

SMLP36RGB2W(R)

PICOLED™-RGB


6pin type
 1510(0604)
 1.5 × 1.0mm(t=0.2mm)

Features

- The smallest class 3 color type LED in the world PICOLED™-RGB
- 6pin type
- Low height contributes to the improvement of color mixture



Specifications

| Part No. | Chip Structure | Emitting Color | Absolute Maximum Ratings (Ta=25°C) | | | | | | Electrical and Optical Characteristics (Ta=25°C) | | | | | | | | | | |
|--|----------------|----------------|--|------------------------------|------------------------------------|-----------------------------|--------------------------------------|------------------------------------|--|--------|--------------------|-------|----------------------------|--------------|----------------------------|-----------------------|---------------|---------------|--------|
| | | | Power* ¹ Dissipation Pd(mW) | Forward Current If(mA) | Peak Forward Current IFP(mA) | Reverse Voltage VR(V) | Operating Temperature Topr(°C) | Storage Temperature Tstg(°C) | Forward Voltage VF | | Reverse Current IR | | Dominant Wavelength λD | | | Luminous Intensity Iv | | | |
| | | | | | | | | | Typ.(V) | If(mA) | Max. (μA) | VR(V) | Min.* ⁴ (nm) | Typ. (nm) | Max.* ⁴ (nm) | If(mA) | Min. (mcd) | Typ. (mcd) | If(mA) |
|  SMLP36RGB2W(R) | AlGaInP | Red | | | | | | | 2.1 | | | | 619 | 624 | 629 | | 14 | 35 | |
| | InGaN | Green | 35 | 10 | 50 | 5 | -40 to +85 | -40 to +100 | 3.1 | 5 | 10 | 5 | 520 | 527 | 535 | 5 | 56 | 110 | 5 |
| | | Blue | | | | | | | | 3.0 | | | | 465 | 470 | 475 | | 28 | 45 |

* 1: Total power dissipation in case of lighting several colors.

* 2: The above absolute maximum ratings are valid for the case of lighting a single color.

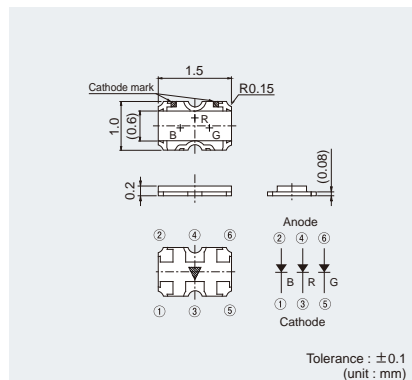
When lighting two colors at the same time, each of the figures in the absolute maximum ratings should be reduced down to 50% of it.

When lighting three colors, it will be reduced down to 30% of it.

