

SML-M1 Series

20125 (0805)
2.0 × 1.25mm (t=0.8mm)

Features

- Compact LED with reflector
- Die is located at the center of the package, achieving equivalent distribution of light emission.
- New emitting color, including the pastel colors available upon request.

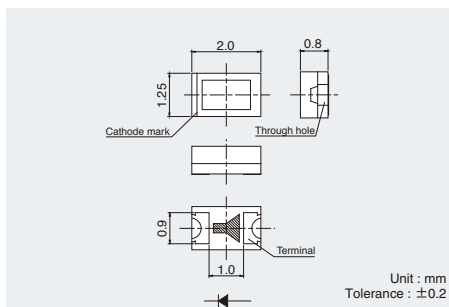


Specifications

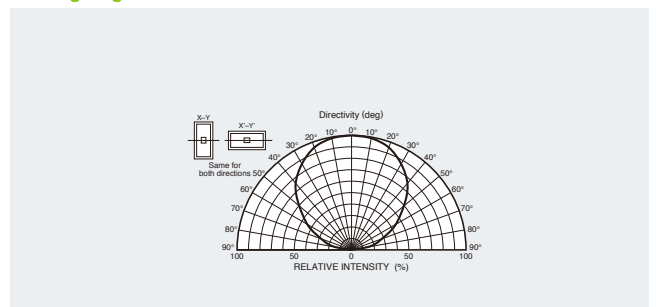
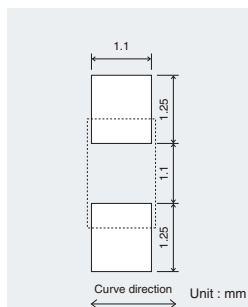
| Part No. | Chip Structure | Emitting Color | Absolute Maximum Ratings (Ta=25°C) | | | | | Electrical and Optical Characteristics (Ta=25°C) | | | | | | | | | | |
|---------------|-----------------|-----------------|------------------------------------|-------------------------|-------------------------------|------------------------|---------------------------------|--|------------------------|-------------------------|-----------------------------|-----------|-------------|-----------------------------|------------|------------|-----|-----|
| | | | Power Dissipation Pd (mW) | Forward Current If (mA) | Peak Forward Current Ifp (mA) | Reverse Voltage Vr (V) | Operating Temperature Topr (°C) | Storage Temperature Tstg (°C) | Forward Voltage Vf (V) | Reverse Current Ir (μA) | Dominant Wavelength λD (nm) | | | Luminous Intensity Iv (mcd) | | | | |
| | | | | | | | | Typ. (V) | Max. (μA) | Max. (V) | Min.*2 (nm) | Typ. (nm) | Max.*2 (nm) | Min. (mcd) | Typ. (mcd) | Max. (mcd) | | |
| ■ SML-M13VT | AlGaInP on GaAs | Red | 63 | 25 | 100*1 | 5 | -40 to +85 | | 2.0 | 20*1 | 10 | 5 | 625 | 630 | 635 | 20 | 40 | 75 |
| ■ SML-M13UT | | | | | | | | | | | | | 615 | 620 | 625 | | 63 | 120 |
| ■ SML-M13DT | | Orange | | | | | | | | | | | 602 | 605 | 608 | | 100 | 200 |
| ■ SML-M13YT | | Yellow | | | | | | | | | | | 587 | 590 | 593 | | 160 | |
| ■ SML-M13MT | | Yellowish Green | | | | | | | | | | | 569 | 572 | 575 | | 25 | 45 |
| ■ SML-M13PT | InGaN | Green | 68 | 30 | | | | 2.2 | | | 557 | 560 | 563 | 6.3 | 16 | | | |
| ■ SMLM12BC7T | | Blue | 66 | 20 | | | | 2.9 | 5*1 | 100 | 465 | 470 | 475 | 5 | - | 36 | | |
| □ SMLM12WBC7W | | White | | | | | | | | | (x, y) (0.30, 0.30) | 56 | 100 | | 5 | | | |

