BRIGHTEK

BRIGHTEK (EUROPE) LIMITED

Brighten Up The World With LED !

ISO/TS 16949:2009 BS EN ISO 14001:2004 QC 080000 IECQ HSPM

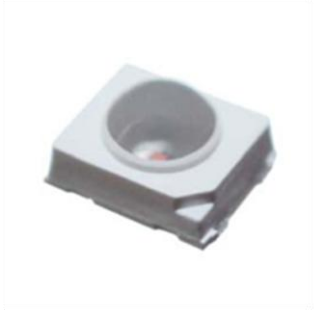
# PRODUCT DATASHEET

ATTENTION
OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES

- ▶ PLCC2 Top View
- ▶ 2835 1.85t Series
- ▶ Yellow 590nm

Release Date: 12 February 2025 Version: A1.0

# N0G69S29



2835 1.85t Series

## 2835 1.85t Series

RoHS Compliant

## FEATURES:

- **Package:** PLCC2 SMT Top View Package
- **Forward Current:** 150mA
- **Forward Voltage (typ.):** 2.1V@150mA
- **Luminous Flux (typ.):** 15lm@150mA
- **Colour:** Yellow
- **Dominant Wavelength (typ.):** 590nm
- **Viewing Angle:** 60°
- **Materials:**
  - Resin: Silicon (Water Clear)
  - L/T Finish: Ag plated
- **Operating Temperature:** -40~+85°C
- **Storage Temperature:** -40~+85°C
- **Grouping Parameters:**
  - Forward Voltage
  - Luminous Intensity
  - Dominant Wavelength
- **Soldering Methods:** Reflow
- **MSL Level:** 5a according to J-STD020
- **Packing:** 8mm tape with max.2000pcs /reel, ø178mm (7'')

## APPLICATIONS:

- Decorative Lighting
- Back Light for LCD
- Indicator
- Consumer Electronics
- Light Pipe

## CHARACTERISTICS:

### Absolute Maximum Characteristics ($T_a$=25°C)

| Parameter | Symbol | Ratings | Unit |
|---|---|---|---|
| DC Forward Current | $I_F$ | 150 | mA |
| Pulse Forward Current<br>Duty Factor 10%; Frequency 1kHz | $I_{PF}$ | 200 | mA |
| Power Dissipation | $P_d$ | 0.5 | W |
| Reverse Voltage | $V_R$ | 5 | V |
| Reverse Current @5V | $I_R$ | 10 | μA |
| Electrostatic Discharge (HBM) | ESD | 2000 | V |
| Operating Temperature | $T_{OPR}$ | -40~+85 | °C |
| Storage Temperature | $T_{STG}$ | -40~+85 | °C |
| Soldering Temperature | $T_{SOL}$ | 260 for 5s | °C |

