



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
- ▶ 2812SV 0.8t
- ▶ Cool White (6000K)

NOW02S69SV



Release Date: 16 August 2024 Version: A1.3



APPLICATIONS:

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

2812SV Series

RoHS
Compliant



AUTOMOTIVE
AEC-Q101

FEATURES:

- **Package:** Side View PLCC White SMT Package
- **Forward Current:** 20mA
- **Forward Voltage (typ.):** 3.2V
- **Luminous Intensity (typ.):** 2200mcd@20mA
- **Colour:** Cool White
- **Colour Temperature (typ.):** 6000K
- **Viewing Angle:** 115°
- **Materials:**
 - Die: InGaN
 - Resin: Silicone (Yellow Diffused)
- **Operating Temperature:** -40~+90°C
- **Storage Temperature:** -40~+100°C
- **ESD:** 500V
- **Grouping Parameters:**
 - Forward Voltage
 - Luminous Intensity
 - Chromaticity Coordinates
- **Soldering Methods:** IR reflow
- **MSL Level:** acc. to JEDEC Level 3
- **Packing:** 8mm tape with max.3000/reel, ø178mm (7")

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	μA
Power Dissipation	PD	108	mW
Electrostatic Discharge	ESD	500	V
Operating Temperature	T _{OPR}	-40~+90	°C
Storage Temperature	T _{STG}	-40~+100	°C

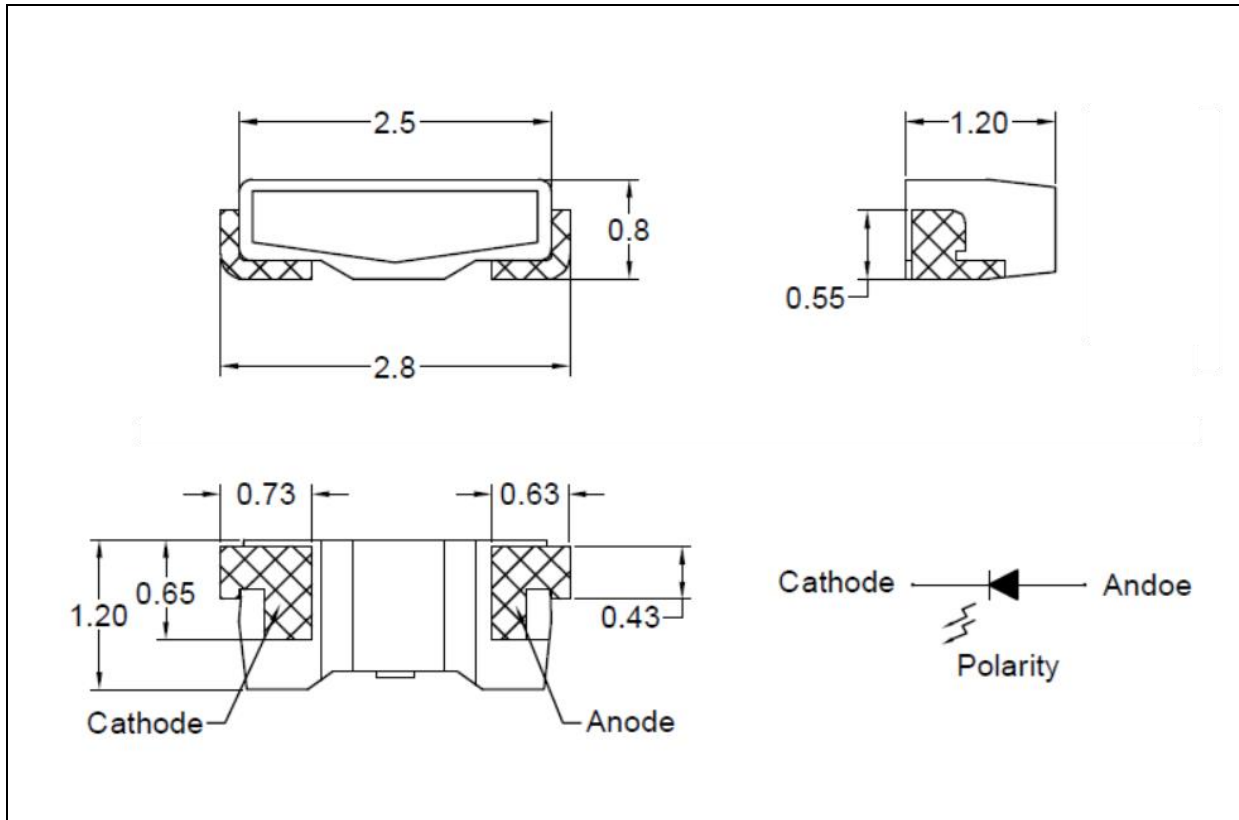
Electrical & Optical Characteristics (Ta=25°C)