*1: Duty1/10 1KHz *2: Reference

Dimensions

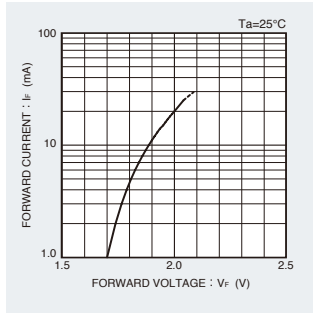


Recommended Solder Pattern Viewing Angle

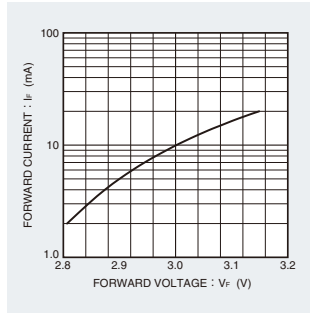


Electrical Characteristics Curves

Forward Current-Forward Voltage

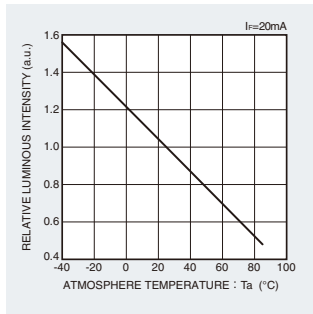


- SML-M13VT
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- SML-M13DT
- SML-M13YT
- SML-M13MT
- SML-M13PT

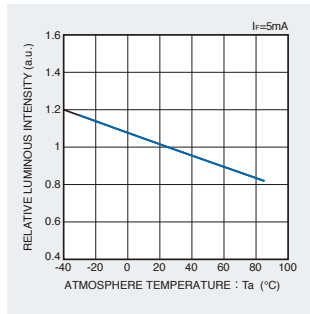


- SMLM12BC7T
- SMLM12WBC7W

Luminous Intensity-Atmosphere Temperature

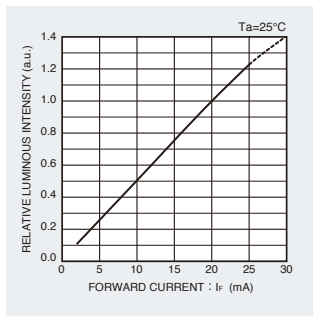


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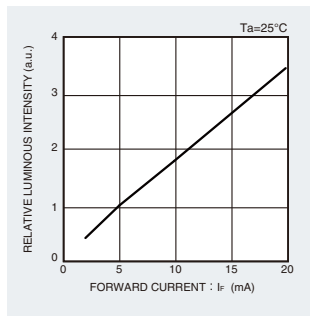


- SMLM12BC7T
- SMLM12WBC7W

Luminous Intensity-Forward Current

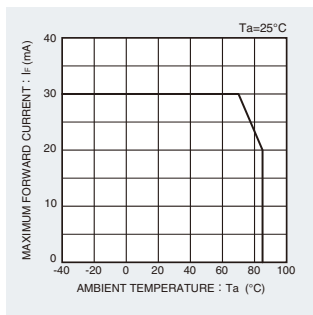


- SML-M13VT
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- SML-M13MT
- SML-M13PT

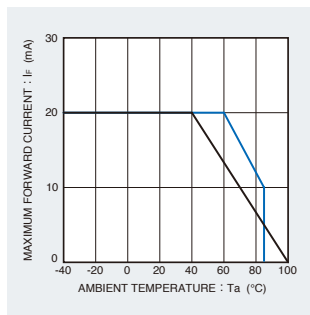


- SMLM12BC7T
- SMLM12WBC7W

Derating



- SML-M13VT
- SML-M13UT
- SML-M13DT
- SML-M13YT
- SML-M13MT
- SML-M13PT



- SMLM12BC7T
- SMLM12WBC7W

SML-M1 Series

Rank Reference of Brightness

Red (V, U)

(Ta=25°C, If=20mA)

| Package size(mm) Height(mm) | Luminous Intensity (mcd) | K | L | M | N | P | Q | R | S | T | U | V | W | X |
|---|--------------------------|------------|-----------|----------|----------|----------|----------|-----------|------------|------------|------------|------------|-------------|--------------|
| | | 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 |
| Small LEDs with reflector 20125 0.8 | | | | | | | | SML-M13VT | | | | | | |
| | | | | | | | | | SML-M13UT | | | | | |

Orange (D)

(Ta=25°C, If=20mA)

| Package size(mm) Height(mm) | Luminous Intensity (mcd) | K | L | M | N | P | Q | R | S | T | U | V | W | X |
|---|--------------------------|------------|-----------|----------|----------|----------|----------|-----------|------------|------------|------------|------------|-------------|--------------|
| | | 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 |
| Small LEDs with reflector 20125 0.8 | | | | | | | | | | | | | SML-M13DT | |

