



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

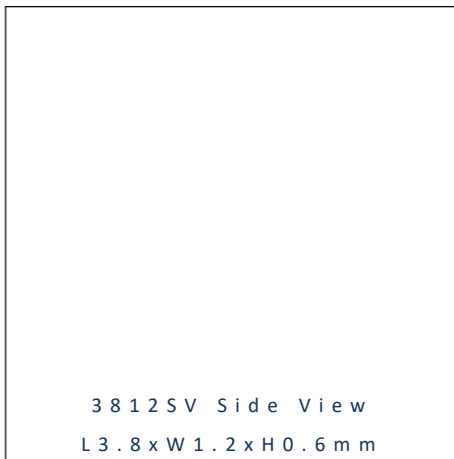


- ▶ PLCC2 Side View
- ▶ 0.6T (3.8x1.2x0.6mm)
- ▶ Sky White

NOW48S77SV



Release Date: 04 June 2019 Version: A1.0



3812SV Side View

RoHS
Compliant



FEATURES:

- **Package:** Side View PLCC White SMT Package
- **Forward Current:** 20mA
- **Forward Voltage (typ.):** 3.2V
- **Luminous Intensity (typ.):** 1900mcd @20mA
- **Colour:** Cool White
- **Colour Temperature:** 10000-33000K
- **Viewing angle:** 110°
- **Materials:**
 - Die: InGaN
 - Resin: Epoxy (Yellow Diffused)
- **Operating Temperature:** -40~+85°C
- **Storage Temperature:** -40~+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 max.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	108	mW
Electrostatic Discharge	ESD	500	V
Operating Temperature	T_{OPR}	-40~+85	°C
Storage Temperature	T_{STG}	-40~+100	°C

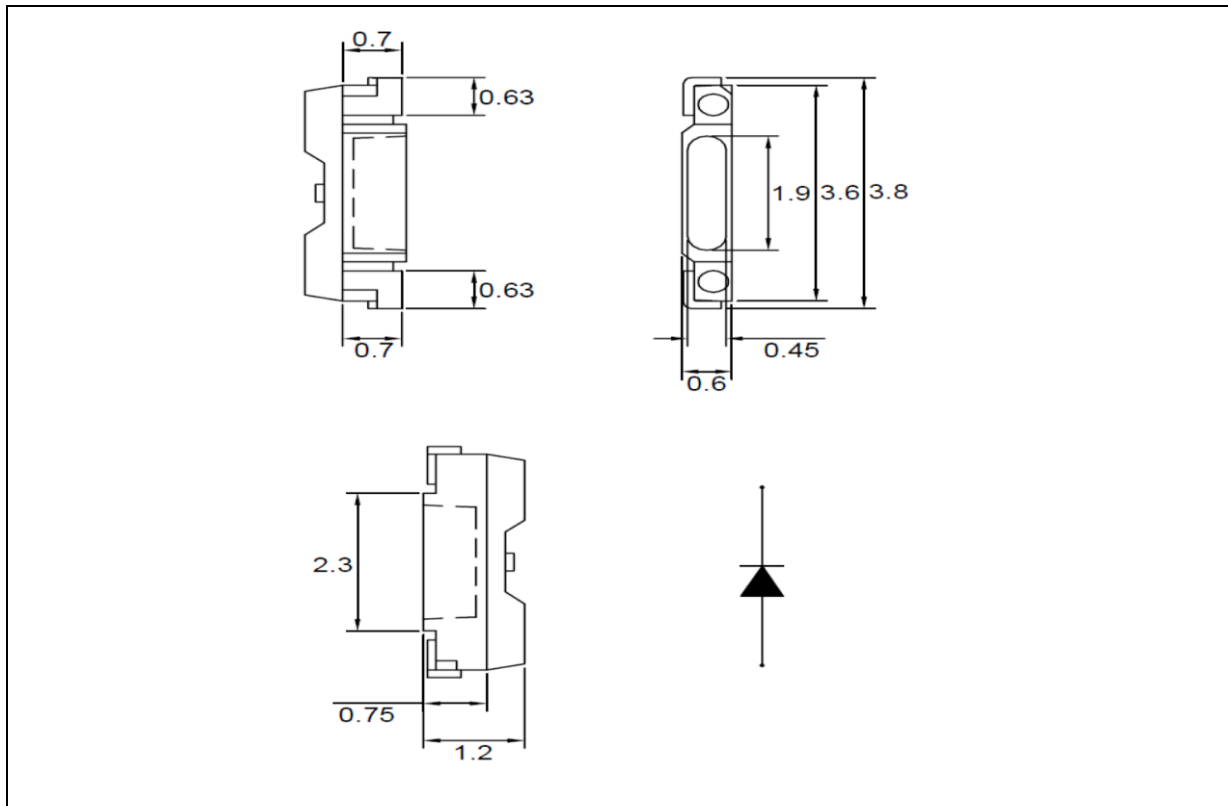
Electrical & Optical Characteristics (Ta=25°C)

