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

PRODUCT DATASHEET

CAUTION
HIGH INTENSITY ULTRAVIOLET LIGHT — WEAR EYE PROTECTION

ATTENTION OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES

► Ceramic High Power

► 3939 1.53t Series

► UV (270~280nm)

N0Q63S39Z

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3939 1.53t Series

RoHS Compliant   **Pb**

FEATURES:

- **Package:** Ceramic SMT Package with Quartz Glass Lens
- **Forward Current:** 350mA
- **Forward Voltage (typ.):** 7.0V
- **Radiant Power (typ.):** 60mW@350mA
- **Colour:** Ultraviolet (UV)
- **Wavelength:** 270~280nm
- **Viewing angle:** 120°
- **Materials:**
  - Die: InGaN
  - Resin: Quartz Glass (Water Clear)
  - L/F: AlN
- **Junction Temperature:** +85°C
- **Operating Temperature:** -30~+60°C
- **Storage Temperature:** -40~+100°C
- **Grouping parameters:**
  - Forward voltage
  - Radiant power
  - Peak Wavelength
- **Soldering methods:** Reflow soldering
- **MSL:** Level 4 according to J-STD020
- **Packing:** 12mm tape with min.100pcs/reel, ø180mm (7'')

APPLICATIONS:

- Disinfection
- Sterilization
- Bio-Analysis
- Detection
- Sensor Light
- Fluorescent Spectroscopy

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CHARACTERISTICS:

Absolute Maximum Characteristics (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Maximum Forward Current	I_{MAX}	350	mA
Junction Temperature	T_j	85	°C
Thermal Resistance Junction to Solder Point	R_{THJS}	12.5	°C/W
Junction Temperature	T_J	85	°C
Operating Temperature	T_{OPR}	-30~+60	°C
Storage Temperature	T_{STG}	-40~+100	°C
Electrostatic Discharge	ESD	2000	V
Solder Temperature	T_{SOL}	245	°C

Electrical & Optical Characteristics (Ta=25°C)

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V_F	6.0	---	8.0	V	I_F=350mA
Radiant Power	P_O	40	---	80	mW	I_F=350mA
Wavelength	W_P	270	---	280	nm	I_F=350mA
Viewing Angle	$2\theta_{1/2}$	---	120	---	deg	I_F=350mA

1. Radiant Power (P_O) ±10%, Forward Voltage (V_F) ±0.2V, Viewing angle($2\theta_{1/2}$) ±10°, Wavelength (nm) ±2nm
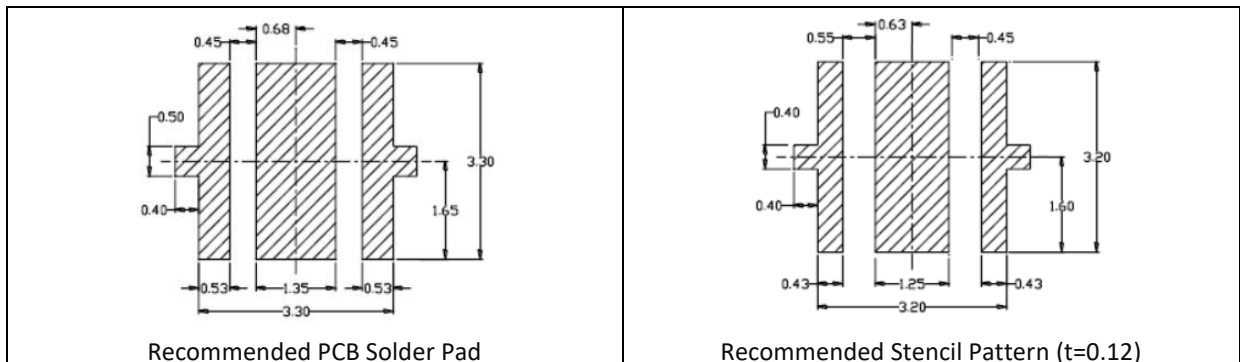
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OUTLINE DIMENSION:

Package Dimension:
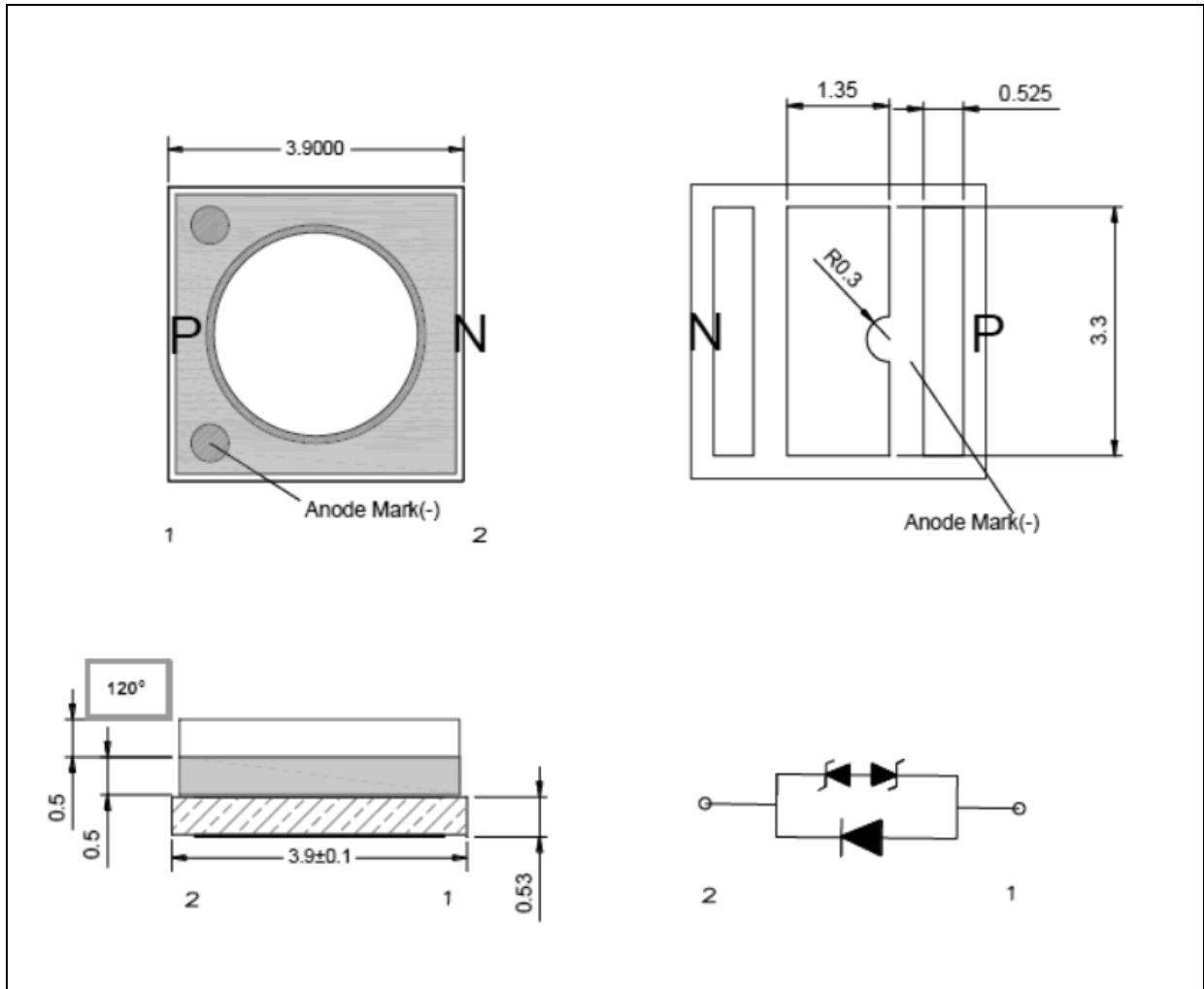
1. All dimensions are in millimetre (mm).
2. Tolerance ±0.13mm, unless otherwise noted.

Recommended Soldering Pad Dimension:

Recommended PCB Solder Pad	Recommended Stencil Pattern (t=0.12)

1. Dimensions are in millimetre (mm).
2. Tolerance ±0.13mm with angle tolerance ±0.5°.

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Forward Voltage Classifications (I_F = 350mA):

Code	Min.	Max.	Unit
V1	6.0	8.0	V

Radiant Power Classifications (I_F = 350mA):

Code	Min.	Max.	Unit
H1	40	60	mW
H2	60	80	

Wavelength Classifications (I_F = 350mA):

