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

► PLCC2 SMD

► 3528 1.9t Series

► Red (625nm)

N0R01S90

3 5 2 8   S e r i e s

3528 Series

RoHS Compliant   Pb

FEATURES:

- **Package:** PLCC2 White SMT Package
- **Forward Current:** 20mA
- **Forward Voltage (typ.):** 1.9V
- **Luminous Intensity (typ.):** 550mcd @20mA
- **Colour:** Red
- **Wavelength:** 625nm
- **Viewing angle:** 120°
- **Materials:**
  – Die: AlGaInP
  – Resin: Silicon (Water Clear)
  – L/T Finish: Ag plated
- **Operating Temperature:** -40~+80°C
- **Storage Temperature:** -40~+100°C
- **Grouping parameters:**
  – Forward voltage
  – Luminous intensity
  – Dominant Wavelength
- **Soldering methods:** IR Reflow
- **Preconditioning:** acc. to JEDEC Level 2a
- **Packing:** 8mm tape with max.2000/reel, ø180mm (7'')

APPLICATIONS:

- Decorative Lighting
- Backlighting
- Indicator
- Dashboard
- Display

www.brightekeurope.com

CHARACTERISTICS:

Absolute Maximum Characteristics (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Forward Current	I_F	50	mA
Pulse Forward Current (Duty 1/10; width 0.1ms)	I_{PF}	100	mA
Reverse Current @8V	I_R	10	µA
Junction Temperature	Tj	110	°C
Electrostatic Discharge (HBM)	ESD	1000	V
Operating Temperature	T_{OPR}	-40~+80	°C
Storage Temperature	T_{STG}	-40~+100	°C
Soldering Temperature	T_{SD}	260	°C

Electrical & Optical Characteristics (Ta=25°C)

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V_F	1.7	1.9	2.4	V	I_F=20mA
Luminous Intensity	I_V	350	550	---	mcd	I_F=20mA
Dominant Wavelength	λ_D	620	---	630	nm	I_F=20mA
Viewing Angle	$2\theta_{1/2}$	---	120	---	deg	I_F=20mA

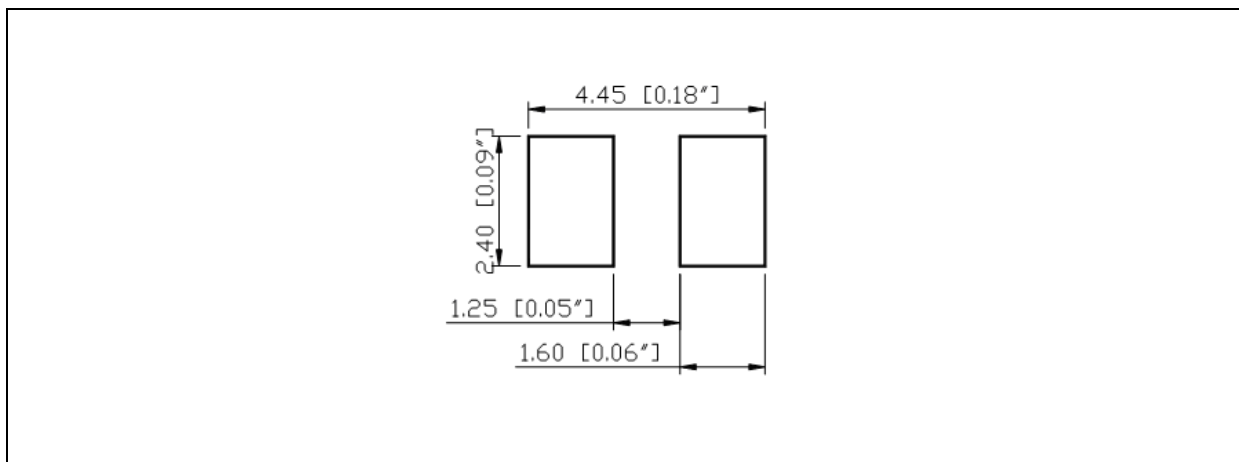1. Luminous intensity (I_V) ±15%, Forward Voltage (V_F) ±0.1V, Viewing angle($2\theta_{1/2}$) ±5%