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	1800	---	2600	mcd	I _F =20mA
Chromaticity Coordinates	X	0.3090	---	0.3300	---	I _F =20mA
	Y	0.2940	---	0.3390		
Colour Temperature	CCT	5600	---	7100	---	I _F =20mA
Viewing Angle	2θ _{1/2}	---	115	---	deg	I _F =20mA

1. Luminous intensity (I_v) ±15%, Forward Voltage (V_F) ±0.1V, Viewing angle(2θ_{1/2}) ±5%

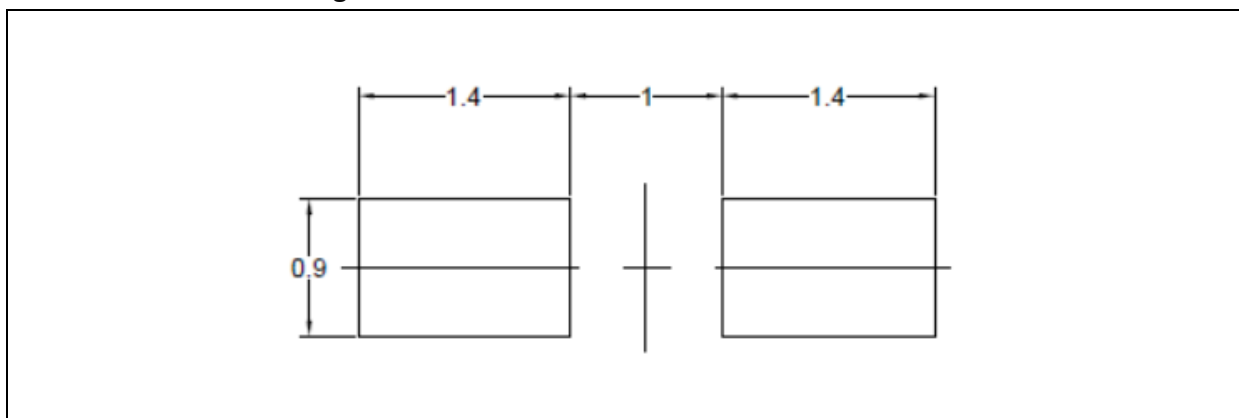
OUTLINE DIMENSION:

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:

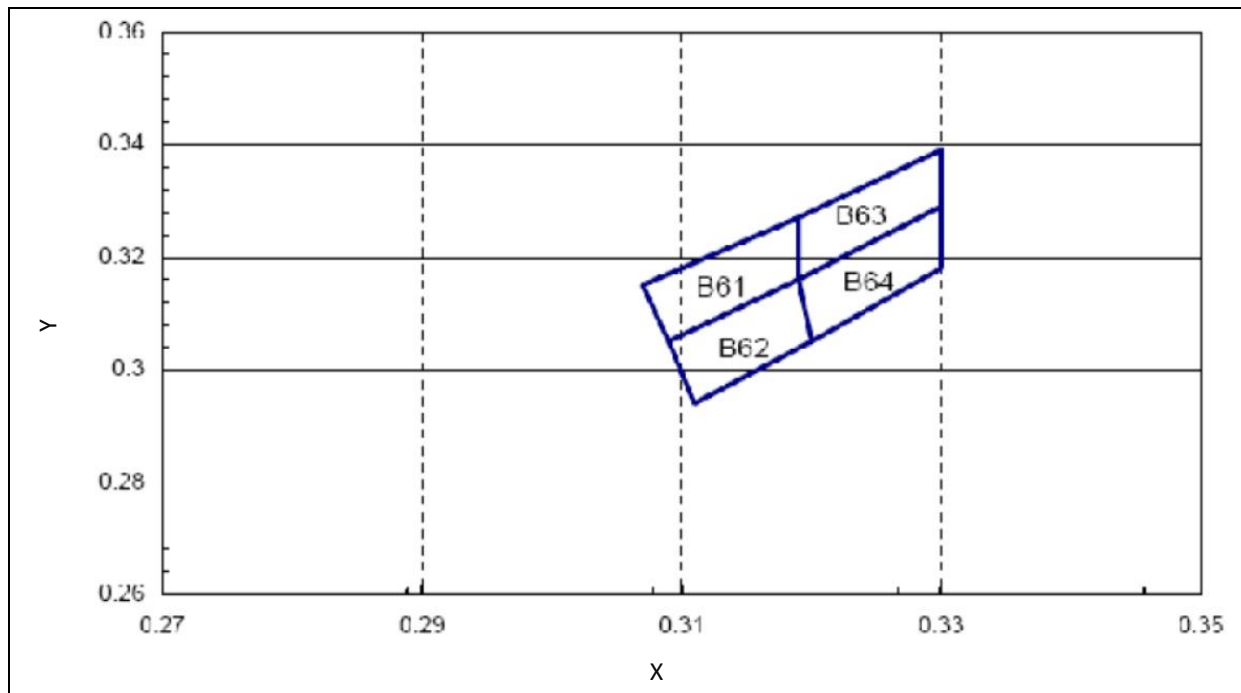
Forward Voltage Classifications ($I_F = 20\text{mA}$):