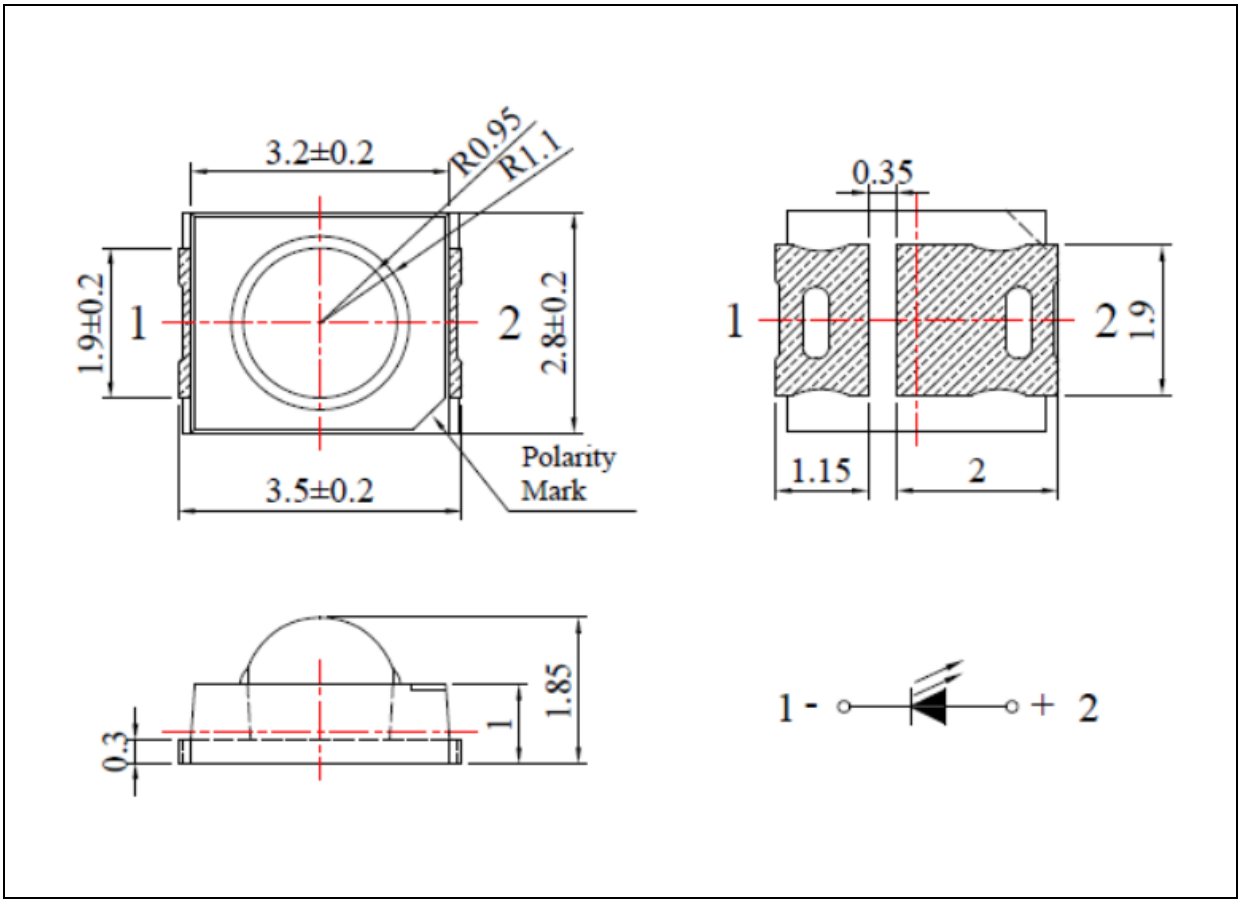
### Electrical & Optical Characteristics ($T_a$=25°C)

| Parameter | Symbol | Values | | | Unit | Test Condition |
|---|---|---|---|---|---|---|
| | | Min. | Typ. | Max. | | |
| Forward Voltage | $V_F$ | 1.6 | 2.1 | 2.4 | V | $I_F$=150mA |
| Luminous Flux | $\Phi_V$ | 10 | 15 | --- | lm | $I_F$=150mA |
| Peak Wavelength | $\lambda_P$ | --- | 592 | --- | nm | $I_F$=150mA |
| Dominant Wavelength | $\lambda_D$ | --- | 590 | --- | nm | $I_F$=150mA |
| Spectral Width 50% | $\Delta\lambda$ | --- | 15 | --- | nm | $I_F$=150mA |
| Viewing Angle | $2\theta_{1/2}$ | --- | 60 | --- | deg | $I_F$=150mA |

1. Luminous intensity ($I_V$) ±10%, Forward Voltage ($V_F$) ±0.1V, Viewing angle($2\theta_{1/2}$) ±5°

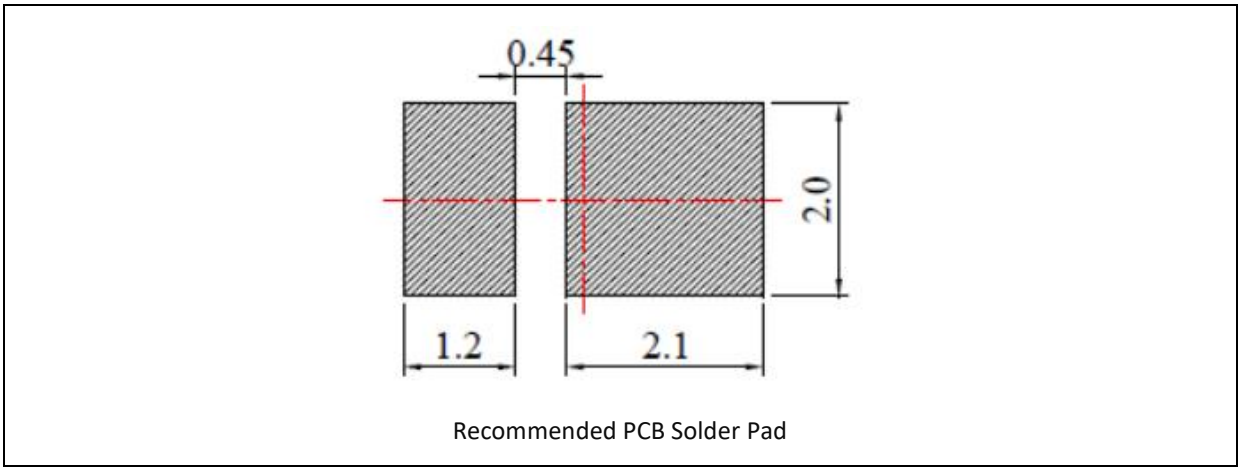
## OUTLINE DIMENSION:

Package Dimension:




1. All dimensions are in millimetre (mm).
2. Tolerance ±0.13mm, unless otherwise noted.

Recommended Soldering Pad Dimension:

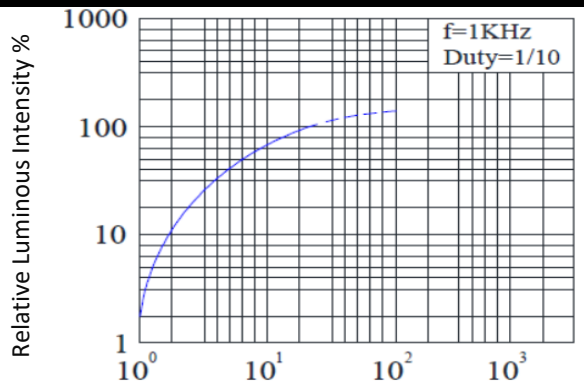



Recommended PCB Solder Pad

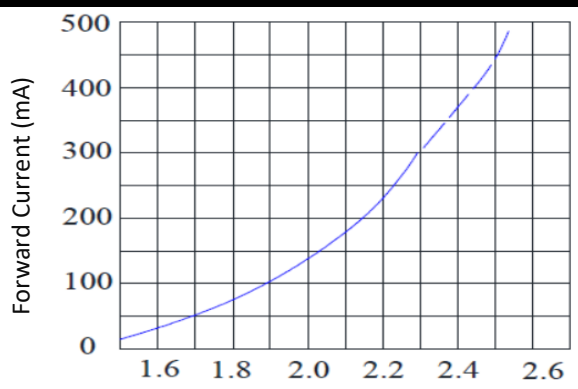
1. Dimensions are in millimetre (mm).
2. Tolerance ±0.12mm with angle tolerance ±0.5°.

## ELECTRO-OPTICAL CHARACTERISTICS:

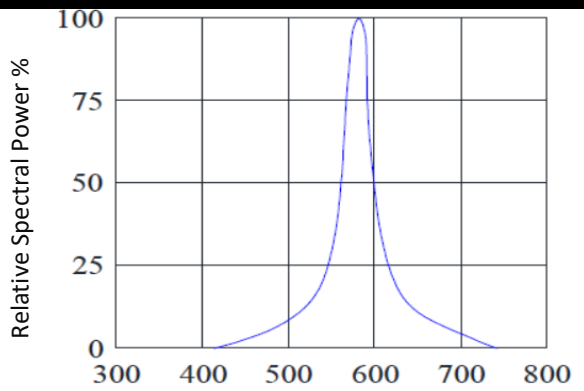
### Relative Luminous Intensity v.s. Forward Current