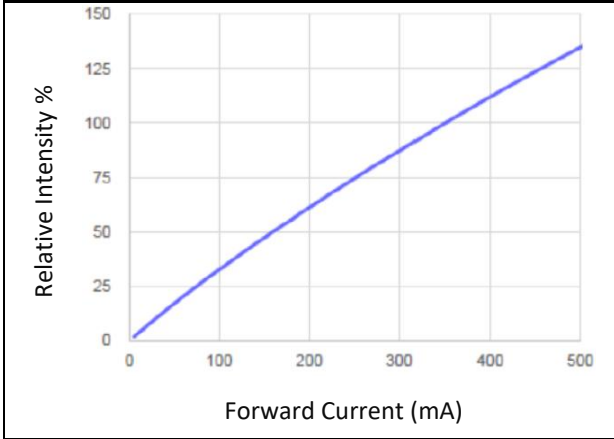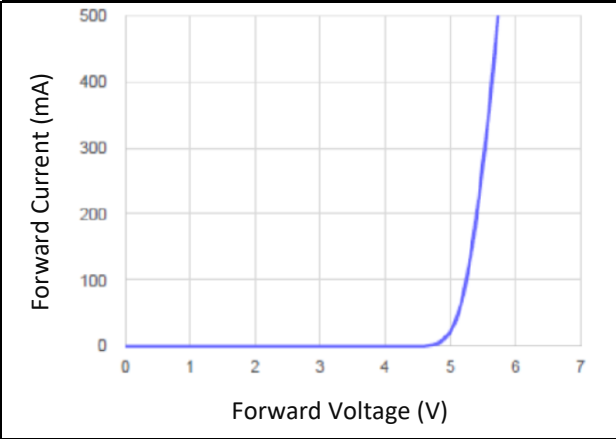| Code	Min.	Max.	Unit
UVC275	270	280	nm

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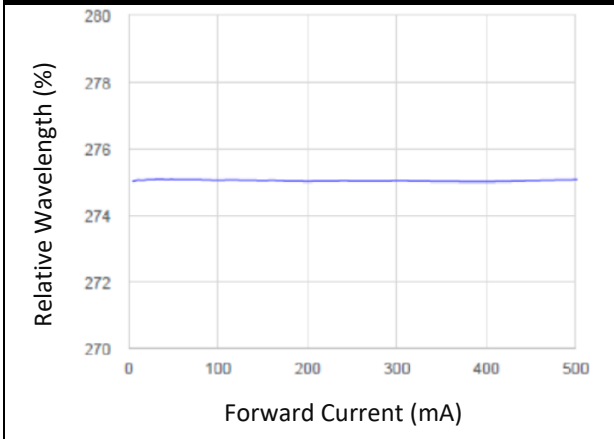## ELECTRO-OPTICAL CHARACTERISTICS:

Relative Intensity v.s. Forward Current
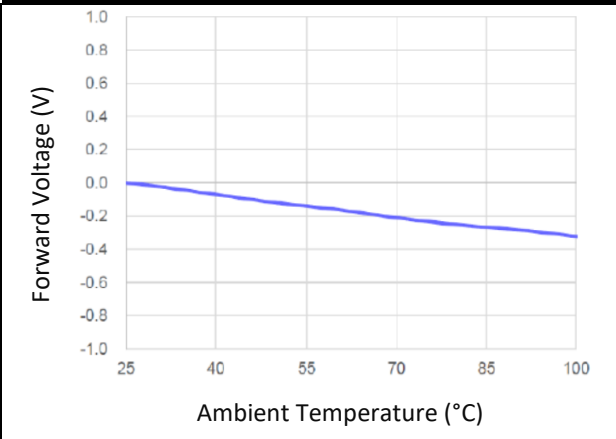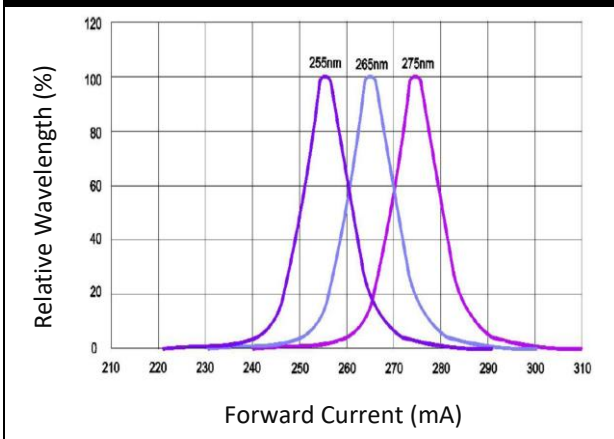