OUTLINE DIMENSION:

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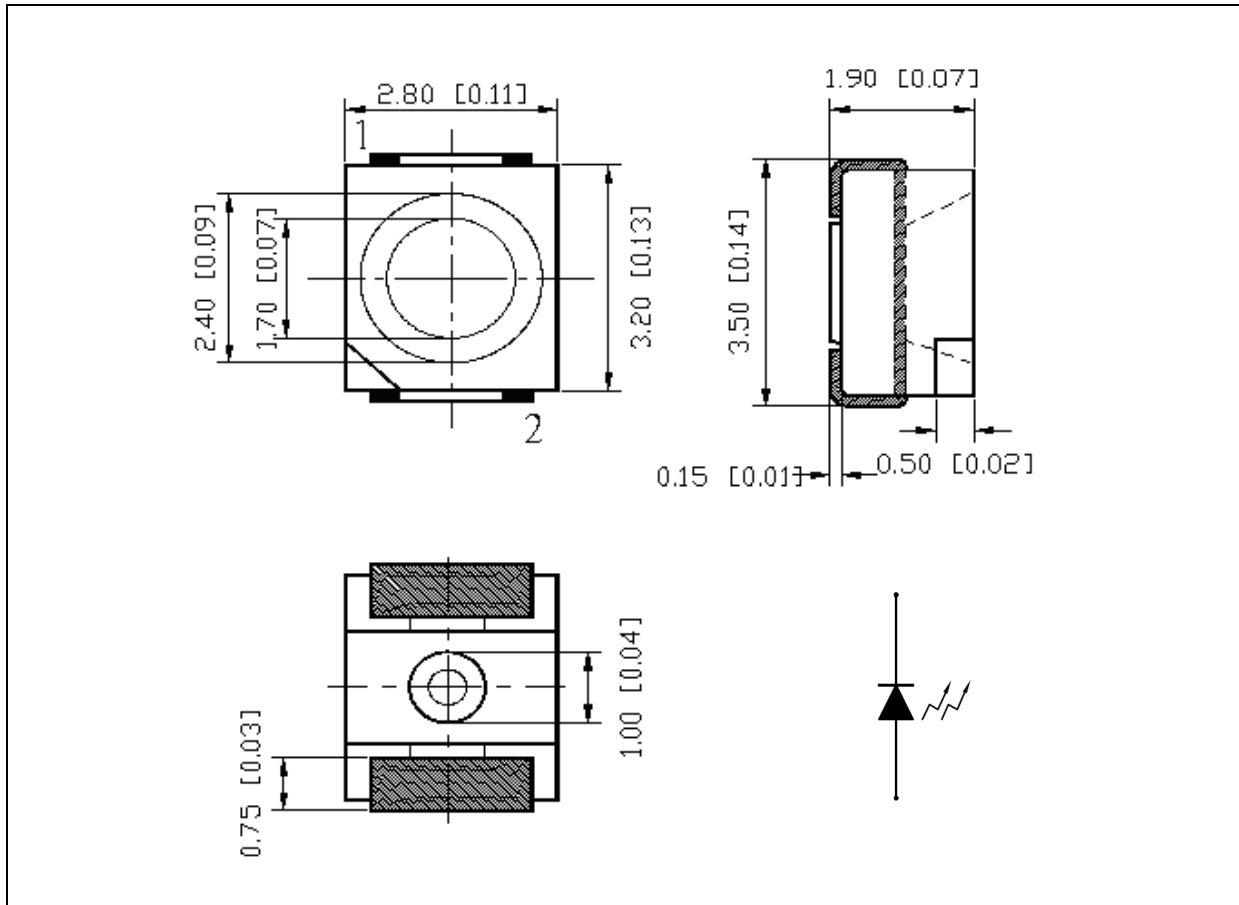
1. All dimensions are in millimetre (mm).
2. Tolerance ±0.2mm, unless otherwise noted.