Code	Min.	Max.	Unit
1	2.8	3.0	V
2	3.0	3.2	
3	3.2	3.4	
4	3.4	3.6	

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

Code	Min.	Max.	Unit
W34W37	1800	2000	mcd
X11X14	2000	2200	
X15X18	2200	2400	
X19X22	2400	2600	

CIE CHROMATICITY DIAGRAM:

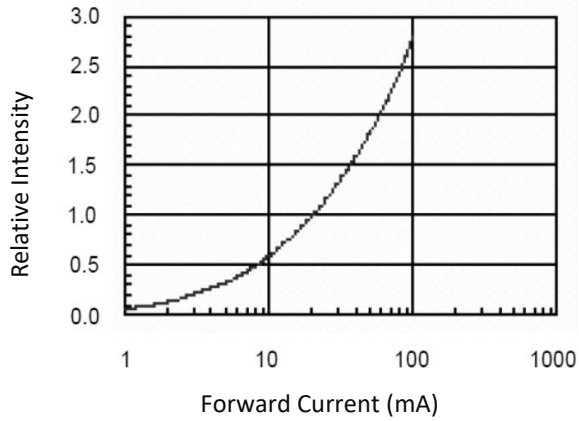


Chromaticity Coordinates Classifications ($I_F = 20\text{mA}$):

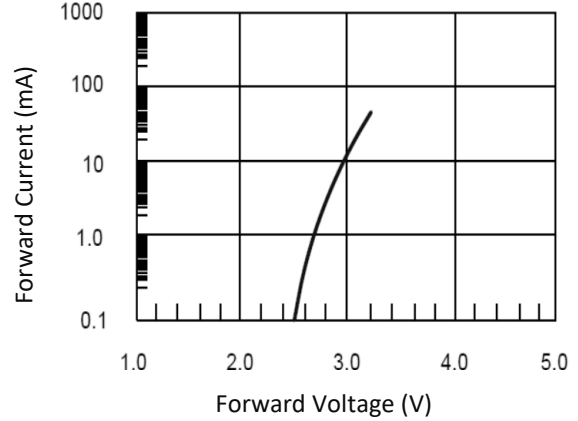
	1		2		3		4	
	X	Y	X	Y	X	Y	X	Y
B61	0.3070	0.3150	0.3090	0.3050	0.3190	0.3160	0.3190	0.3270
B62	0.3090	0.3050	0.3110	0.2940	0.3200	0.3050	0.3190	0.3160
B63	0.3190	0.3270	0.3190	0.3160	0.3300	0.3290	0.3300	0.3390
B64	0.3190	0.3160	0.3200	0.3050	0.3300	0.3180	0.3300	0.3290

ELECTRO-OPTICAL CHARACTERISTICS:

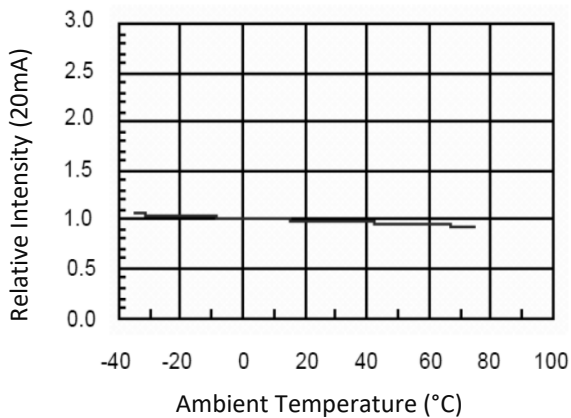
Relative Intensity v.s. Forward Current



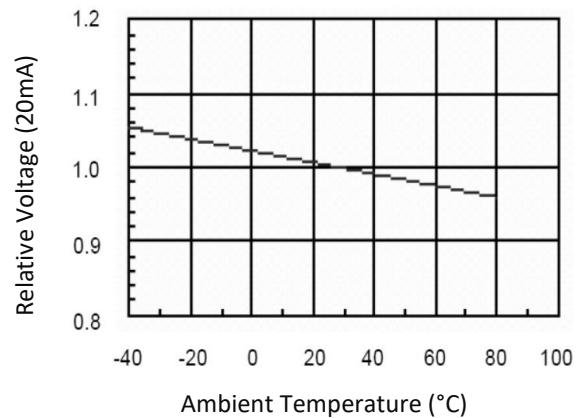
Forward Current v.s. Forward Voltage



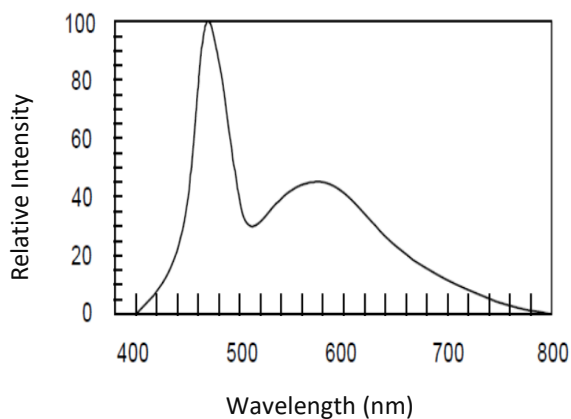
Relative Intensity v.s. Temperature



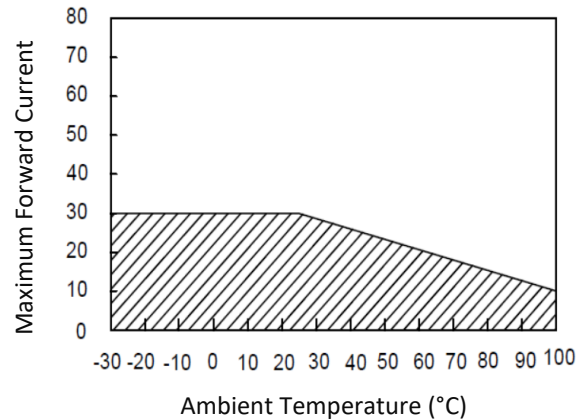
Relative Forward Voltage v.s. Temperature



Luminous Spectrum



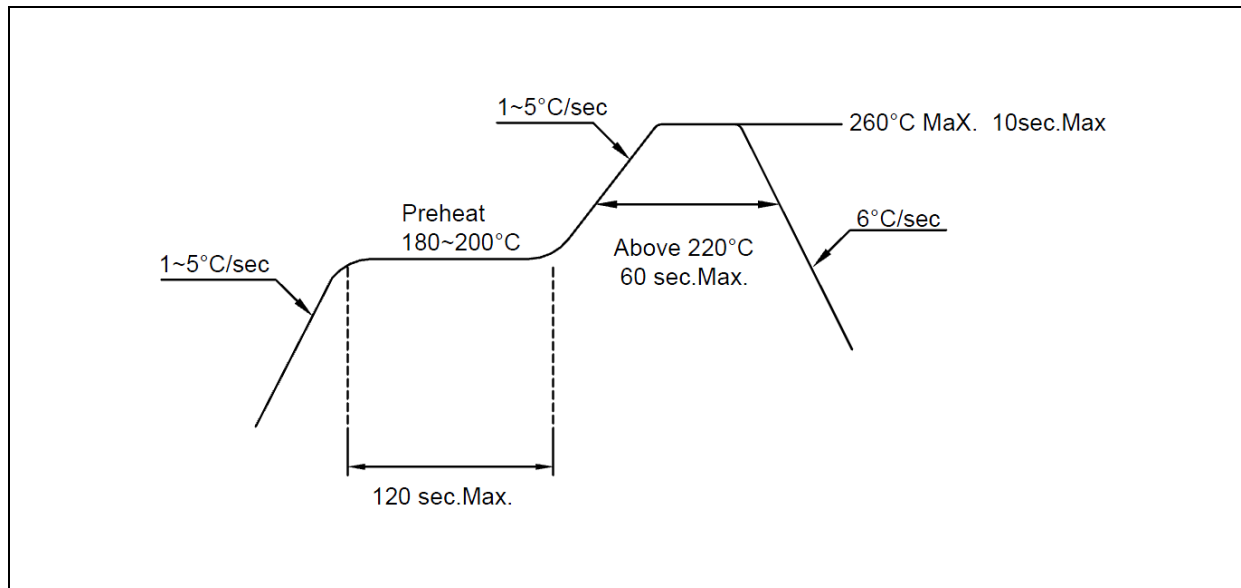
Maximum Forward Current v.s. Temperature





