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
- ▶ 2835 0.5W Series
- ▶ Green (525nm)

Release Date: 11 August 2015 Version: A1.0

N0G16S14

2835 0.5W Series

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RoHS Compliant

FEATURES:

- **Package:** PLCC2 Mid Power White SMT Package
- **Forward Current:** 150mA
- **Forward Voltage (typ.):** 3.2V
- **Luminous Intensity (typ.):** 24lm@150mA
- **Colour:** Green
- **Wavelength:** 525nm
- **Viewing angle:** 120°
- **Materials:**
  - Die: InGaN
  - Resin: Silicon (Water Clear)
  - L/T Finish: Ag plated
- **Operating Temperature:** -20~+80°C
- **Storage Temperature:** -30~+100°C
- **Grouping parameters:**
  - Forward voltage
  - Luminous intensity
  - Dominant wavelength
- **Soldering methods:** IR Reflow
- **Preconditioning:** acc. to JEDEC Level 3
- **Packing:** 12mm tape with 2000/reel, ø180mm (7’’)

APPLICATIONS:

- Decorative Lighting
- Backlighting
- Indicator
- Display

CHARACTERISTICS:

Absolute Maximum Characteristics (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Forward Current	I_F	160	mA
Peak Forward Current (Duty 1/10; width 10KHz)	I_{FP}	300	mA
Reverse Current @5V	I_R	50	µA
Power Dissipation	P_D	540	mW
Electrostatic Discharge	ESD	500	V
Junction Temperature	Tj	125	°C
Operating Temperature	T_{OPR}	-20~+80	°C
Storage Temperature	T_{STG}	-30~+100	°C
Soldering Temperature	T_{SD}	260	°C

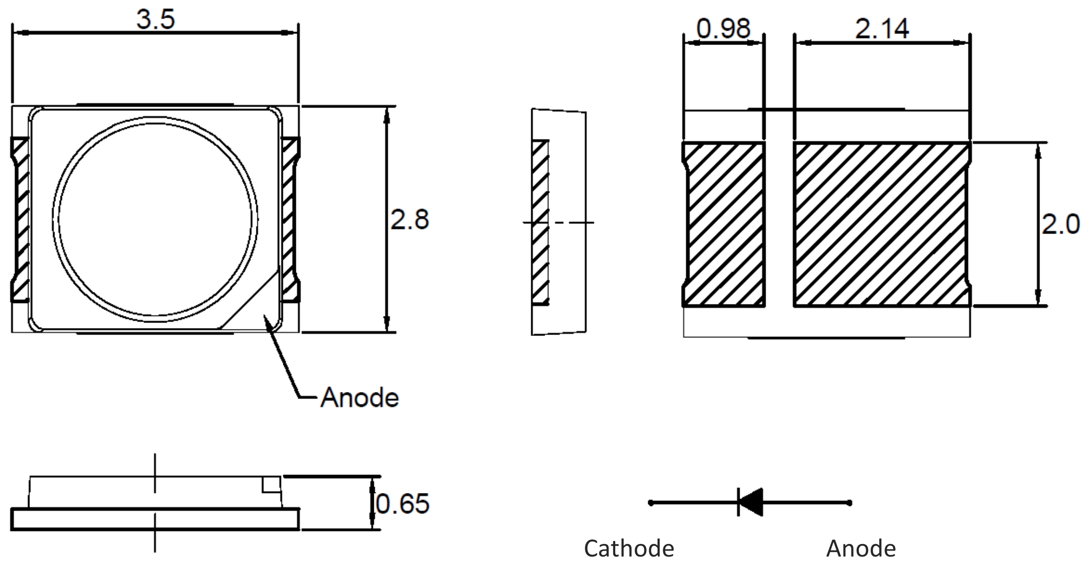
Electrical & Optical Characteristics (Ta=25°C)

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V_F	2.8	3.2	3.6	V	I_F=150mA
Luminous Intensity	I_V	21	24	33	lm	I_F=150mA
Dominant Wavelength	λ_D	519	525	531	nm	I_F=150mA
Spectral Half Width	Δλ	---	36	---	nm	I_F=150mA
Viewing Angle	$2\theta_{1/2}$	---	120	---	deg	I_F=150mA

