

SML-A1 Series

EXCELED™

1611(0605)
1.6 × 1.15mm(t=0.55mm)

Features

- Compact size side-view LEDs

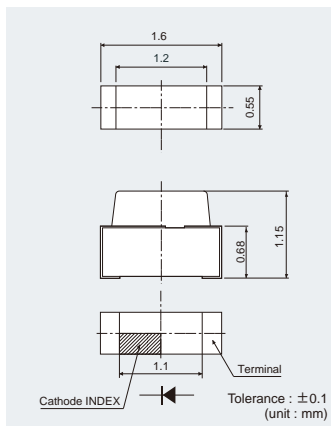


Specifications

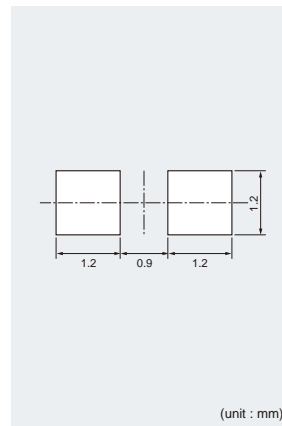
| Part No. | Chip Structure | Emitting Color | Absolute Maximum Ratings (Ta=25°C) | | | | | Electrical and Optical Characteristics (Ta=25°C) | | | | | | | | | | | |
|----------------|-----------------|-----------------|------------------------------------|------------------------|---|-----------------------|--------------------------------|--|-----------------------------|--------|------------------------------|--------|------------------------|--------|--------|-----------------------|------------|--------|----|
| | | | Power Dissipation Pd(mW) | Forward Current IF(mA) | Peak Forward Current I _{FP} (mA) | Reverse Voltage VR(V) | Operating Temperature Topr(°C) | Storage Temperature Tstg(°C) | Forward Voltage VF(Typ.)(V) | IF(mA) | Reverse Current IR(Max.)(μA) | VR(V) | Dominant Wavelength λD | | | Luminous Intensity Iv | | | |
| | | | | | | | | | | | | Min.*2 | Typ.*2 | Max.*2 | IF(mA) | Min. (mcd) | Typ. (mcd) | IF(mA) | |
| ■ SML-A12V8T | AlGaInP on GaAs | Red | 54 | 20 | | | | | | | | 625 | 630 | 635 | | 16 | 40 | | |
| ■ SML-A12U8T | | | | | | | | | | | | 615 | 620 | 625 | | 25 | 63 | | |
| ■ SML-A12UT(J) | | | | | | | | | | | | 619 | 624 | 629 | | 36 | | | |
| ■ SML-A12D8T | AlGaInP on GaAs | Orange | 54 | 20 | | | | | | | | 602 | 605 | 608 | | 40 | 100 | | |
| ■ SML-A12DT(J) | | | | | | | | | | | | 606 | 609 | 20 | | 36 | 20 | | |
| ■ SML-A12WT(J) | | | | | | | | | | | | 587 | 590 | 593 | | 25 | 63 | | |
| ■ SML-A12Y8T | AlGaInP on GaAs | Yellow | 54 | 20 | | | | | | | | 569 | 572 | 575 | | 10 | 25 | | |
| ■ SML-A12M8T | | | | | | | | | | | | 567 | 570 | 573 | | 14 | 40 | | |
| ■ SML-A12MT(J) | | | | | | | | | | | | 557 | 560 | 563 | | 2.5 | 6.3 | | |
| ■ SML-A12P8T | AlGaInP on GaAs | Yellowish Green | 54 | 20 | | | | | | | | (520) | 527 | (535) | | 22 | 56 | | |
| ■ SML-A12EC6T | | | | | | | | | | | | 465 | 470 | 475 | | 5 | 5.6 | | 16 |
| ■ SMLA12BC7T | | | | | | | | | | | | 464 | 476 | 22 | | 24 | 5 | | |
| ■ SMLA13BC8T | InGaN | Blue | 66 | 20 | 100 ₊₁ | 5 | | | | | | 465 | 470 | 475 | | 5.6 | 16 | 5 | |
| ■ SMLA13BC8T | | | | | | | | | | | | 464 | 476 | 22 | | 24 | | | |
| □ SMLA12WBC7W | InGaN | White | 84 | 10 | 50 ₊₁ | | | | | | | (X,Y) | (0.30,0.30) | | 56 | | | | |
| □ SMLA12WBC7W | | | | | | | | | | | | | | | | | | | |

