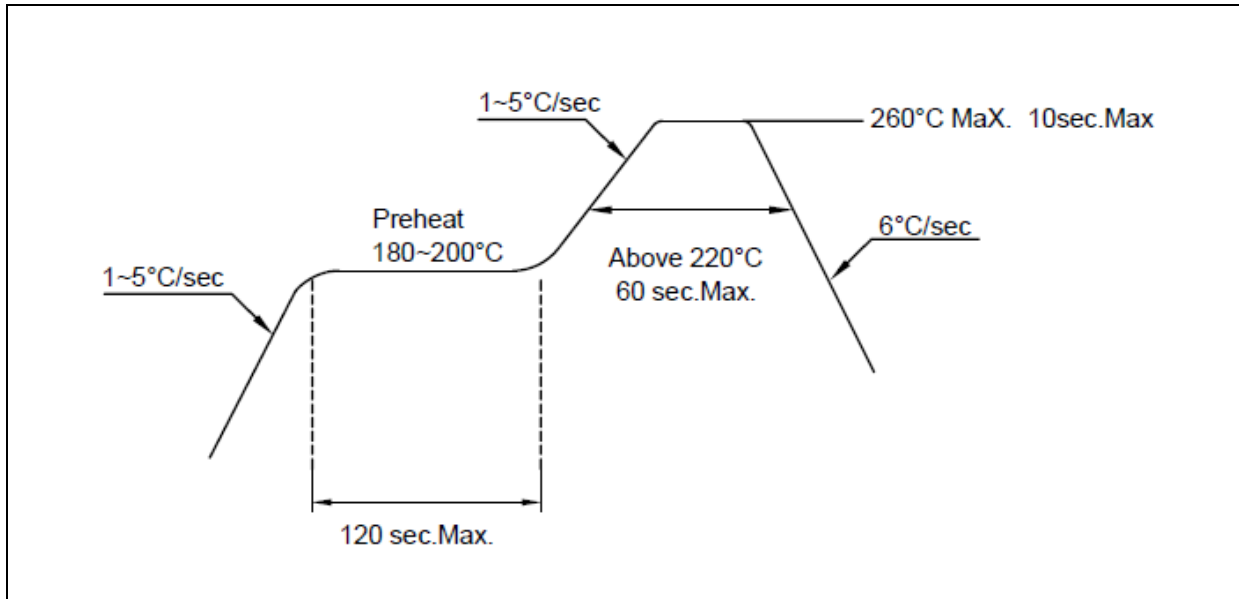
Note:
1. Maximum reflow soldering: 2 times.
2. Before, during, and after soldering, should not apply stress on the components and PCB board.

PACKING SPECIFICATION:

Reel Dimension:

100pcs Min./reel (Maximum 500pcs)

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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 24hrs before use.

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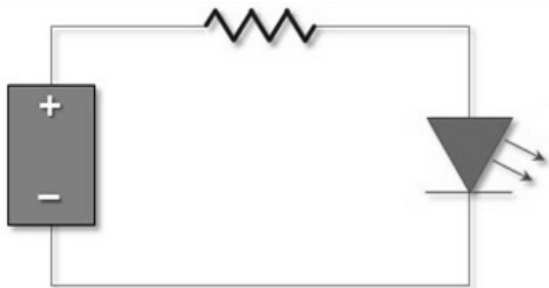
Must apply resistor(s) for protection (over current proof).

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	20/07/2017	Datasheet set-up.

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