Recommended Soldering Pad Dimension:

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

www.brightekeurope.com

BINNING GROUPS:

Forward Voltage Classifications (I_F = 20mA):

| Code	Min.	Max.	Unit
A	1.7	1.8	
B	1.8	1.9	
C	1.9	2.0	
D	2.0	2.1	V
E	2.1	2.2	
F	2.2	2.3	
G	2.3	2.4	

Luminous Intensity Classifications (I_F = 20mA):

Code	Min.	Max.	Unit
11	350	460	
12	460	600	mcd
13	600	780	
14	780	1000	

Dominant Wavelength Classifications (I_F = 20mA):

Code	Min.	Max.	Unit
C	620	625	nm
D	625	630	

ELECTRO-OPTICAL CHARACTERISTICS:

Relative Intensity v.s. Forward Current
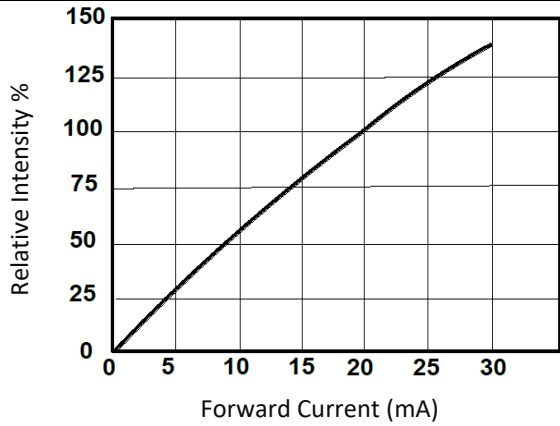
Forward Current v.s. Forward Voltage
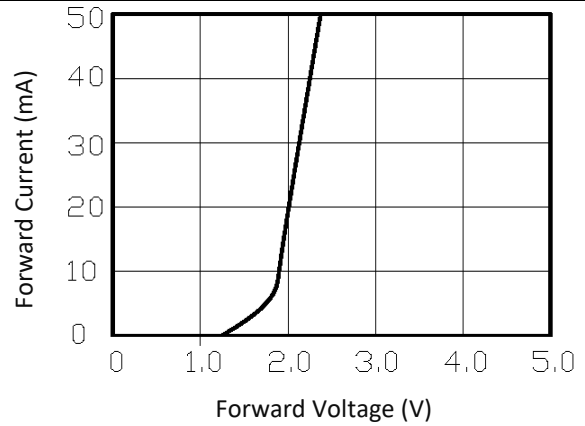
Relative Intensity v.s. Temperature
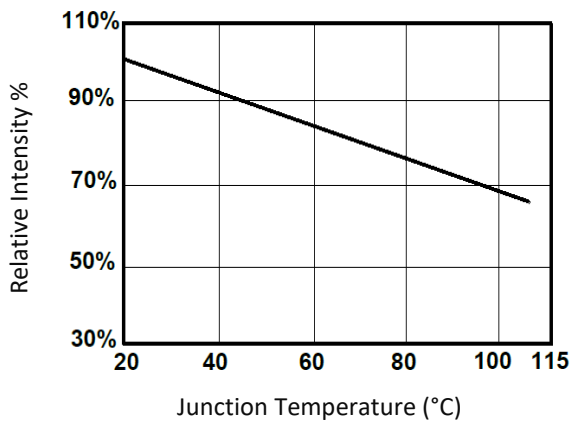
Forward Current Derating Curve
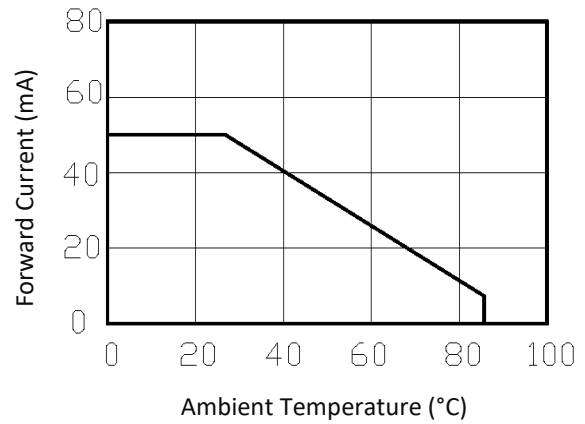
Relative Intensity v.s. Wavelength
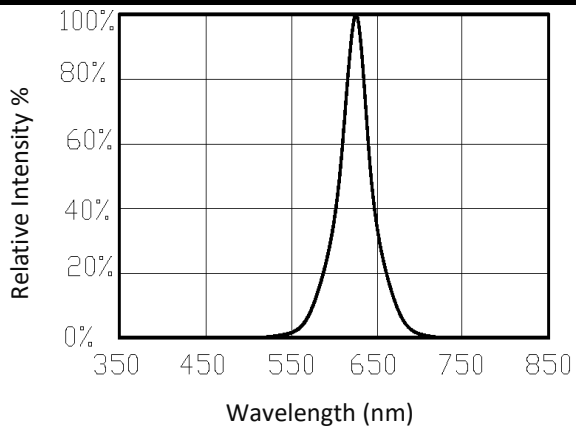
Directive Radiation