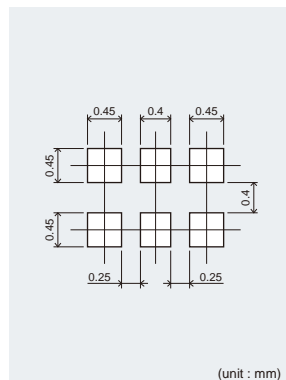
* 3: Duty ≤ 1/20, 1kHz

* 4: Reference

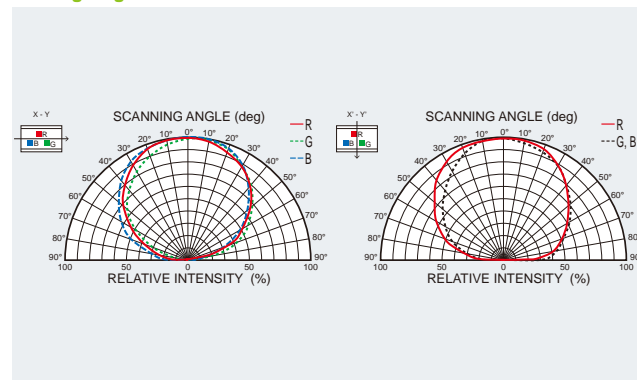
Dimensions



Recommended Solder Pattern



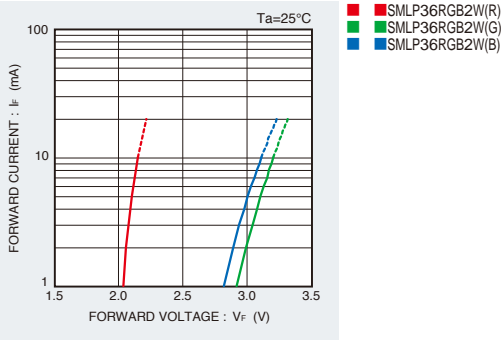
Viewing Angle



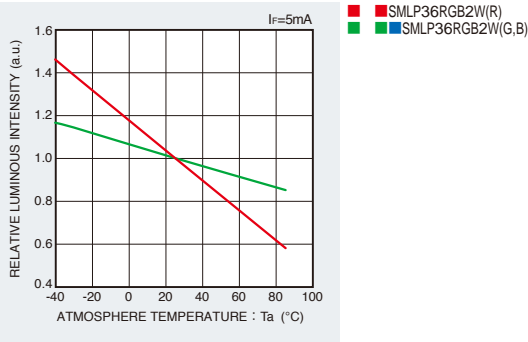
* PICOLED™ is ROHM's pending trademark.

Electrical Characteristics Curves

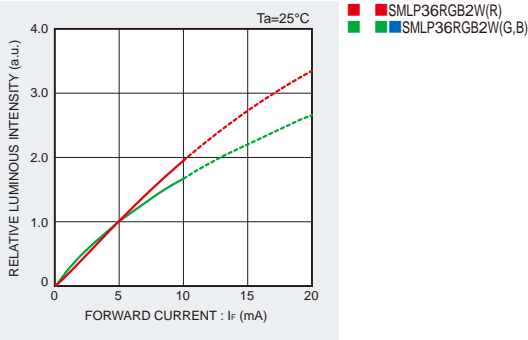
Forward Current-Forward Voltage



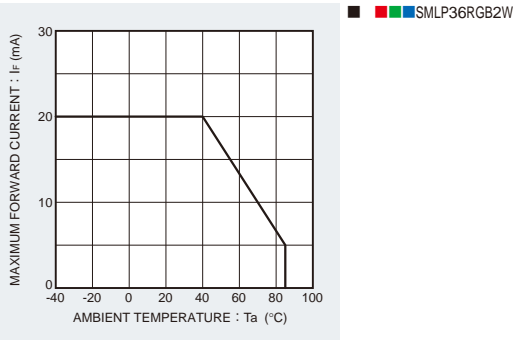
Luminous Intensity-Atmosphere Temperature