RECOMMENDED SOLDERING PROFILE:

Lead-free Solder:



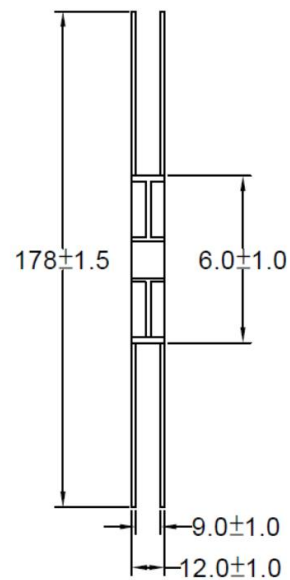
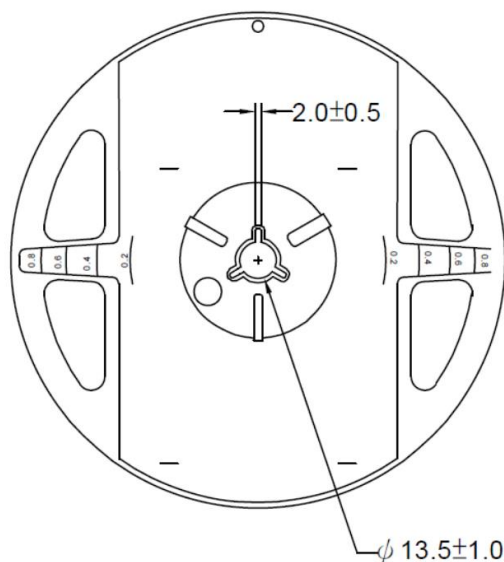
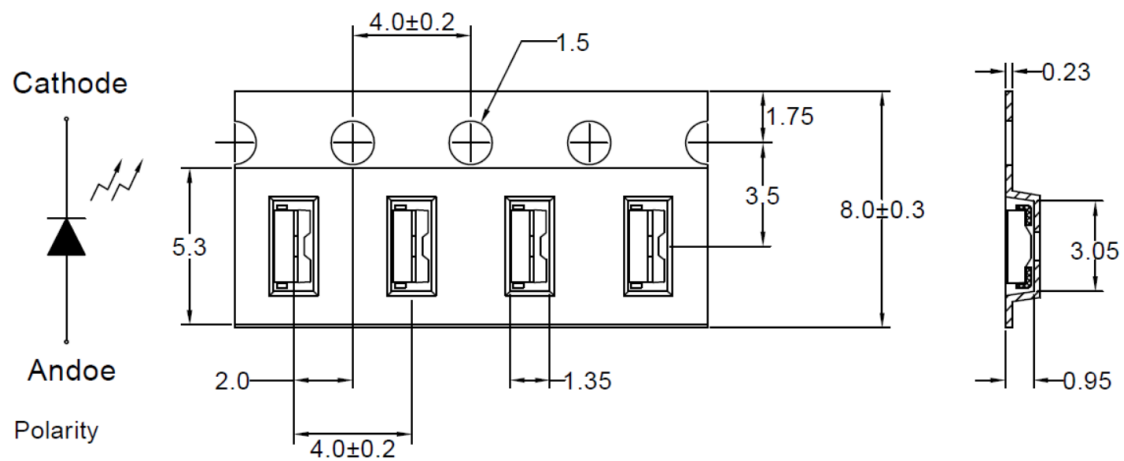
Note:

1. Maximum reflow soldering: 2 times.
2. Recommended soldering temperature is 245°C. The maximum soldering temperature should be limited to 260°C.
3. Before, during, and after soldering, should not apply stress on the components and PCB board.

PACKING SPECIFICATION:

Reel Dimension:

Max.3000pcs/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 desiccating agent <10% R.H. and apply baking before use.

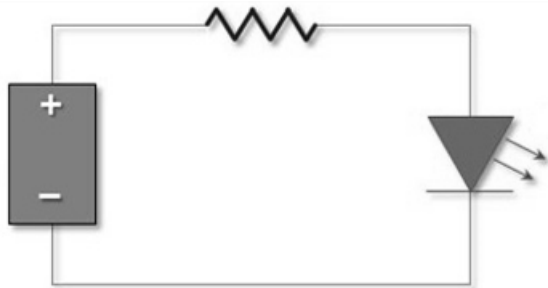
Baking:

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±5°C x 72hrs 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	20/12/2013	Datasheet set-up.
A1.1	17/10/2014	Update series name.
A1.2	06/11/2015	Part number adds -SV for side view.
A1.3	16/08/2024	Revise binning range.