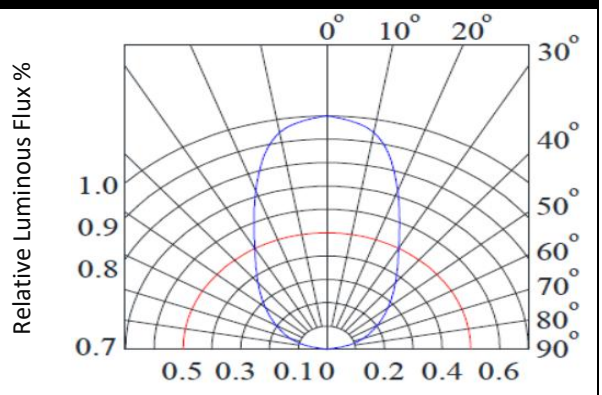

### Forward Current v.s. Forward Voltage



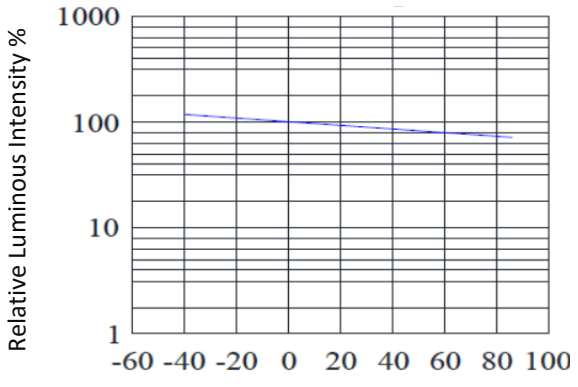

### Relative Spectral Power v.s. Wavelength



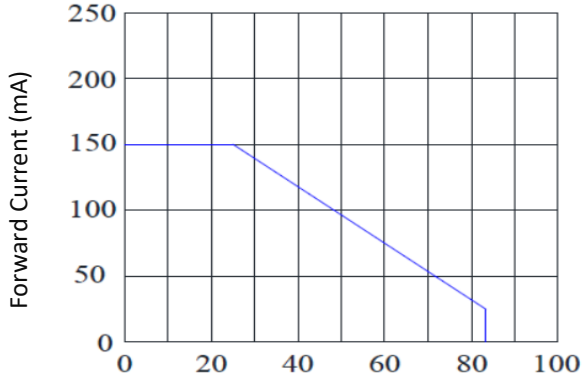

### Directive Radiation




### Relative Luminous Intensity v.s. Temperature

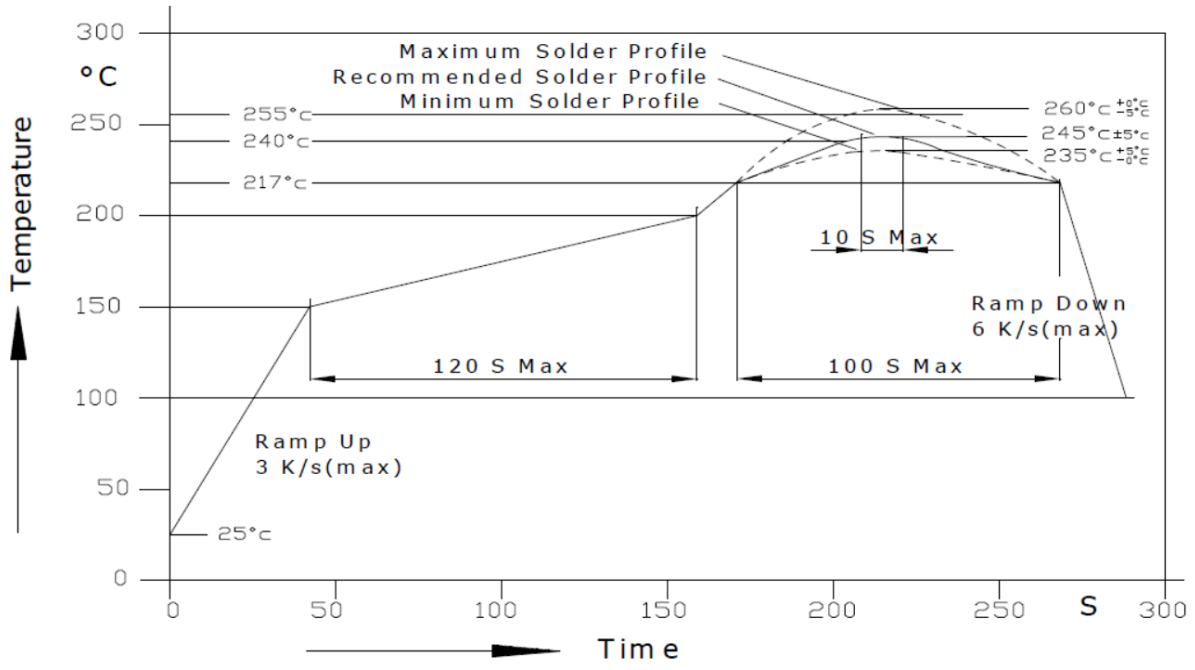



### Forward Current Derating Curve



## RECOMMENDED SOLDERING PROFILE:

Reflow Lead-free Solder:




| Reflow soldering | | Soldering iron | |
|---|---|---|---|
| Pre-heat | 150~200°C | Temperature | 300°C Max. |
| Pre-heat time | 120 sec. Max. | Soldering time | 3 sec. Max. |
| Peak temperature | 260°C Max. | | (one time only) |
| Soldering time | 10 sec. Max.(Max. two times) | | |

