



BRIGHTTEK
BRIGHTTEK (EUROPE) LIMITED

Brighten up The World With LED!



ISO/TS 16949:2009



BS EN ISO 14001:2004



QC 080000 IECQ HSPM

PRODUCT DATASHEET



- ▶ PLCC2 Side View
- ▶ 0.6T (3.8x1.2x0.6mm)
- ▶ Cool White

NOW01S85SV



Release Date: 13 November 2015 Version: A1.2



Side View 0.6T



FEATURES:

- **Package:** Side View PLCC White SMT Package
- **Forward Current:** 20mA
- **Forward Voltage (typ.):** 3.2V
- **Luminous Intensity (typ.):** 1500mcd @20mA
- **Colour:** Cool White
- **Colour Temperature:** 6700-9800K
- **Viewing angle:** 110°
- **Materials:**
 - Die: InGaN/GaN
 - Resin: Epoxy (Yellow Diffused)
- **Operating Temperature:** -20~+80°C
- **Storage Temperature:** -30~+100°C
- **ESD:** 500V
- **Grouping parameters:**
 - Forward voltage
 - Luminous intensity
 - Chromaticity Coordinates
- **Soldering methods:** IR reflow
- **Preconditioning:** acc. to JEDEC Level 3
- **Packing:** 12mm tape with 3000/reel, ø180mm (7")

APPLICATIONS:

- Backlighting
- Indication Light
- Side view light strip
- Switch light

CHARACTERISTICS:

Absolute Maximum Characteristics (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Forward Current	I_F	30	mA
Peak Forward Current Duty 1/10@10KHz	I_{FP}	100	mA
Reverse Current @5V	I_R	50	μ A
Power Dissipation	PD	120	mW
Electrostatic Discharge	ESD	500	V
Operating Temperature	T_{OPR}	-20~+80	°C
Storage Temperature	T_{STG}	-30~+100	°C

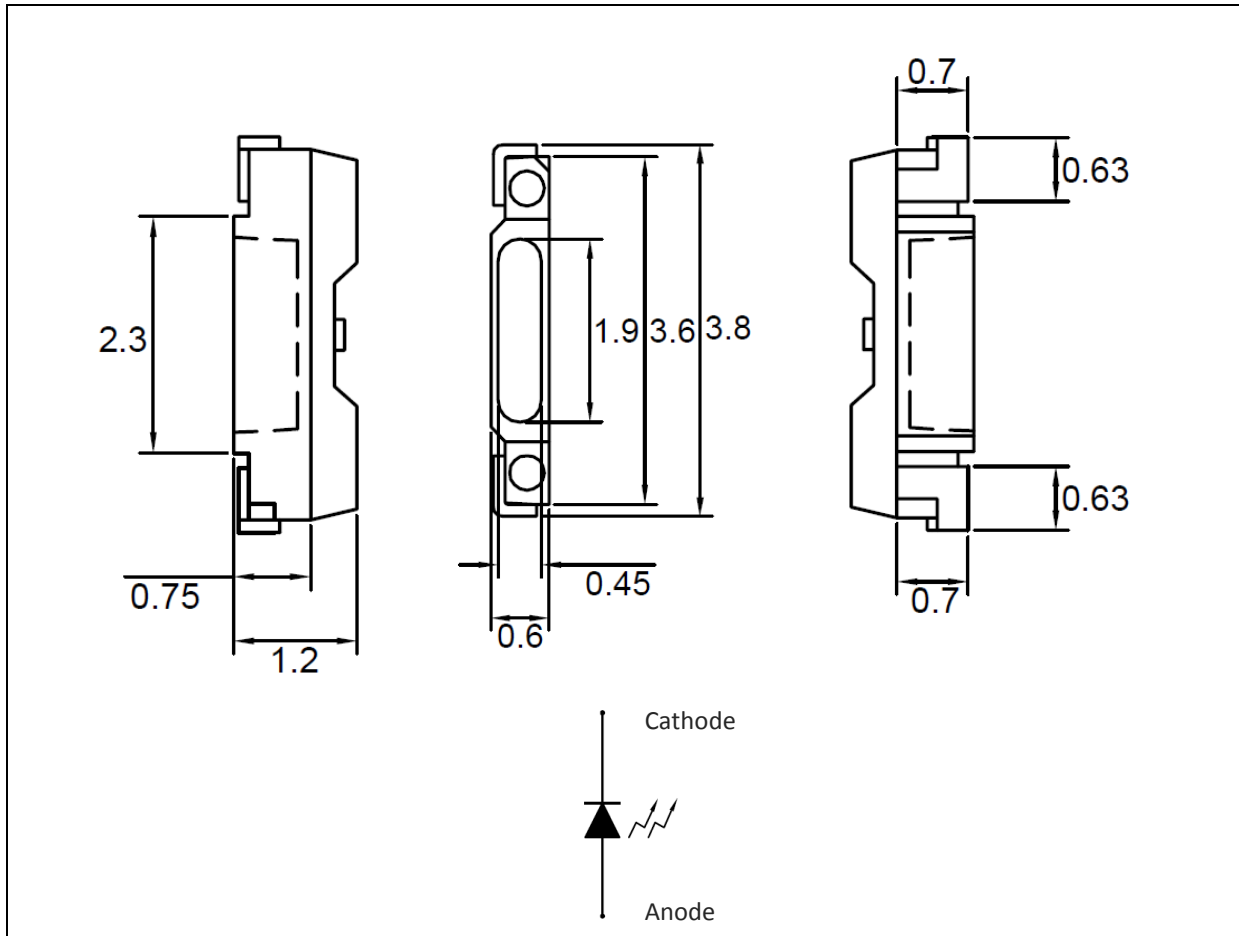
Electrical & Optical Characteristics (Ta=25°C)