* 1:Duty 1/10, 1kHz / * 2:Reference

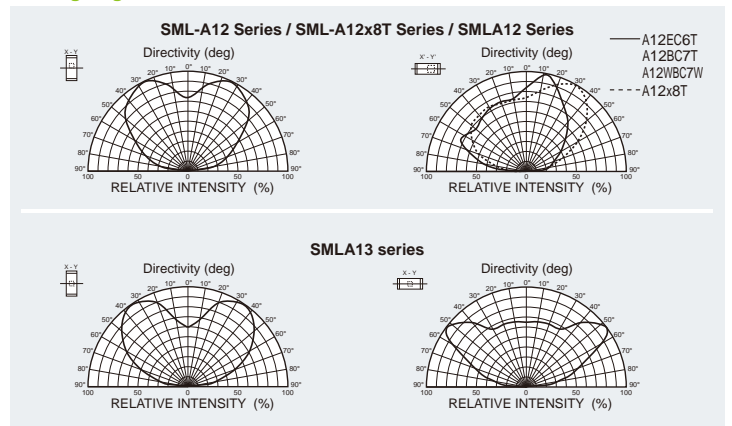
Dimensions



Recommended Solder Pattern



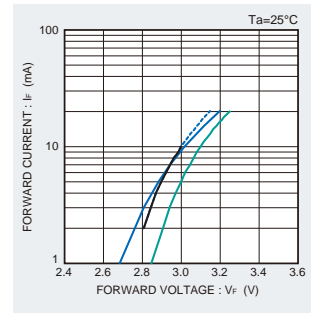
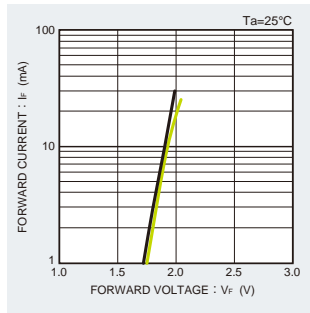
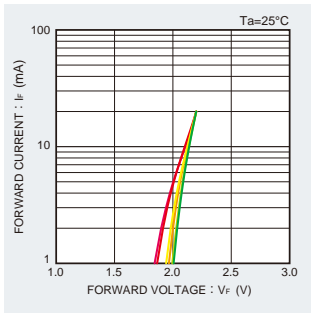
Viewing Angle



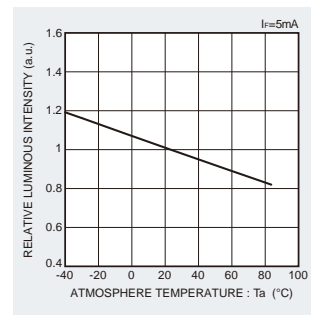
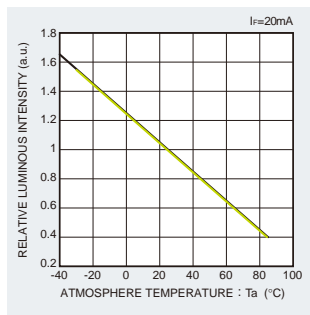
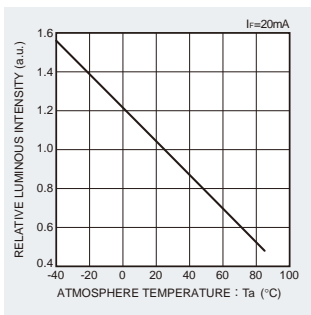
* EXCELED™ is ROHM's pending trademark.

Electrical Characteristics Curves

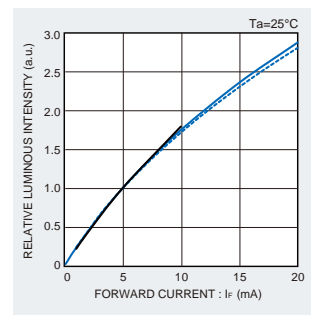
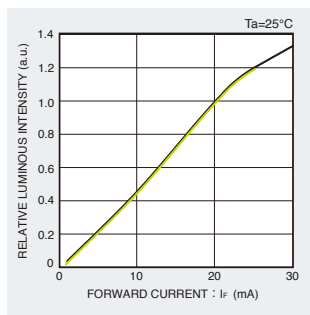
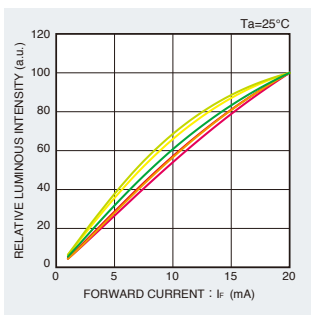
Forward Current-Forward Voltage