www.brightekeurope.com
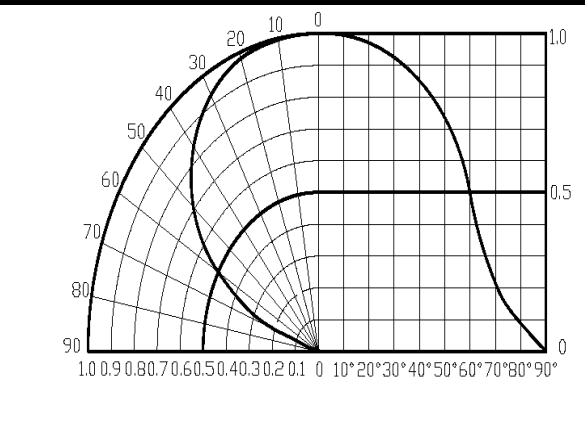
Relative Voltage v.s. Temperature	Relative Wavelength v.s. Current
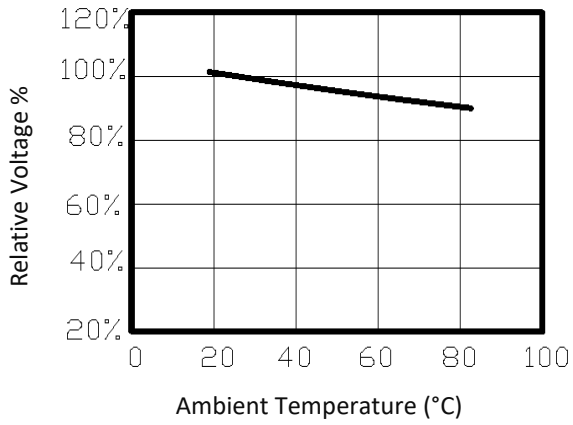
Relative Voltage % vs Ambient Temperature (°C)