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

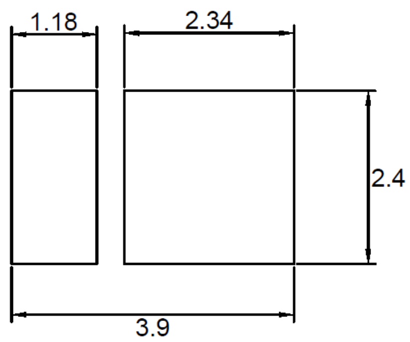
OUTLINE DIMENSION:

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°.

BINNING GROUPS:

Forward Voltage Classifications (I_F = 150mA):

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	

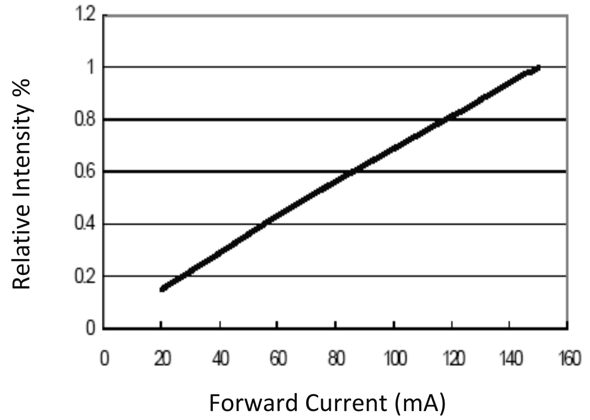
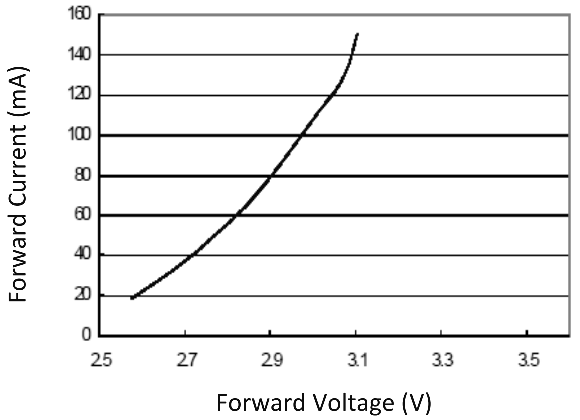
Luminous Intensity Classifications (I_F = 150mA):

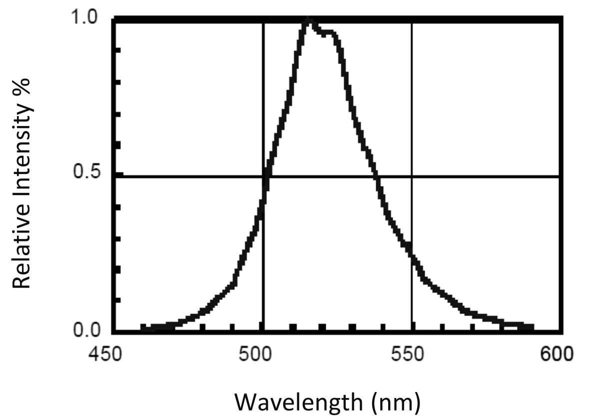
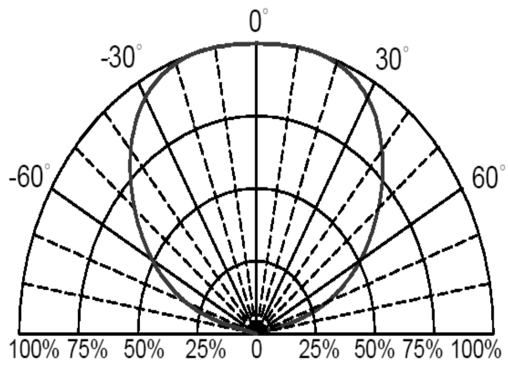
Code	Min.	Max.	Unit
F21T	21	24	lm
F24T	24	27	
F27T	27	30	
F30T	30	33	