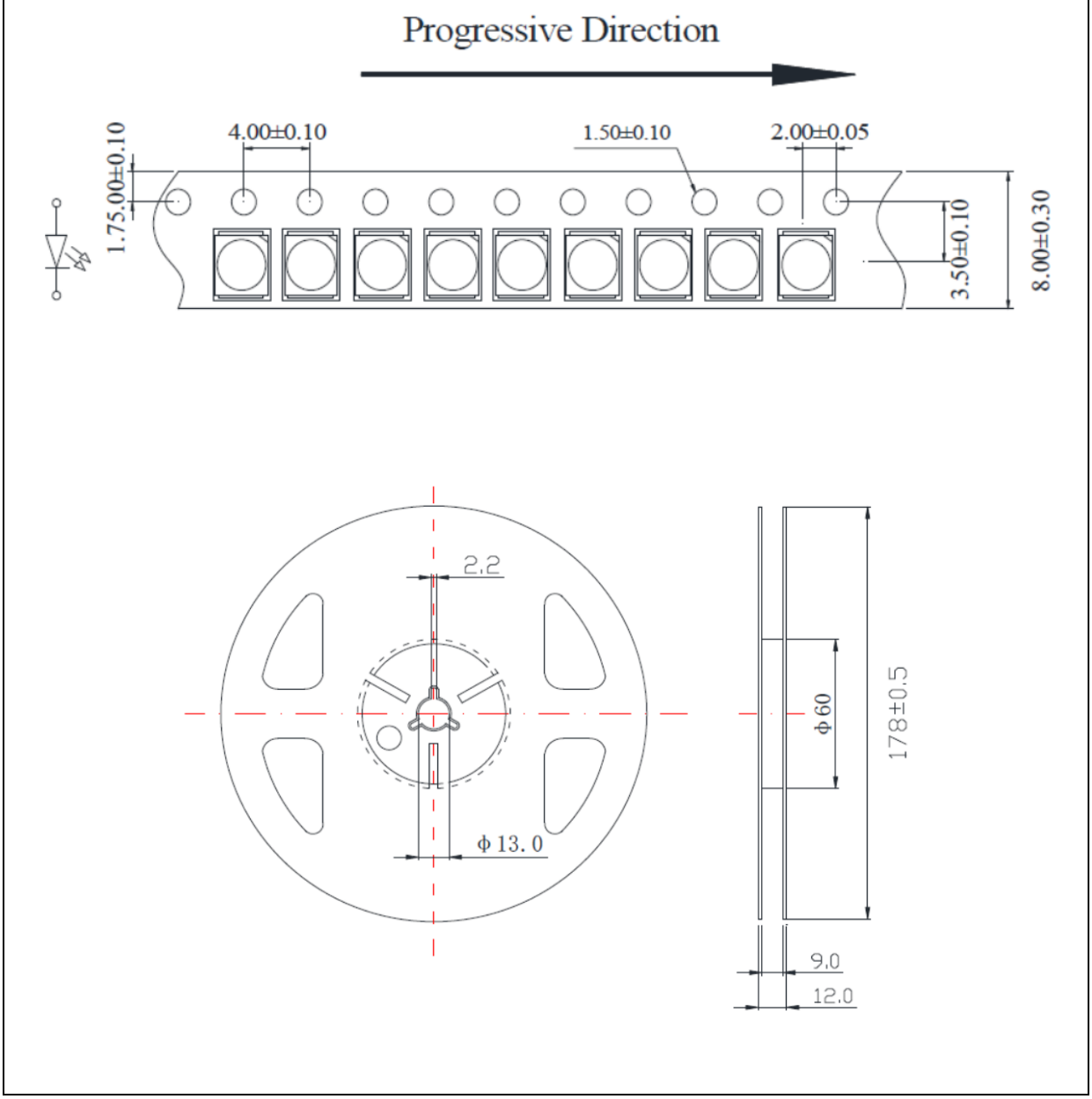
Note:

1. Maximum reflow soldering: 2 times.
2. The recommended reflow temperature is 240°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.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 24 hours. Otherwise, they should be kept in a damp-proof box with descanting agent <10% R.H. and apply baking before use.

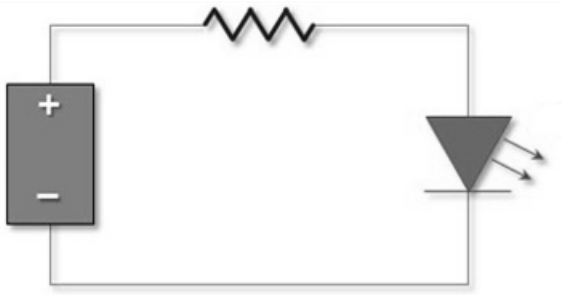
### Baking:

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±5°C x 24hrs 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.

## REVISION RECORD:

| Version | Date | Summary of Revision |
|---|---|---|
| A1.0 | 12/02/2025 | Datasheet set-up. |