Relative Wavelength % vs Forward Current (mA)
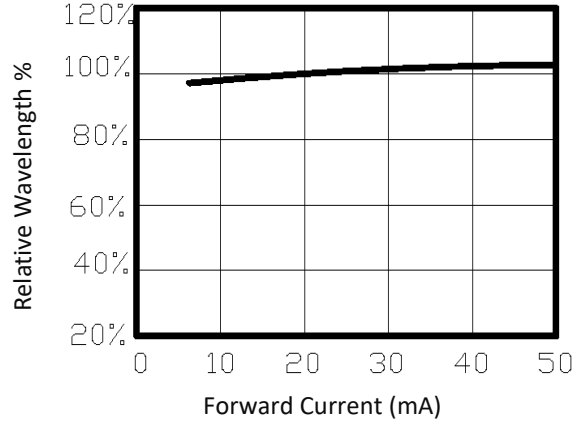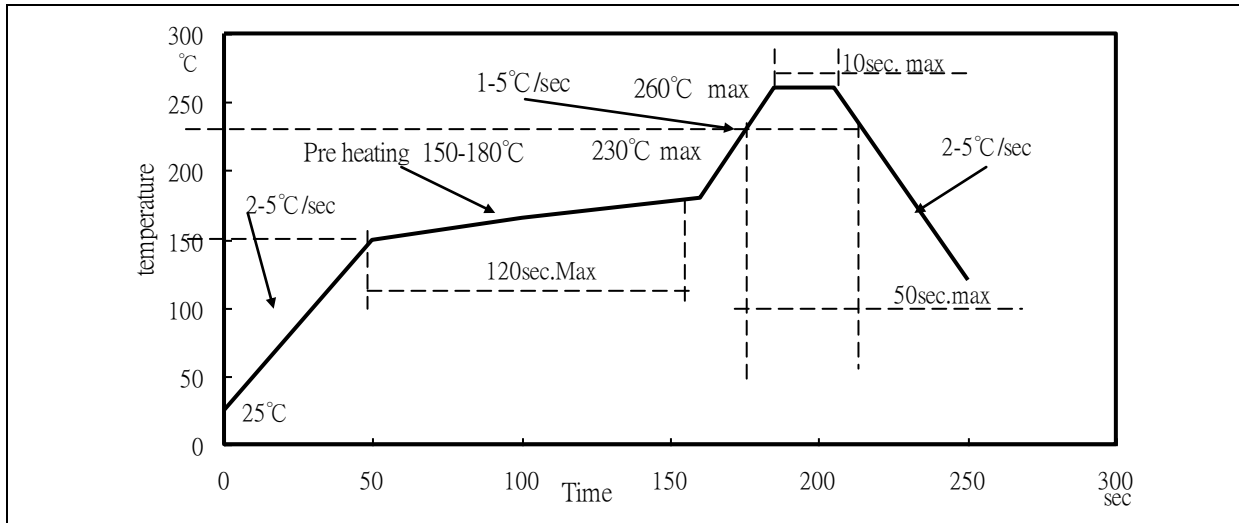
RECOMMENDED SOLDERING PROFILE:
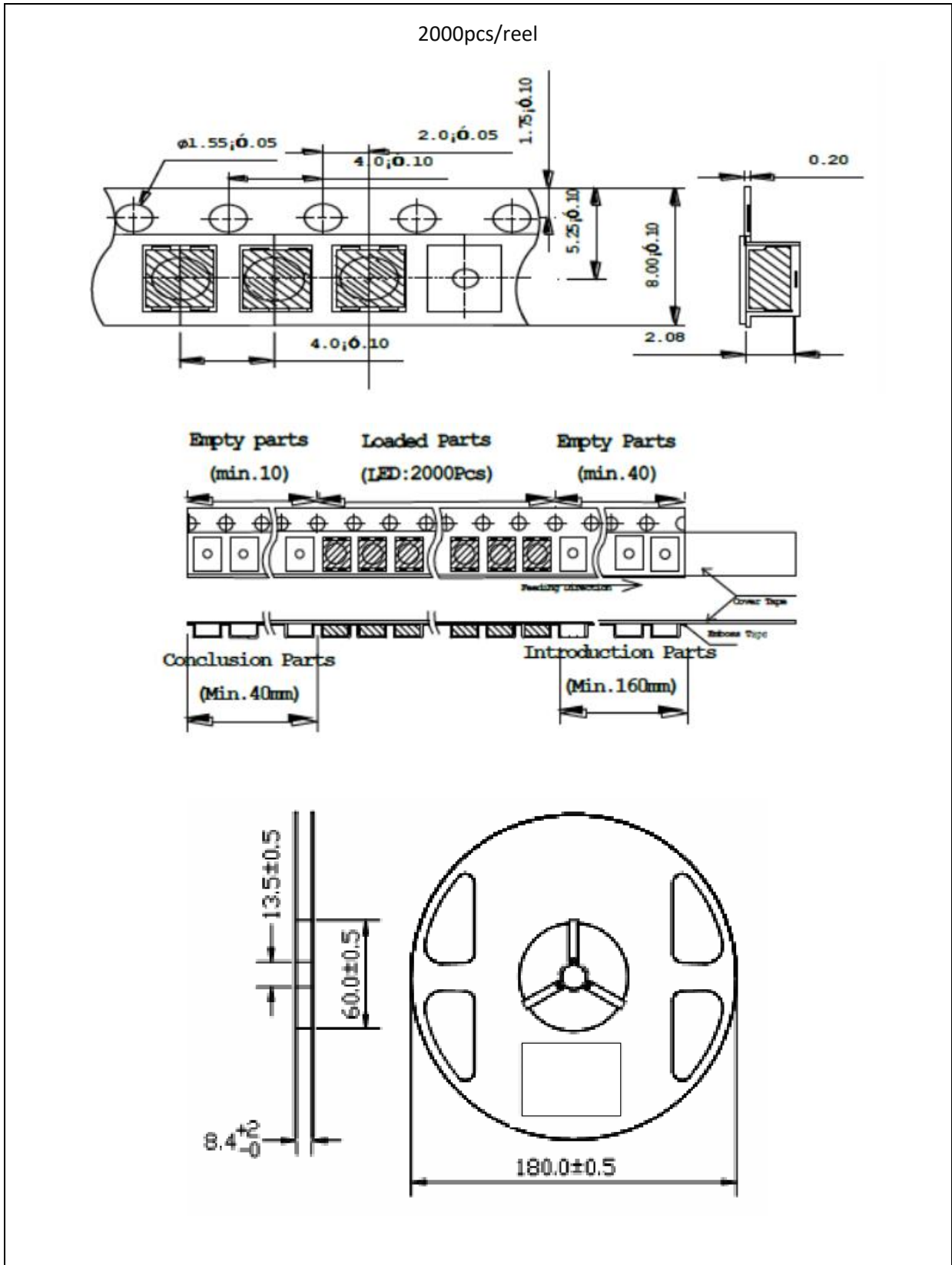
IR Reflow Lead-free Solder:

Note:
1. Maximum reflow soldering: 3 times.
2. Before, during, and after soldering, should not apply stress on the components and PCB board.
3. Recommended reflow temperature 240°C. The maximum soldering temperature should be limited to 260°C.

www.brightekeurope.com

PACKING SPECIFICATION:

Reel Dimension:

2000pcs/reel

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 months 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 <10% R.H. and apply baking before use.
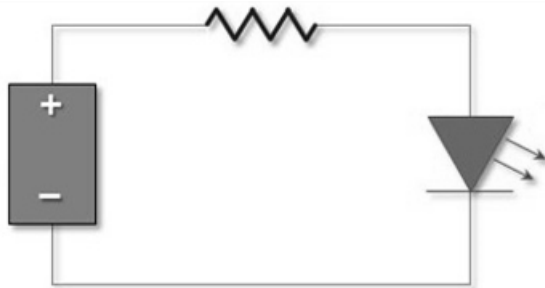
Baking:

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 6hrs 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.

www.brightekeurope.com

REVISION RECORD:

Version	Date	Summary of Revision
A1.0	21/11/2014	Datasheet set-up.
A1.1	06/06/2022	Revise MSL level.