

High Brightness Type Chip LEDs with reflector

SML-01 * Series

| Package Size (mm) | Blue | | Green | | Yellow | | Orange | | Red | | |
|------------------------------------|------------|--------------|-----------|-----------|-----------|-----------------|-----------|-----------|-----------|-----------|-----------|
| | GaN on SiC | InGaN on SiC | | | | AlGaInP on GaAs | | | | | |
| | 428nm | 468nm | 525nm | 590nm | 611nm | 630nm | | | | | |
| 3216 (1206) 3.0×2.0 t=1.3 | | | | | | | | | | | |
| | SML010BAT | SML011BBT | SML012BCT | SML011EBT | SML012ECT | SML-011YT | SML-012YT | SML-011DT | SML-012DT | SML-011UT | SML-012UT |

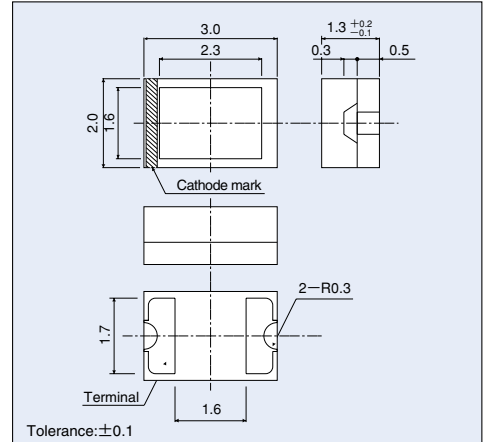
Note) "-" will be taken out for emitting color B/E series.

Absolute Maximum Ratings (Ta=25°C)

| Part No. | Emitting color | 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) |
|-----------|----------------|---------------------------|-------------------------|---|------------------------|---------------------------------|-------------------------------|
| SML010BAT | Blue | 94 | 20 | 70 | 5 | -30 to +85 | -40 to +100 |
| SML011BBT | | | | 100 | | | |
| SML012BCT | | | | 100 | | | |
| SML011EBT | Green | 84 | 20 | 100 | 5 | -30 to +85 | -40 to +100 |
| SML012ECT | | | | | | | |
| SML-011YT | Yellow | 75 | 30 | 100 | 5 | -40 to +100 | -40 to +100 |
| SML-012YT | | | | | | | |
| SML-011DT | Orange | 75 | 30 | 100 | 5 | -40 to +100 | -40 to +100 |
| SML-012DT | | | | | | | |
| SML-011UT | Red | 75 | 30 | 100 | 5 | -40 to +100 | -40 to +100 |
| SML-012UT | | | | | | | |

* I_{FP} measured under duty ≤1/10, 1kHz.

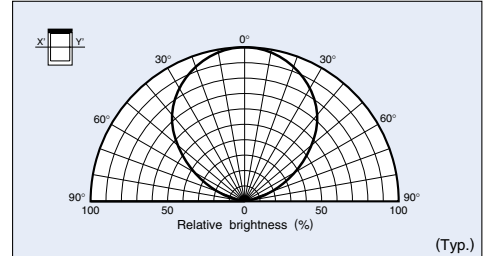
External Dimensions (Unit : mm)



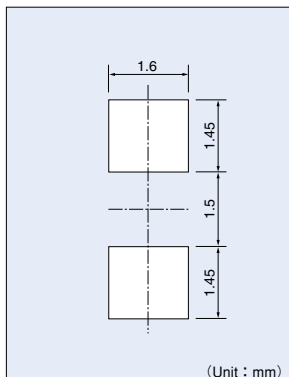
Electrical Optical Characteristics (Ta=25°C)

| Part No. | Resin Color | Forward voltage VF (V) | | Reverse current IR (μA) | | Light wavelength | | | Brightness Iv (mcd) | | |
|-----------|-------------------|------------------------|---------|-------------------------|--------|------------------|-------------------|---------|---------------------|------|---------|
| | | Typ. | IF (mA) | Max. | VR (V) | Peak λp (nm) | Half-wave Δλ (nm) | IF (mA) | Min. | Typ. | IF (mA) |
| | | | | | | | | | | | |
| SML010BAT | Transparent Clear | 3.8 | 20 | 100 | 5 | 428 | 65 | 20 | 3.6 | 9 | 20 |
| SML011BBT | | | | | | 468 | 26 | | 22 | 36 | |
| SML012BCT | | | | | | 523 | 36 | | 36 | 100 | |
| SML011EBT | | 3.8 | 20 | 100 | 5 | 518 | 35 | 140 | 360 | | |
| SML012ECT | | | | | | 590 | 15 | 22 | 63 | | |
| SML-011YT | | 2.0 | 30 | 100 | 5 | 611 | 17 | 36 | 100 | | |
| SML-012YT | | | | | | 611 | 17 | 22 | 63 | | |
| SML-011DT | | 2.0 | 30 | 100 | 5 | 611 | 17 | 36 | 140 | | |
| SML-012DT | | | | | | 611 | 17 | 22 | 63 | | |
| SML-011UT | | 2.0 | 30 | 100 | 5 | 630 | 18 | 22 | 63 | | |
| SML-012UT | | | | | | 630 | 18 | 36 | 100 | | |