Yellow (Y)

(Ta=25°C, If=20mA)

| Package size(mm) Height(mm) | Luminous Intensity (mcd) | K | L | M | N | P | Q | R | S | T | U | V | W | X |
|---|--------------------------|------------|-----------|----------|----------|----------|----------|-----------|------------|------------|------------|------------|-------------|--------------|
| | | 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 |
| Small LEDs with reflector 20125 0.8 | | | | | | | | | | | | | SML-M13YT | |

Green (M, P)

(Ta=25°C, If=20mA)

| Package size(mm) Height(mm) | Luminous Intensity (mcd) | K | L | M | N | P | Q | R | S | T | U | V | W | X |
|---|--------------------------|------------|-----------|-----------|----------|-----------|----------|-----------|------------|------------|------------|------------|-------------|--------------|
| | | 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 |
| Small LEDs with reflector 20125 0.8 | | | | SML-M13PT | | SML-M13MT | | | | | | | | |

Blue (B)

(Ta=25°C, If=5mA)

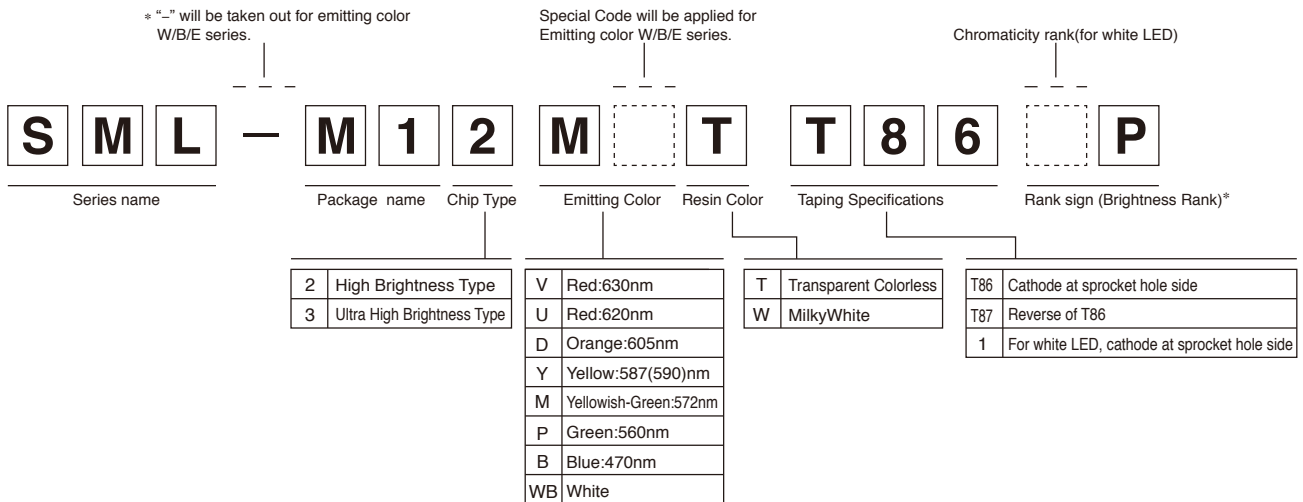
| Package size(mm) Height(mm) | Luminous Intensity (mcd) | K | L | M | N | P | Q | R | S | T | U | V | W |
|---|--------------------------|------------|------------|---------|------------|----------|----------|----------|-----------|------------|------------|------------|------------|
| | | 3.6 to 5.6 | 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 |
| Small LEDs with reflector 20125 0.8 | | | | | SMLM12BC7T | | | | | | | | |

White (WB)

(Ta=25°C, If=5mA)

| Package size(mm) Height(mm) | Luminous Intensity (mcd) | P | Q | R | S | T | U | V | W |
|---|--------------------------|----------|----------|----------|-----------|------------|------------|------------|-------------|
| | | 25 to 36 | 36 to 56 | 56 to 90 | 90 to 140 | 140 to 220 | 220 to 360 | 360 to 560 | 560 to 900 |
| Small LEDs with reflector 20125 0.8 | | | | | | | | | SMLM12WBC7W |

Part No. Construction



- * 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

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