Forward Current v.s. Forward Voltage

Forward Current v.s. Wavelength

Forward Voltage v.s. Temperature

Forward Current v.s. Wavelength

Directive Radiation

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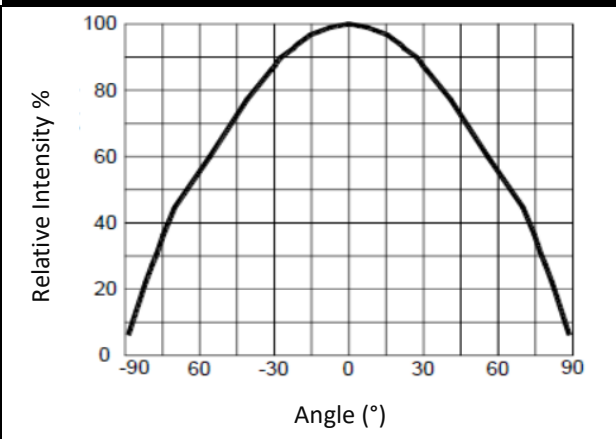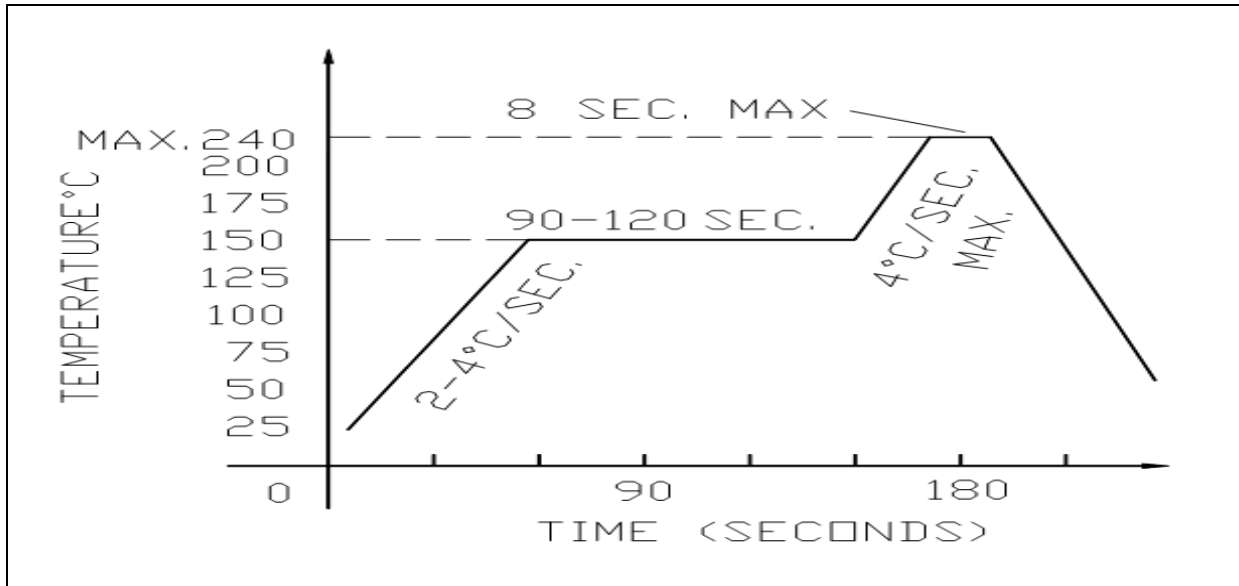
RECOMMENDED SOLDERING PROFILE:
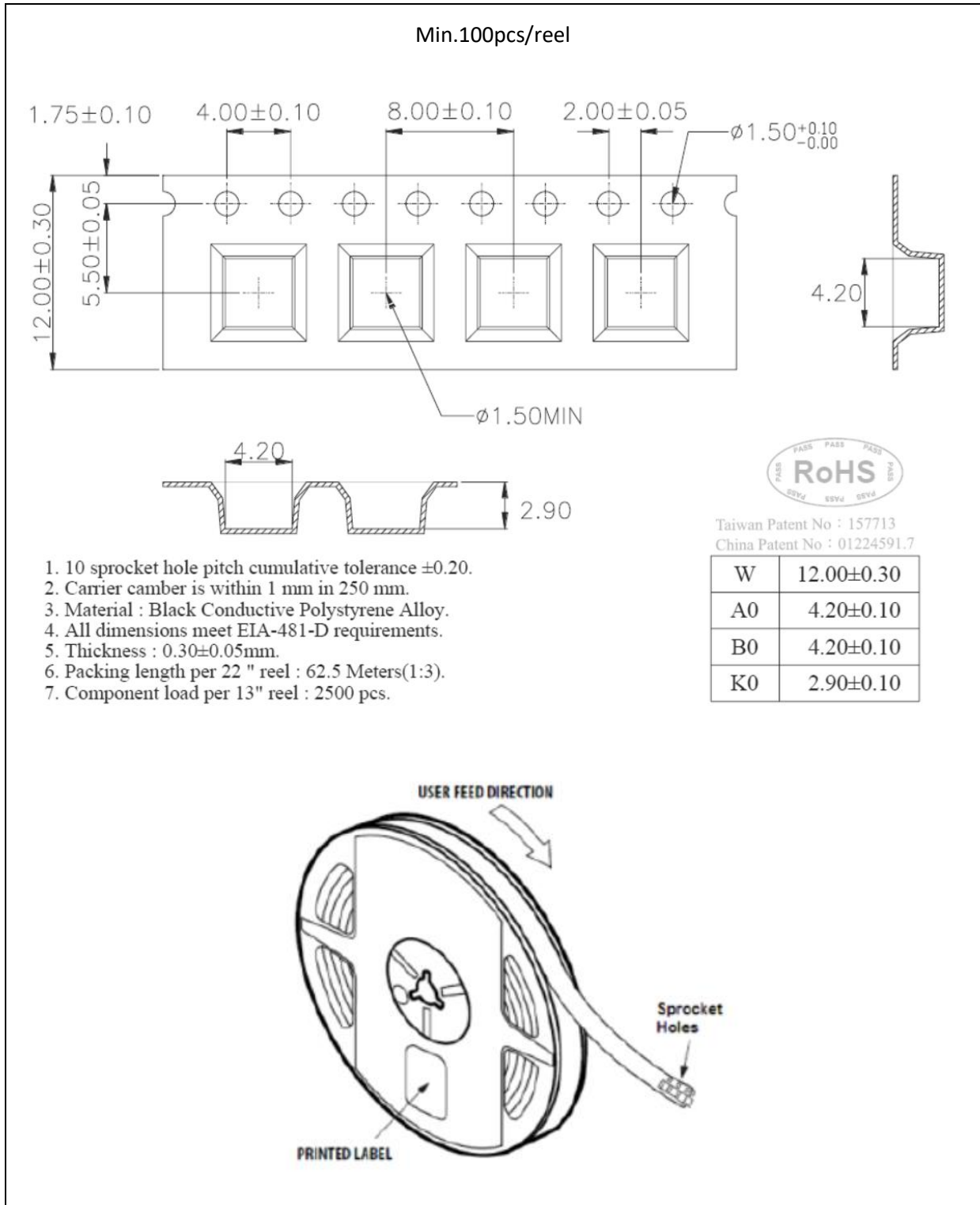
Lead-free Solder:

Note:

1. Maximum reflow soldering: 1 time.
2. Recommended reflow temperature 240°C. Maximum soldering temperature should be limited to 245°C.
3. Before, during, and after soldering, should not apply stress on the components and PCB board.
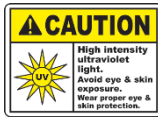
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PACKING SPECIFICATION:

Reel Dimension:

Min.100pcs/reel

1.75 ± 0.10 4.00 ± 0.10 8.00 ± 0.10 2.00 ± 0.05 $\phi1.50^{+0.10}_{-0.00}$

12.00 ± 0.30 5.50 ± 0.05

$\phi1.50$MIN

4.20

4.20 2.90

1. 10 sprocket hole pitch cumulative tolerance ±0.20.
2. Carrier camber is within 1 mm in 250 mm.
3. Material : Black Conductive Polystyrene Alloy.
4. All dimensions meet EIA-481-D requirements.
5. Thickness : 0.30±0.05mm.
6. Packing length per 22 " reel : 62.5 Meters(1:3).
7. Component load per 13" reel : 2500 pcs.

RoHS

Taiwan Patent No：157713
China Patent No：01224591.7

W	12.00±0.30
A0	4.20±0.10
B0	4.20±0.10
K0	2.90±0.10

USER FEED DIRECTION

Sprocket Holes

PRINTED LABEL

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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 months at 5°C~30°C and <60% R.H.

Once the package is opened, the products should be used within 72 hours. Otherwise, they should be kept in a damp-proof box with descanting agent <10% R.H. and apply baking 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±3°C x 12hrs 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.

Version	Date	Summary of Revision
A1.0	04/12/2022	New datasheet format.

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