Dominant Wavelength Classifications (I_F = 150mA):

Code	Min.	Max.	Unit
O	519	522	nm
P	522	525	
Q	525	528	
R	528	531	

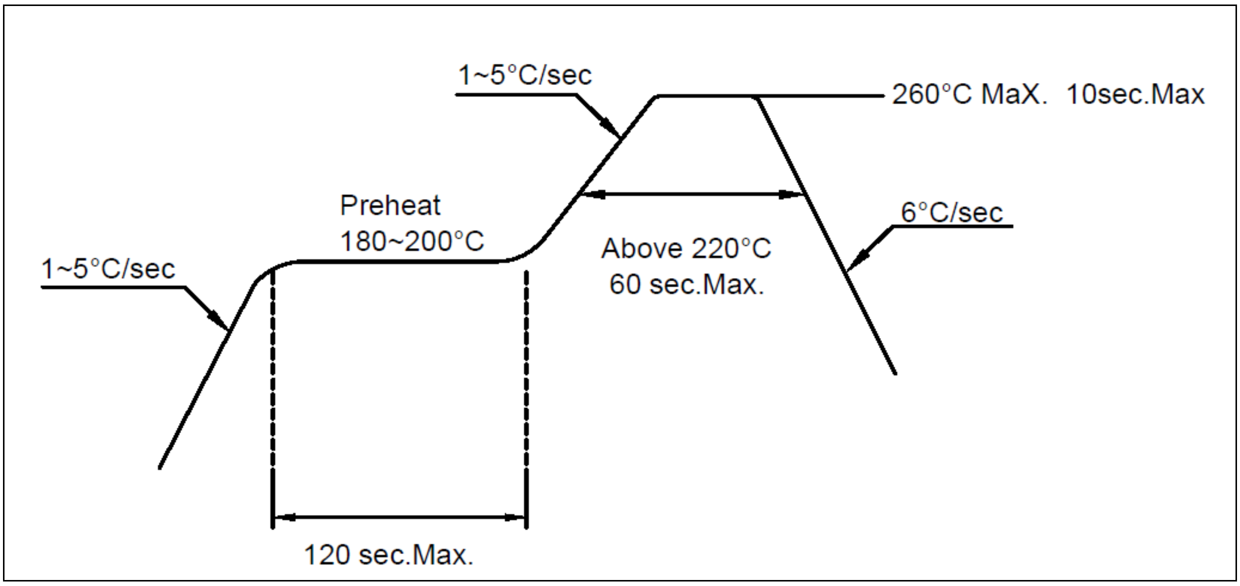
ELECTRO-OPTICAL CHARACTERISTICS:

Relative Intensity v.s. Forward Current	Forward Voltage v.s. Forward Current
	

Relative Intensity v.s. Wavelength	Directive Radiation
	

RECOMMENDED SOLDERING PROFILE:

IR Reflow Lead-free Solder:



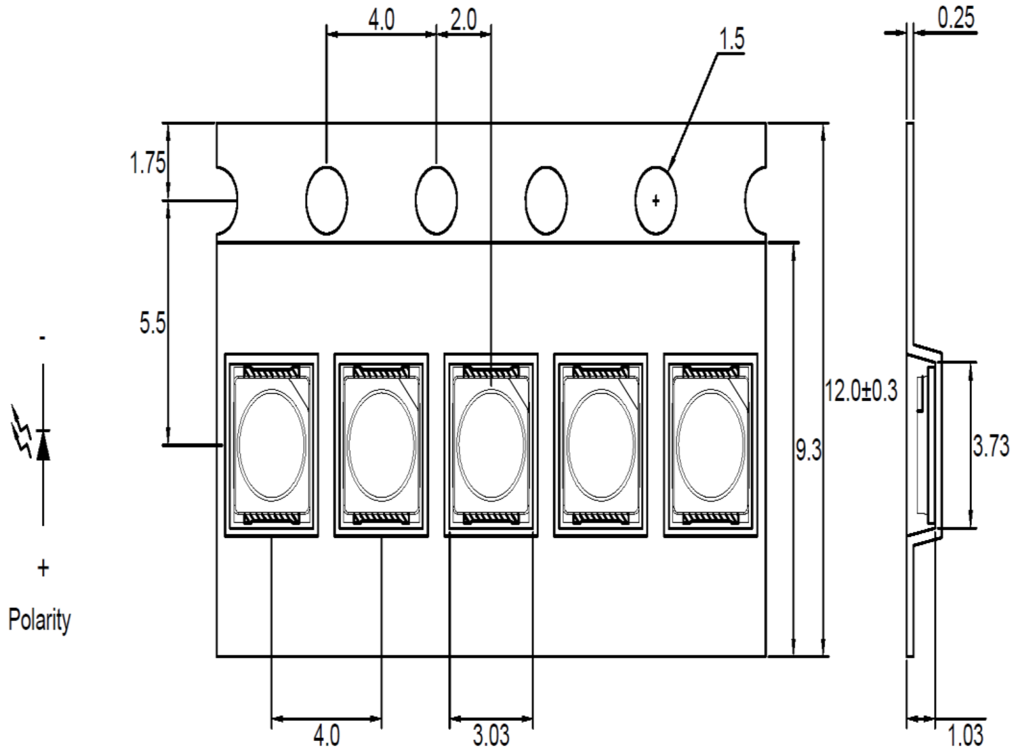
Note:

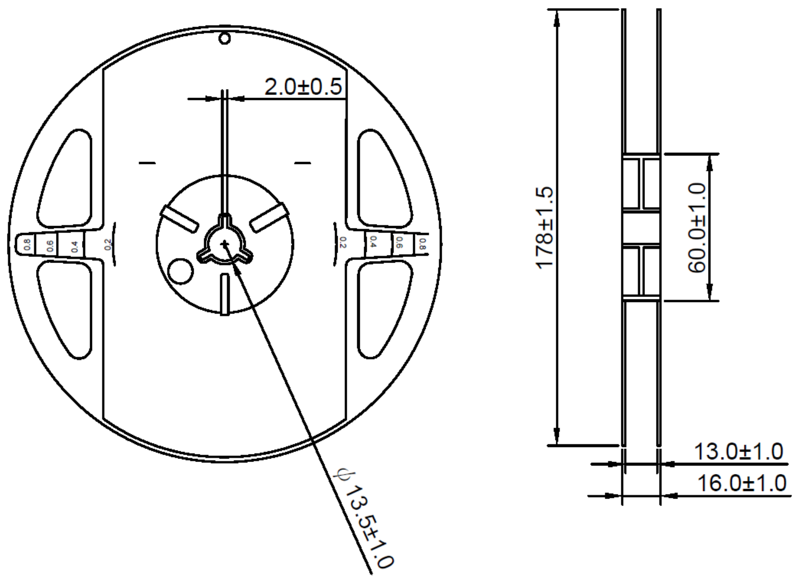
1. Maximum reflow soldering: 2 times.
2. Before, during, and after soldering, should not apply stress on the components and PCB board.
3. Recommended reflow temperature 240°C. The maximum soldering temperature should be limited to 260°C.

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

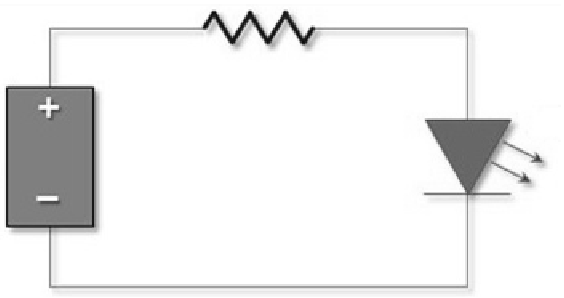
Baking:

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-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.

REVISION RECORD:

Version	Date	Summary of Revision
A1.0	11/08/2015	Datasheet set-up.