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V_F	2.8	---	3.4	V	$I_F=20mA$
Luminous Intensity	I_V	1200	1500	---	mcd	$I_F=20mA$
Chromaticity Coordinates	X	0.287	---	0.311	---	$I_F=20mA$
	Y	0.276	---	0.315		
Viewing Angle	$2\theta_{1/2}$	---	110	---	deg	$I_F=20mA$

- Luminous intensity (I_V) $\pm 15\%$, Forward Voltage (V_F) $\pm 0.1V$

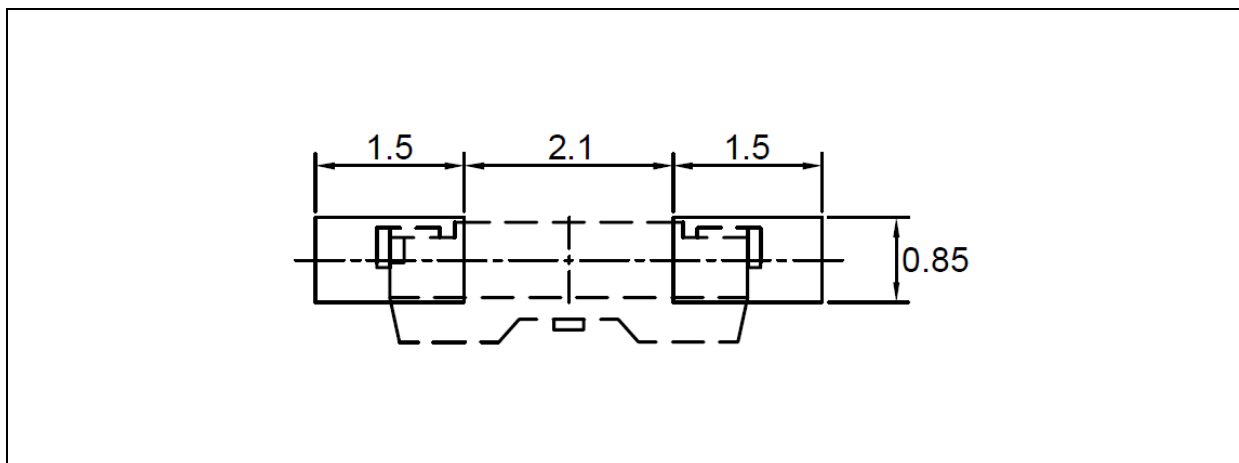
OUTLINE DIMENSION:

Package Dimension:



1. All dimensions are in millimetre (mm).
2. Tolerance $\pm 0.2\text{mm}$, unless otherwise noted.

Recommended Soldering Pad Dimension:



1. Dimensions are in millimetre (mm).
2. Tolerance $\pm 0.1\text{mm}$ with angle tolerance $\pm 0.5^\circ$.

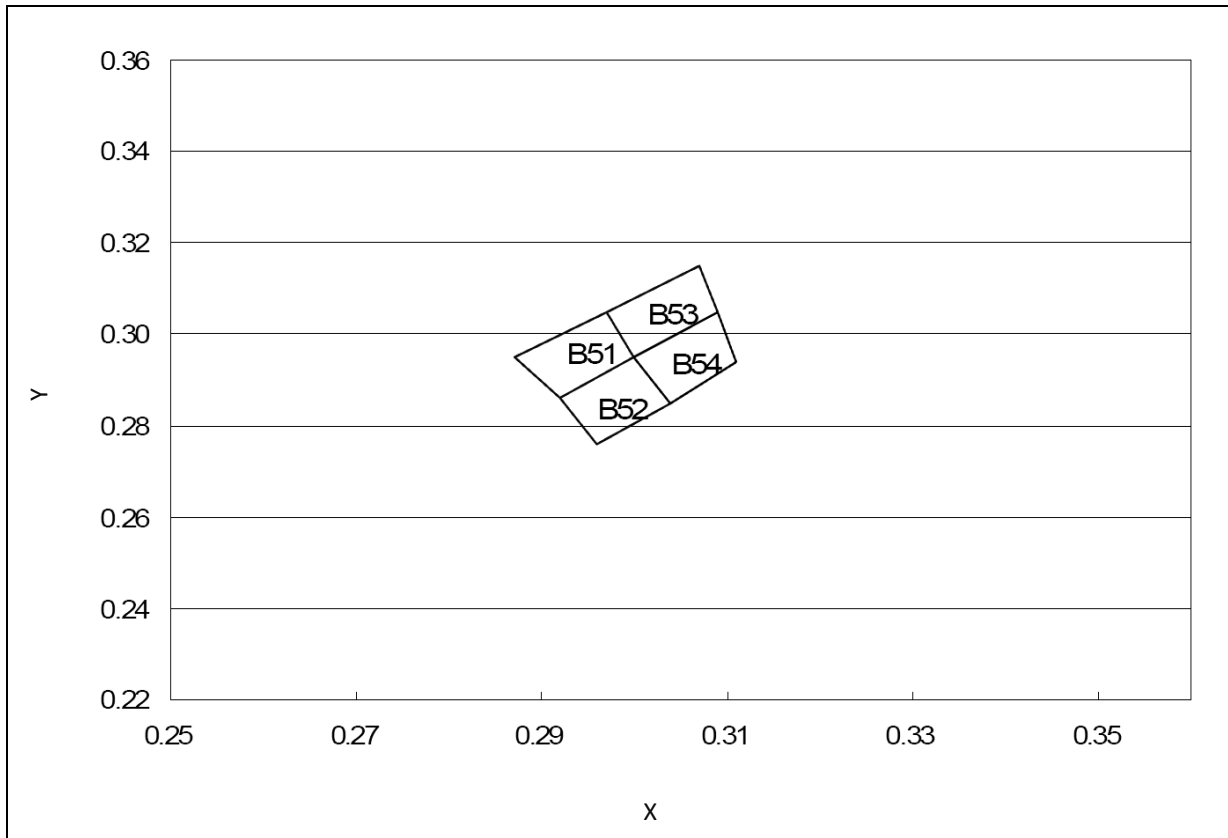
BINNING GROUPS:

 Forward Voltage Classifications ($I_F = 20\text{mA}$):

Code	Min.	Max.	Unit
1	2.8	2.9	V
2	2.9	3.0	
3	3.0	3.1	
4	3.1	3.2	
5	3.2	3.3	
6	3.3	3.4	

 Luminous Intensity Classifications ($I_F = 20\text{mA}$):

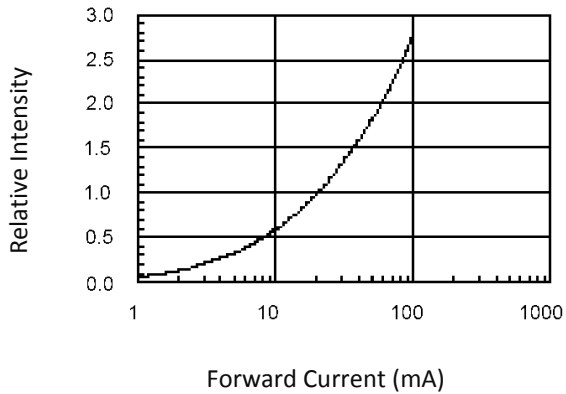
Code	Min.	Max.	Unit
W12	1200	1250	mcd
W13	1250	1300	
W14	1300	1350	
W15	1350	1400	
W21	1400	1450	
W22	1450	1500	
W23	1500	1550	
W24	1550	1600	
W25	1600	1650	
W31	1650	1700	
W32	1700	1750	
W33	1750	1800	

CIE CHROMATICITY DIAGRAM:

 Chromaticity Coordinates Classifications ($I_F = 20\text{mA}$):

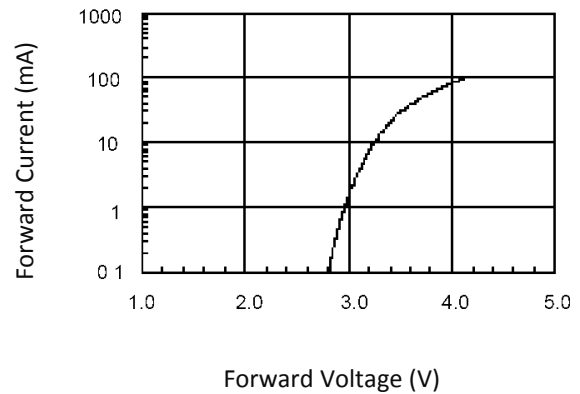
	1		2		3		4	
	X	Y	X	Y	X	Y	X	Y
B51	0.2870	0.2950	0.2920	0.2860	0.3000	0.2950	0.2970	0.3050
B52	0.2920	0.2860	0.2960	0.2760	0.3040	0.2850	0.3000	0.2950
B53	0.2970	0.3050	0.3000	0.2950	0.3090	0.3050	0.3070	0.3150
B54	0.3000	0.2950	0.3040	0.2850	0.3110	0.2940	0.3090	0.3050

ELECTRO-OPTICAL CHARACTERISTICS:

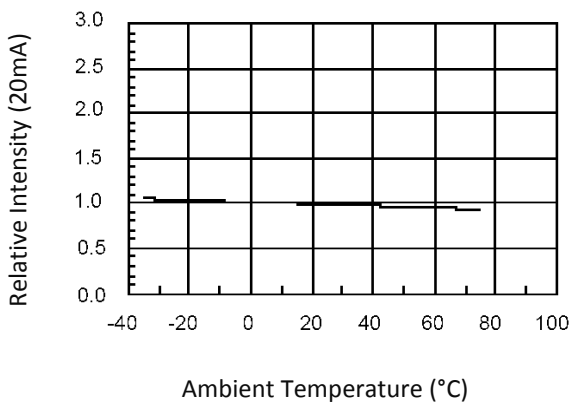
Relative Intensity v.s. Forward Current



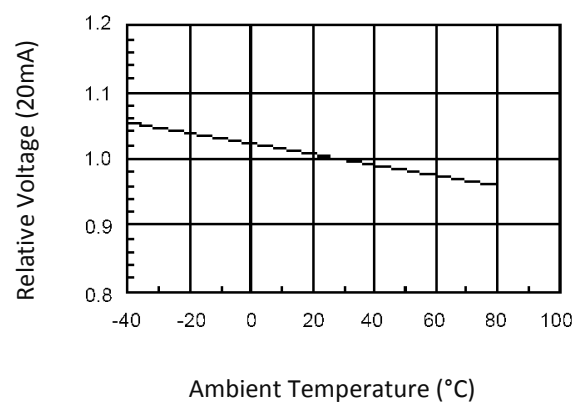
Forward Current v.s. Forward Voltage



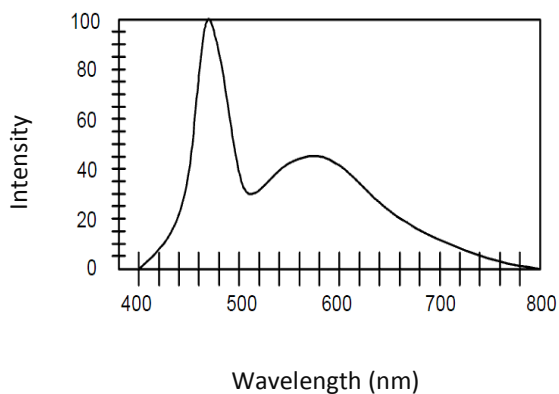
Relative Intensity v.s. Temperature



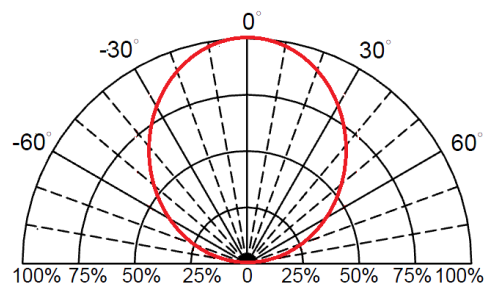
Relative Forward Voltage v.s. Temperature