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V_F	2.8	---	3.6	V	$I_F=20mA$
Luminous Intensity	I_V	1700	1900	---	mcd	$I_F=20mA$
Chromaticity Coordinates	X	0.2527	---	0.2819	---	$I_F=20mA$
	Y	0.2302	---	0.2775		
Viewing Angle	$2\theta_{1/2}$	---	110	---	deg	$I_F=20mA$

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

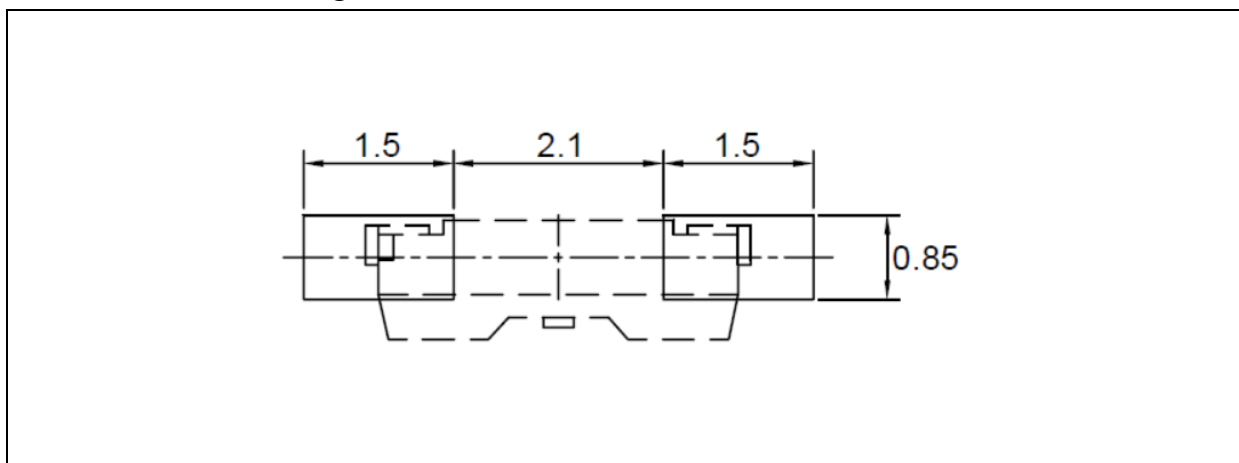
OUTLINE DIMENSION:

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 $\pm 0.5^\circ$.

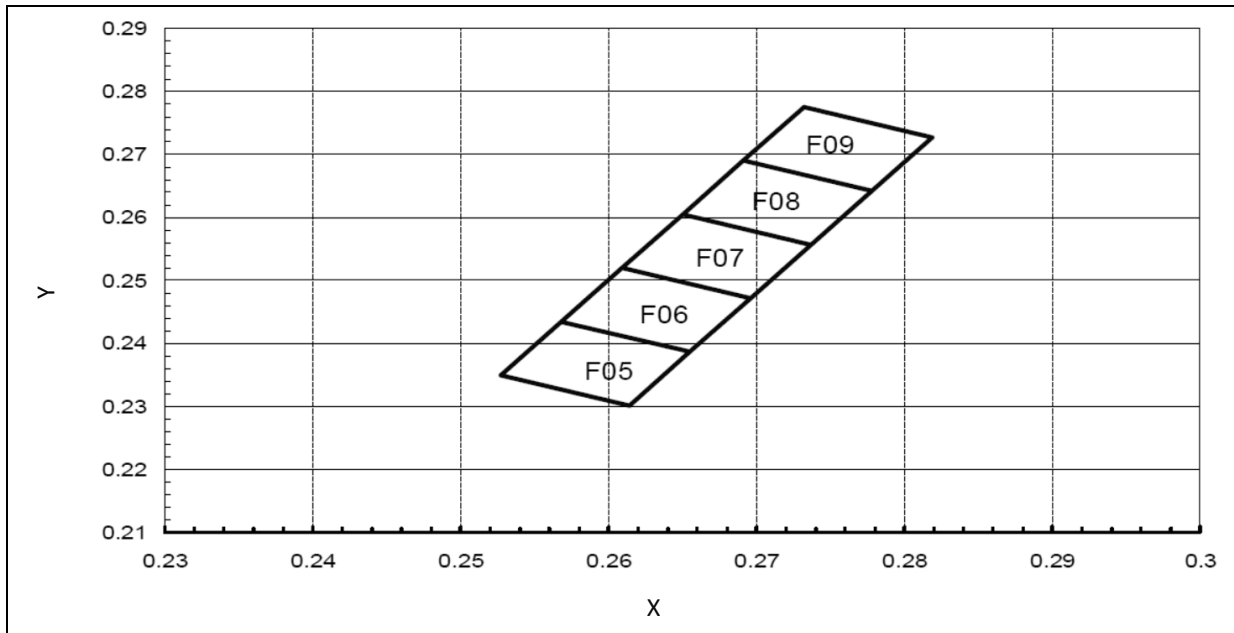
BINNING GROUPS:

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

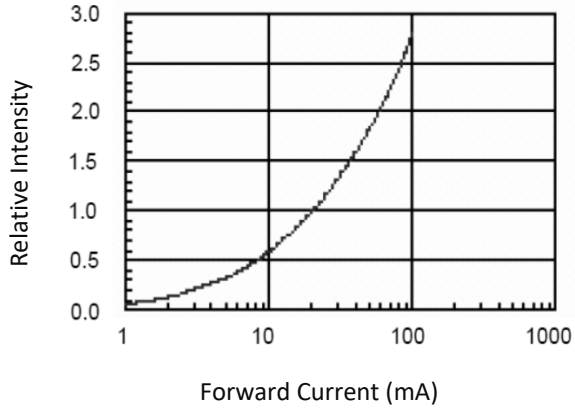
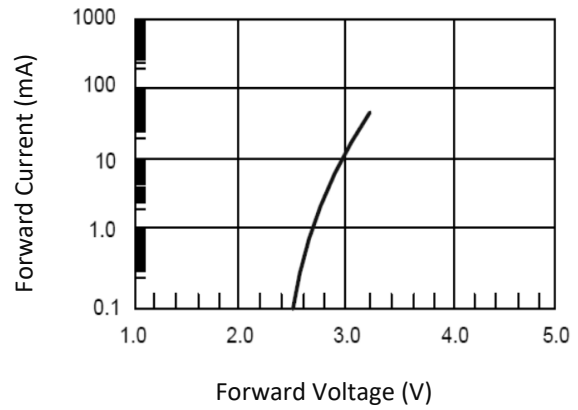
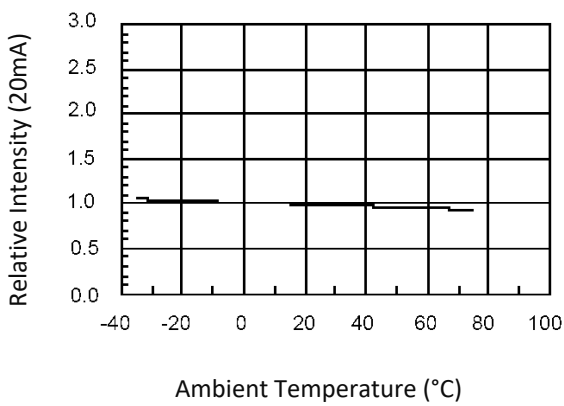
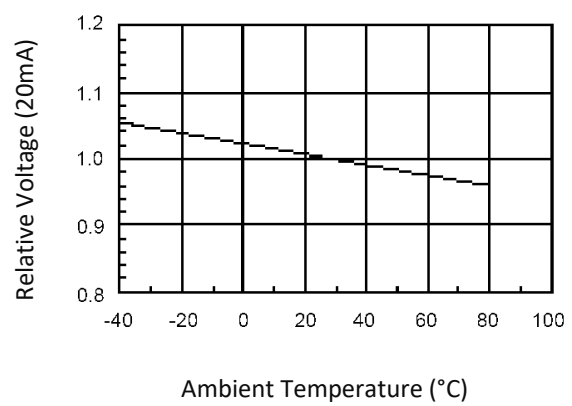
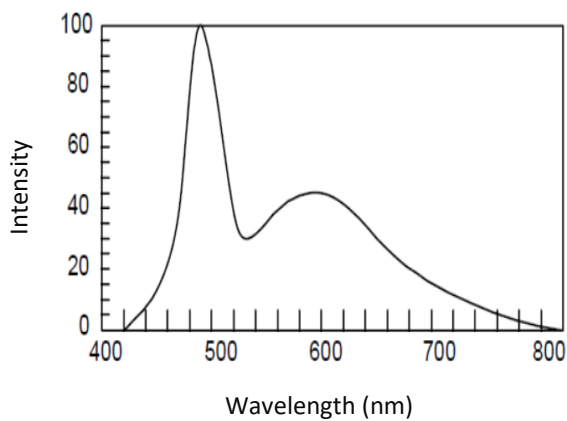
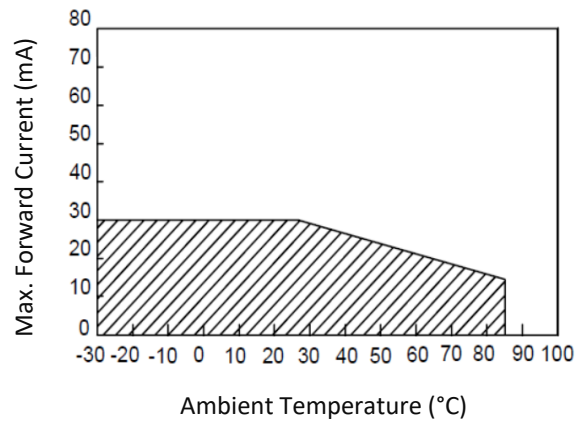
Code	Min.	Max.	Unit
1	2.8	2.9	V
2	2.9	3.0	
3	3.0	3.1	
4	3.1	3.2	
5	3.2	3.3	
6	3.3	3.4	
7	3.4	3.5	
8	3.5	3.6	