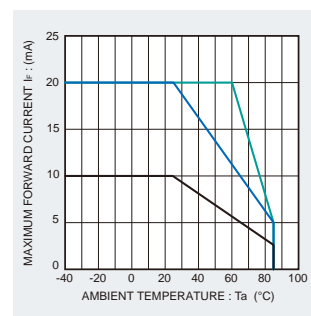
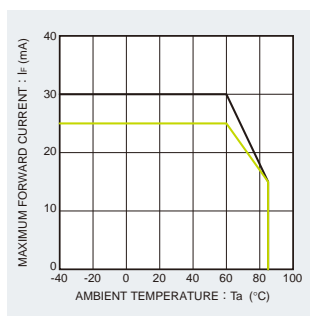
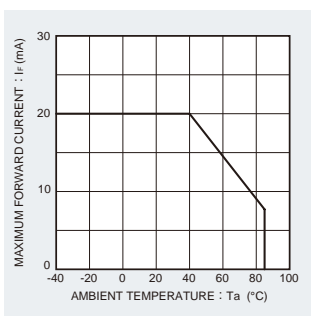
Luminous Intensity-Atmosphere Temperature



Luminous Intensity-Forward Current



Derating



SML-A1 Series

Rank Reference of Brightness

Red (V, U)

(Ta=25°C, If=20mA)

| Package size(mm) | Height(mm) | Luminous Intensity (mcd) | G | H | J | K | L | M | N | P | Q | R | S | T | U | V | W | X |
|---------------------|------------|--------------------------|------------|------------|------------|------------|-----------|----------|----------|----------|------------|-----------|------------|------------|------------|------------|-------------|--------------|
| | | | 1.0 to 1.6 | 1.6 to 2.5 | 2.5 to 4.0 | 4.0 to 6.3 | 6.3 to 10 | 10 to 16 | 16 to 25 | 25 to 40 | 40 to 63 | 63 to 100 | 100 to 160 | 160 to 250 | 250 to 400 | 400 to 630 | 630 to 1000 | 1000 to 1600 |
| Side View Chip LEDs | 16115 | 0.55 | | | | | | | | | SML-A12V8T | | | | | | | |
| | | | | | | | | | | | SML-A12U8T | | | | | | | |
| | | | | | | | | | | | SML-A12UT* | | | | | | | |

Orange (D)

(Ta=25°C, If=20mA)

| Package size(mm) | Height(mm) | Luminous Intensity (mcd) | G | H | J | K | L | M | N | P | Q | R | S | T | U | V | W | X |
|---------------------|------------|--------------------------|------------|------------|------------|------------|-----------|----------|----------|----------|------------|-----------|------------|------------|------------|------------|-------------|--------------|
| | | | 1.0 to 1.6 | 1.6 to 2.5 | 2.5 to 4.0 | 4.0 to 6.3 | 6.3 to 10 | 10 to 16 | 16 to 25 | 25 to 40 | 40 to 63 | 63 to 100 | 100 to 160 | 160 to 250 | 250 to 400 | 400 to 630 | 630 to 1000 | 1000 to 1600 |
| Side View Chip LEDs | 16115 | 0.55 | | | | | | | | | SML-A12D8T | | | | | | | |
| | | | | | | | | | | | SML-A12DT* | | | | | | | |

Yellow (Y)

(Ta=25°C, If=20mA)

| Package size(mm) | Height(mm) | Luminous Intensity (mcd) | G | H | J | K | L | M | N | P | Q | R | S | T | U | V | W | X |
|---------------------|------------|--------------------------|------------|------------|------------|------------|-----------|----------|----------|----------|------------|-----------|------------|------------|------------|------------|-------------|--------------|
| | | | 1.0 to 1.6 | 1.6 to 2.5 | 2.5 to 4.0 | 4.0 to 6.3 | 6.3 to 10 | 10 to 16 | 16 to 25 | 25 to 40 | 40 to 63 | 63 to 100 | 100 to 160 | 160 to 250 | 250 to 400 | 400 to 630 | 630 to 1000 | 1000 to 1600 |
| Side View Chip LEDs | 16115 | 0.55 | | | | | | | | | SML-A12Y8T | | | | | | | |
| | | | | | | | | | | | SML-A12YT* | | | | | | | |

Green (M, P)

(Ta=25°C, If=20mA)

| Package size(mm) | Height(mm) | Luminous Intensity (mcd) | G | H | J | K | L | M | N | P | Q | R | S | T | U | V | W | X |
|---------------------|------------|--------------------------|------------|------------|------------|------------|-----------|----------|----------|----------|------------|-----------|------------|------------|------------|------------|-------------|--------------|
| | | | 1.0 to 1.6 | 1.6 to 2.5 | 2.5 to 4.0 | 4.0 to 6.3 | 6.3 to 10 | 10 to 16 | 16 to 25 | 25 to 40 | 40 to 63 | 63 to 100 | 100 to 160 | 160 to 250 | 250 to 400 | 400 to 630 | 630 to 1000 | 1000 to 1600 |
| Side View Chip LEDs | 16115 | 0.55 | | | | | | | | | SML-A12MT* | | | | | | | |
| | | | | | | | | | | | SML-A12M8T | | | | | | | |
| | | | | | | | | | | | SML-A12P8T | | | | | | | |