Luminous Spectrum

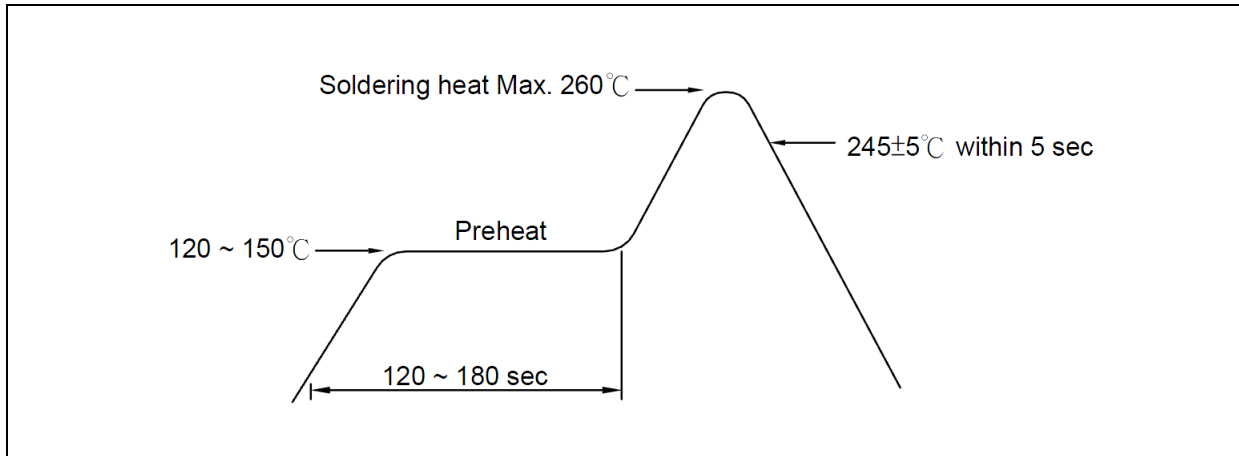


Directive Radiation

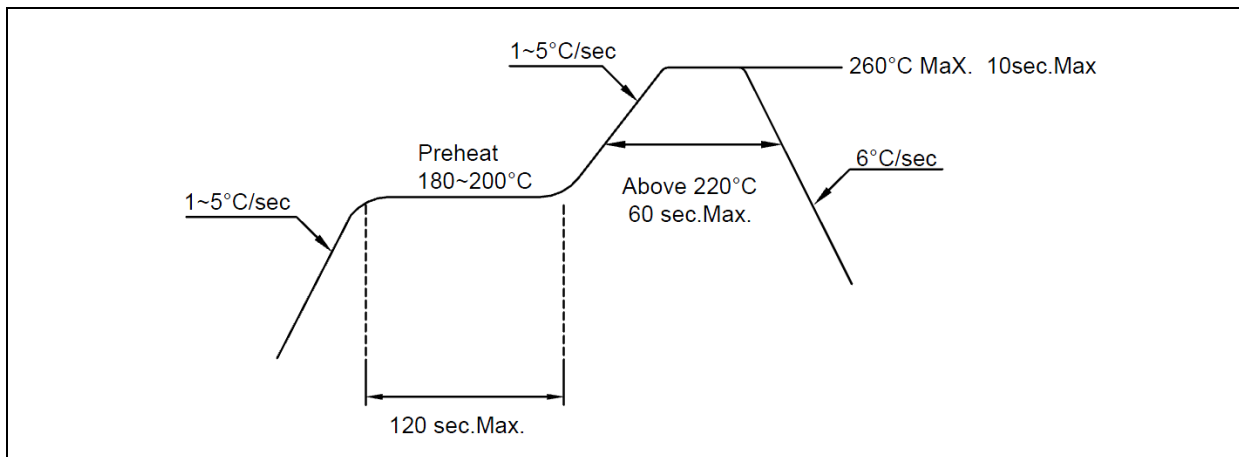


RECOMMENDED SOLDERING PROFILE:

Wave Solder:



Lead-free Solder:

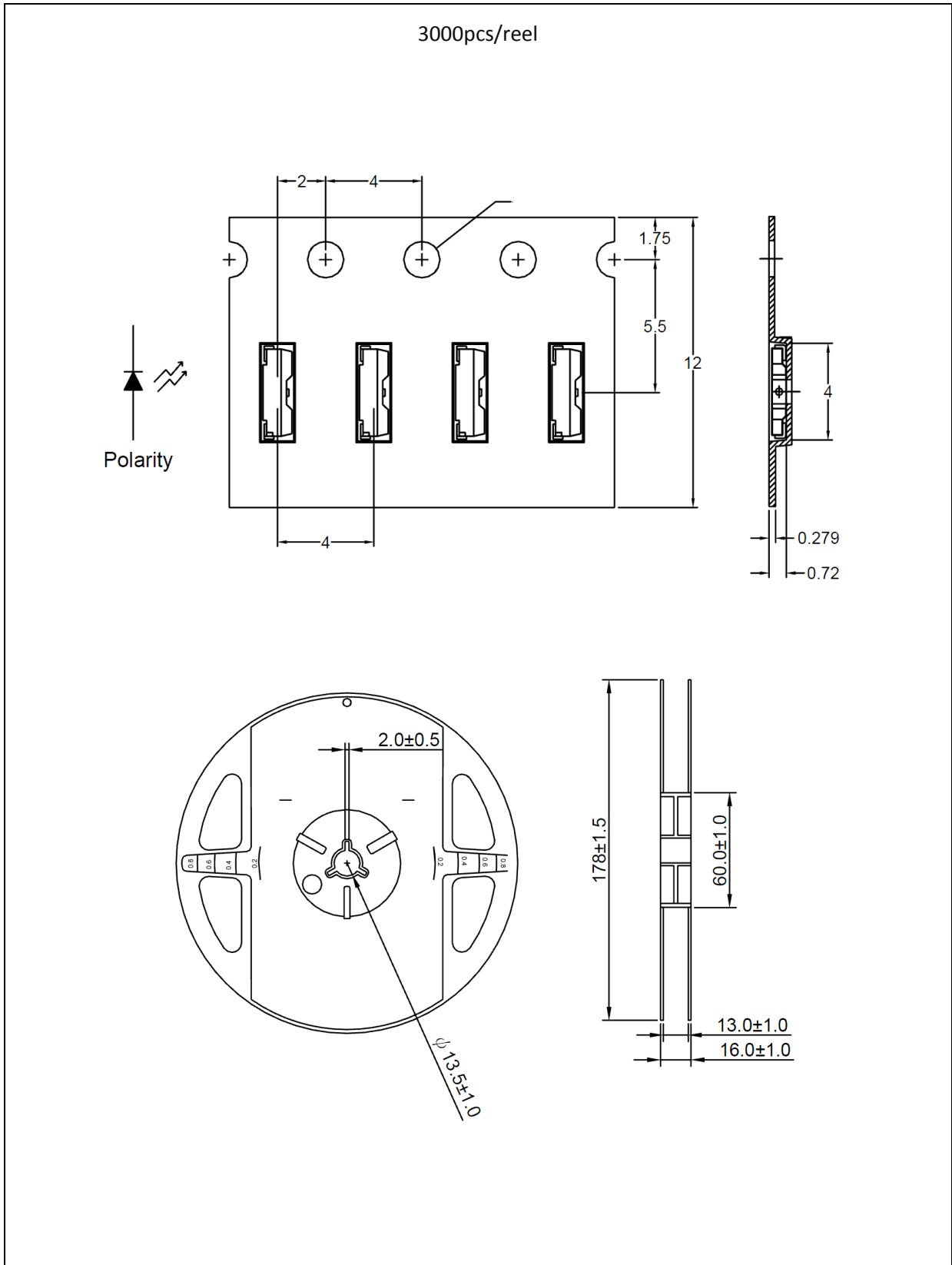


Note:

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:



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 desiccating agent and apply baking at 60°C±5°C for 15hrs before use.

Baking:

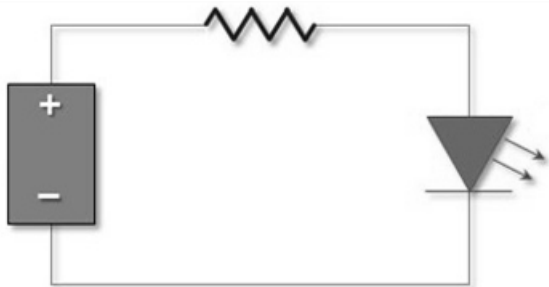
It is recommended to bake the LED before soldering if the pack has been unsealed for longer than 24hrs.

The suggested baking conditions are as followings:

- 70±3°C x 24hrs and <5%RH, taped / reel package.
- 100±3°C x 2hrs, bulk (loose) package.
- 130±3°C x 30min, bulk (loose) 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-electrostatic glove is recommended when handling 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	20/12/2013	Datasheet set-up.
A1.1	17/10/2014	Update series name.
A1.2	13/11/2015	Part number adds -SV for side view.