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

Code	Min.	Max.	Unit
W32W33	1700	1800	mcd
W34W35	1800	1900	
W36W37	1900	2000	
X11X12	2000	2100	
X13X14	2100	2200	

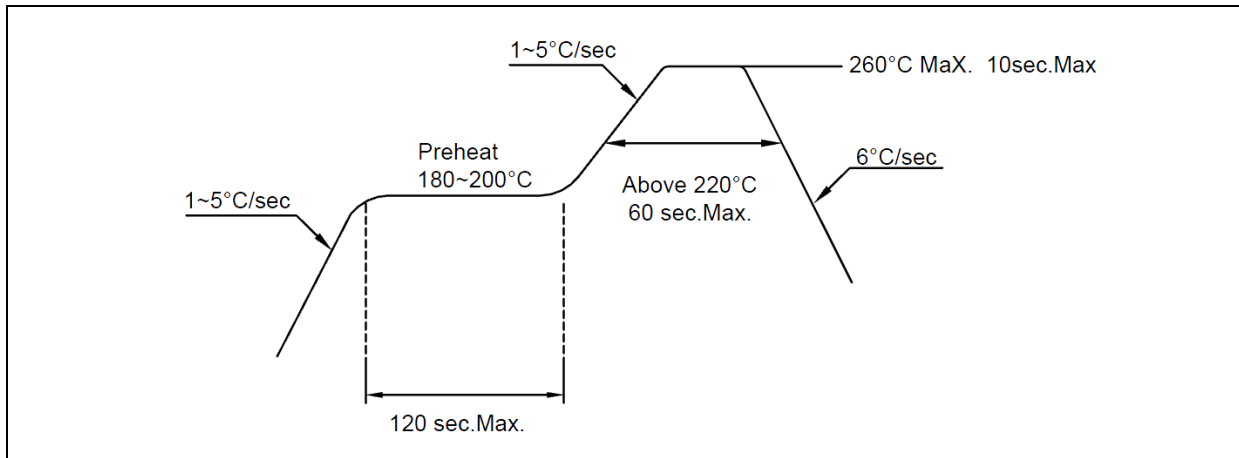
CIE CHROMATICITY DIAGRAM:

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

	1		2		3		4	
	X	Y	X	Y	X	Y	X	Y
F05	0.2527	0.2350	0.2614	0.2302	0.2655	0.2387	0.2568	0.2435
F06	0.2568	0.2435	0.2655	0.2387	0.2696	0.2472	0.2609	0.2520
F07	0.2609	0.2520	0.2696	0.2472	0.2737	0.2557	0.2650	0.2605
F08	0.2650	0.2605	0.2737	0.2557	0.2778	0.2642	0.2691	0.2690
F09	0.2691	0.2690	0.2778	0.2642	0.2819	0.2727	0.2732	0.2775

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

Max. Forward Current v.s. Temperature


RECOMMENDED SOLDERING PROFILE:

Lead-free Solder:

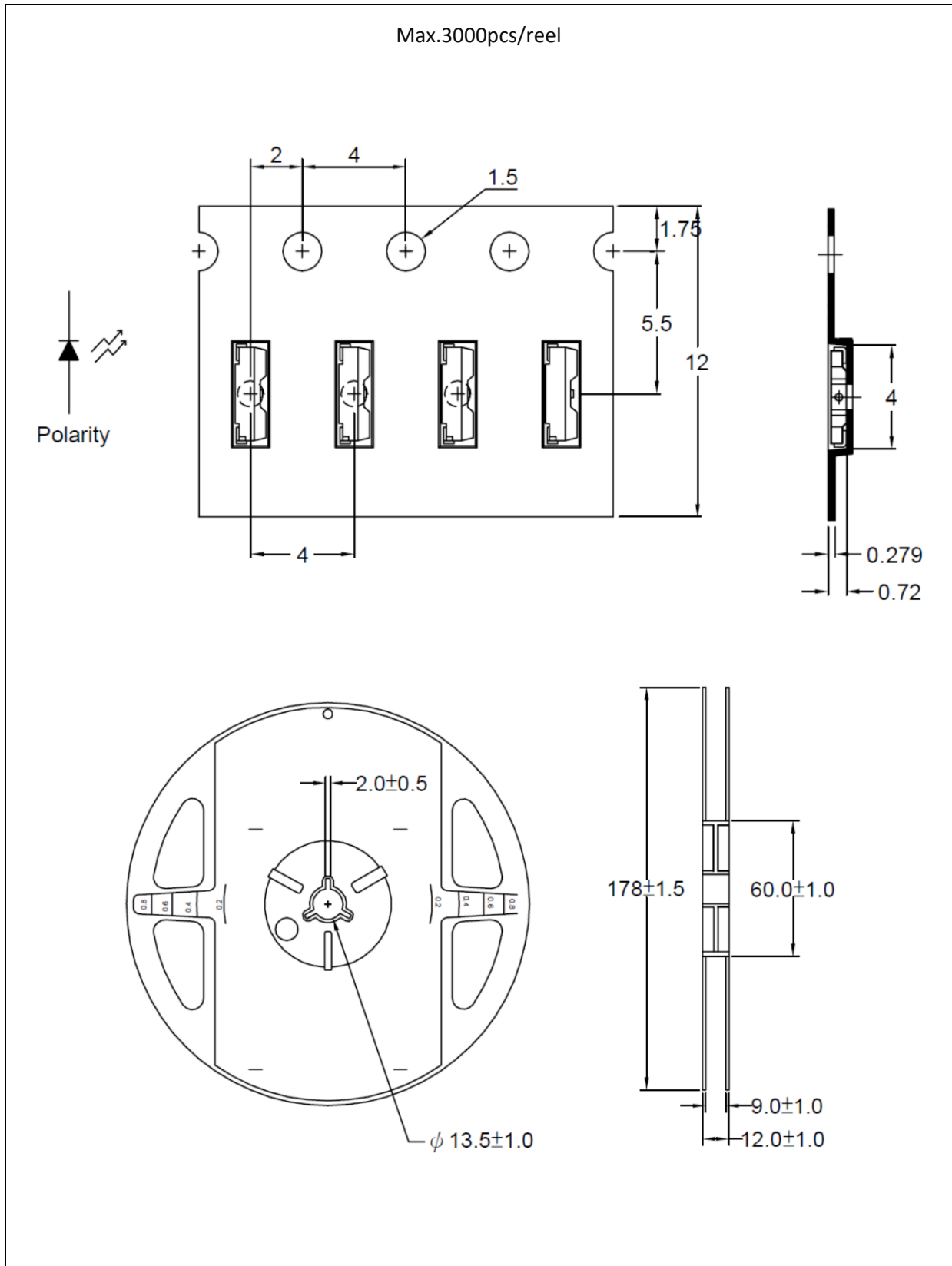


Note:

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 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 desiccating agent and apply baking.

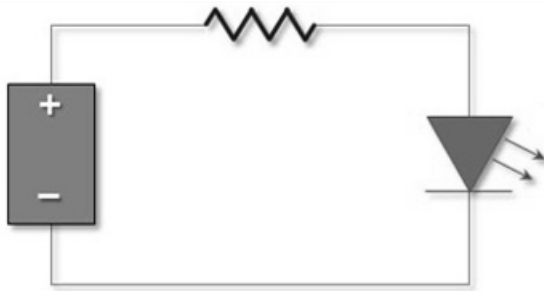
Baking:

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 36hrs 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-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	04/06/2019	Datasheet set-up.