Bluish Green (E)

(Ta=25°C, If=5mA)

| Package size(mm) | Height(mm) | Luminous Intensity (mcd) | G | H | J | K | L | M | N | P | Q | R | S | T | U | V | W |
|---------------------|------------|--------------------------|------------|------------|------------|------------|------------|---------|----------|----------|------------|----------|-----------|------------|------------|------------|------------|
| | | | 0.9 to 1.4 | 1.4 to 2.2 | 2.2 to 3.6 | 3.6 to 5.6 | 5.6 to 9.0 | 9 to 14 | 14 to 22 | 22 to 36 | 36 to 56 | 56 to 90 | 90 to 140 | 140 to 220 | 220 to 360 | 360 to 560 | 560 to 900 |
| Side View Chip LEDs | 16115 | 0.55 | | | | | | | | | SMLA12EC6T | | | | | | |

Blue (B)

(Ta=25°C, If=5mA)

| Package size(mm) | Height(mm) | Luminous Intensity (mcd) | G | H | J | K | L | M | N | P | Q | R | S | T | U | V | W |
|---------------------|------------|--------------------------|------------|------------|------------|------------|------------|---------|----------|----------|------------|----------|-----------|------------|------------|------------|------------|
| | | | 0.9 to 1.4 | 1.4 to 2.2 | 2.2 to 3.6 | 3.6 to 5.6 | 5.6 to 9.0 | 9 to 14 | 14 to 22 | 22 to 36 | 36 to 56 | 56 to 90 | 90 to 140 | 140 to 220 | 220 to 360 | 360 to 560 | 560 to 900 |
| Side View Chip LEDs | 16115 | 0.55 | | | | | | | | | SMLA12BC7T | | | | | | |
| | | | | | | | | | | | SMLA13BC8T | | | | | | |

White (WB)

(Ta=25°C, If=5mA)

| Package size(mm) | Height(mm) | Luminous Intensity (mcd) | G | H | J | K | L | M | N | P | Q | R | S | T | U | V | W |
|---------------------|------------|--------------------------|------------|------------|------------|------------|------------|---------|----------|----------|-------------|----------|-----------|------------|------------|------------|------------|
| | | | 0.9 to 1.4 | 1.4 to 2.2 | 2.2 to 3.6 | 3.6 to 5.6 | 5.6 to 9.0 | 9 to 14 | 14 to 22 | 22 to 36 | 36 to 56 | 56 to 90 | 90 to 140 | 140 to 220 | 220 to 360 | 360 to 560 | 560 to 900 |
| Side View Chip LEDs | 16115 | 0.55 | | | | | | | | | SMLA12WBC7W | | | | | | |

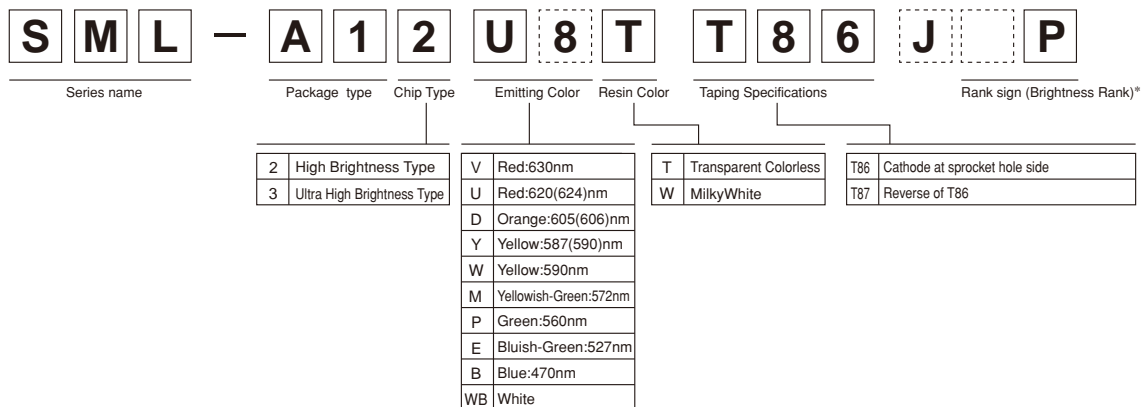
※Brightness on specification sheet include tolerance of within ± 10%.

Part No. Construction

* "-" will be taken out for emitting color B/E series.

Dice classification code

(Special classification code) Chromaticity rank(for white LED)



- 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.
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