Directivity

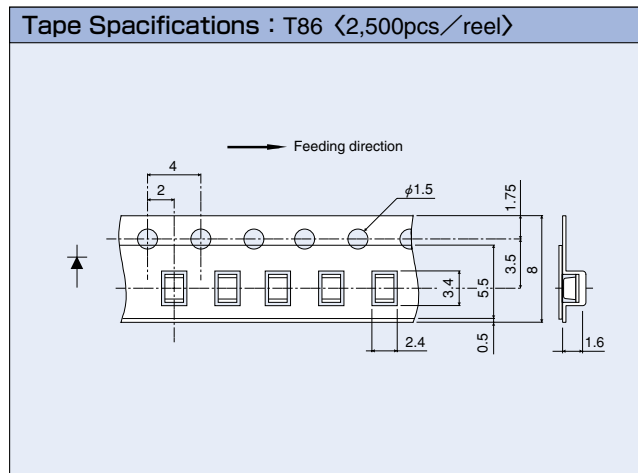


Recommended Pad Layout

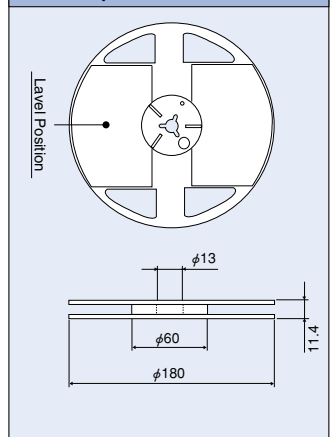


The recommended thickness of the screen mask for soldering is between 100 and 200μm. The hole size of the screen mask should be same as the recommended land pattern or smaller.

Packaging Specifications (Unit : mm)

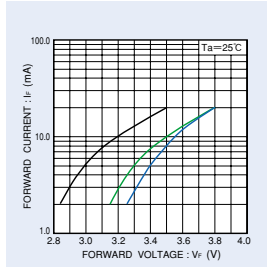


Reel Specifications

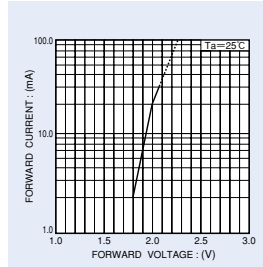


Electrical Characteristic Curves

Forward Current - Forward Voltage

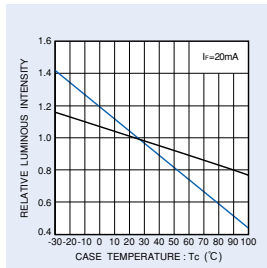


- SML-010BAT
- SML-011BBT
- SML-012BCT
- SML-011EBT
- SML-012ECT

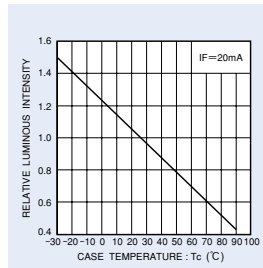


- SML-011YT
- SML-012YT
- SML-011DT
- SML-012DT
- SML-011UT
- SML-012UT

Relative Luminous Intensity - Case Temperature

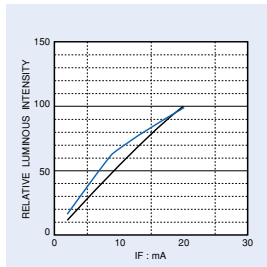


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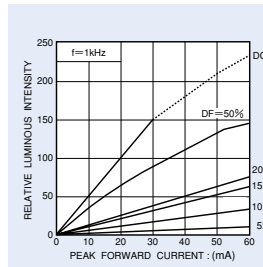


- SML-011YT
- SML-012YT
- SML-011DT
- SML-012DT
- SML-011UT
- SML-012UT

Relative Luminous Intensity - Forward Current

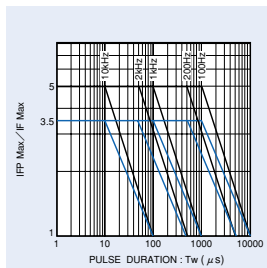


- SML-010BAT
- SML-011BBT
- SML-012BCT
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- SML-012ECT

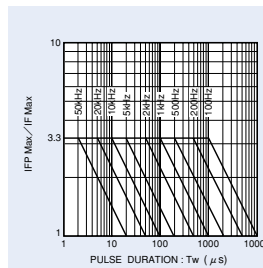


- SML-011YT
- SML-012YT
- SML-011DT
- SML-012DT
- SML-011UT
- SML-012UT

Ratio of Maximum Tolerable Peak Current - Pulse Duration

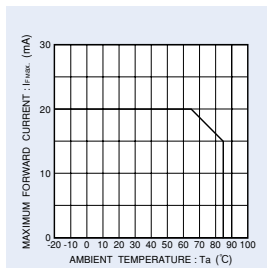


- SML-010BAT
- SML-011BBT
- SML-012BCT
- SML-011EBT
- SML-012ECT

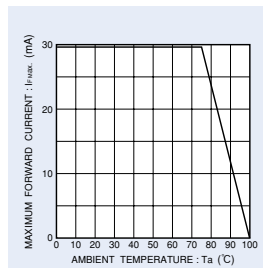


- SML-011YT
- SML-012YT
- SML-011DT
- SML-012DT
- SML-011UT
- SML-012UT

Derating



- SML010BAT
- SML011BBT
- SML012BCT
- SML011EBT
- SML012ECT



- SML-011YT
- SML-012YT
- SML-011DT
- SML-012DT
- SML-011UT
- SML-012UT

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