Luminous Intensity-Forward Current



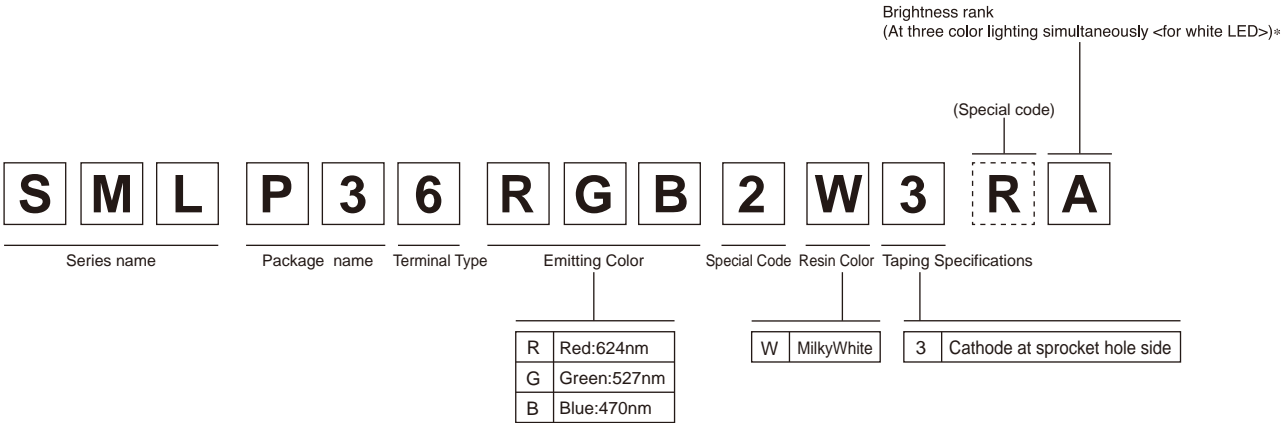
Derating



Rank Reference of Brightness

| (Ta=25°C, If=5mA) | | | | | | | | | | | | | | | |
|---------------------|-------------------|-------------|--------------------------|----------|-----------|-----------|-----------|------------|-----------|----------|-----------|-----------|-----------|------------|-----------|
| | Package size (mm) | Height (mm) | Luminous Intensity (mcd) | A | B | C | D | E | F | G | H | J | K | L | M |
| Mini-mold Chip LEDs | 1010 | 0.2 | Blue | 28 to 56 | 56 to 110 | 28 to 56 | 56 to 110 | 28 to 56 | 56 to 110 | 28 to 56 | 56 to 110 | 28 to 56 | 56 to 110 | 28 to 56 | 56 to 110 |
| | | | Green | 56 to 90 | | 90 to 140 | | 140 to 220 | | 56 to 90 | | 90 to 140 | | 140 to 220 | |
| | | | Red | 14 to 28 | | | | | | 28 to 56 | | | | | |

Part No. Explanation



- * Concerning the Brightness rank
- Please refer to the rank chart above for luminous intensity classification.
 - Part name is individual for each rank.
 - When shipped as sample, the part name will be a representative part name.
- General products are free of ranks. Please contact sales if rank appointment is needed.

Packing Specification

ROHM LED products are being shipped with desiccant (silica gel) concluded in moisture-proof bags.
Pasting the moisture sensitive label on the outer surface of the moisture-proof bags or enclosing the humidity indication card inside the bag is available upon request.
Please contact the nearest sales office or distributor if necessary.

Notes

- 1) The information contained herein is subject to change without notice.
- 2) Before you use our Products, please contact our sales representative and verify the latest specifications :
- 3) Although ROHM is continuously working to improve product reliability and quality, semiconductors can break down and malfunction due to various factors.
Therefore, in order to prevent personal injury or fire arising from failure, please take safety measures such as complying with the derating characteristics, implementing redundant and fire prevention designs, and utilizing backups and fail-safe procedures. ROHM shall have no responsibility for any damages arising out of the use of our Products beyond the rating specified by ROHM.
- 4) Examples of application circuits, circuit constants and any other information contained herein are provided only to illustrate the standard usage and operations of the Products. The peripheral conditions must be taken into account when designing circuits for mass production.
- 5) The technical information specified herein is intended only to show the typical functions of and examples of application circuits for the Products. ROHM does not grant you, explicitly or implicitly, any license to use or exercise intellectual property or other rights held by ROHM or any other parties. ROHM shall have no responsibility whatsoever for any dispute arising out of the use of such technical information.
- 6) The Products are intended for use in general electronic equipment (i.e. AV/OA devices, communication, consumer systems, gaming/entertainment sets) as well as the applications indicated in this document.
- 7) The Products specified in this document are not designed to be radiation tolerant.
- 8) For use of our Products in applications requiring a high degree of reliability (as exemplified below), please contact and consult with a ROHM representative : transportation equipment (i.e. cars, ships, trains), primary communication equipment, traffic lights, fire/crime prevention, safety equipment, medical systems, servers, solar cells, and power transmission systems.
- 9) Do not use our Products in applications requiring extremely high reliability, such as aerospace equipment, nuclear power control systems, and submarine repeaters.
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