

High brightness LEDs

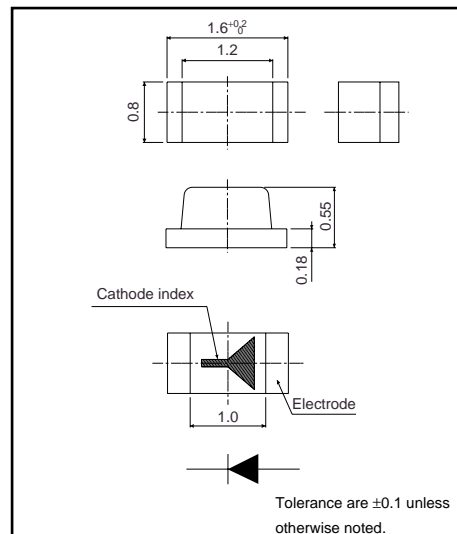
SML-511 Series

The SML-511 series are high brightness chip LEDs equipped with an AlGaInP chip. The compact and leadless design of these LEDs allows for high mounting density.

●Features

- 1) Three colors : red, orange and yellow.
- 2) Rectangular and leadless (1.6x0.8mm, 0.55mm thick)
- 3) Can be mounted by automatic mounting.

●External dimensions (Units : mm)



●Selection guide

| Emitting color | Red | Orange | Yellow |
|-------------------|-----------|-----------|-----------|
| Lens | | | |
| Transparent clear | SML-511UW | SML-511DW | SML-511WW |

●Absolute maximum ratings (Ta=25°C)

| Parameter | Symbol | Limits | Unit |
|-----------------------|-----------|---------|------|
| Power dissipation | P_D | 62 | mW |
| Forward current | I_F | 25 | mA |
| Peak forward current | I_{FP} | 60 | mA* |
| Reverse voltage | V_R | 4 | V |
| Operating temperature | T_{opr} | -30~+85 | °C |
| Storage temperature | T_{stg} | -40~+85 | °C |

* Pulse width 1ms Duty 1 / 5

LED lamps

●Electrical and optical characteristics (Ta=25°C)

| Parameter | Color | Forward voltage | | | Reverse current | | Luminous intensity | | | Peak wavelength | | Spectral line half width | | |
|-----------|-------|--------------------|------|---------------------|---------------------|--------------------|----------------------|------|---------------------|-----------------|---------------------|--------------------------|---------------------|----|
| | | V _F (V) | | Cond. | I _R (μA) | Cond. | I _v (mcd) | | λ _p (nm) | Cond. | Δλ(nm) | Cond. | | |
| | | Typ. | Max. | I _F (mA) | Max. | V _R (V) | Min. | Typ. | I _F (mA) | Typ. | I _F (mA) | Typ. | I _F (mA) | |
| SML-511 | UW | Red | 1.9 | 2.5 | 20 | 100 | 4 | 14 | 40 | 20 | 630 | 18 | 40 | 20 |
| | DW | Orange | 1.9 | 2.5 | 20 | 100 | 4 | 14 | 40 | 20 | 611 | 16 | 40 | 20 |
| | WW | Yellow | 1.9 | 2.5 | 20 | 100 | 4 | 22 | 40 | 20 | 590 | 15 | 40 | 20 |

●Directional pattern

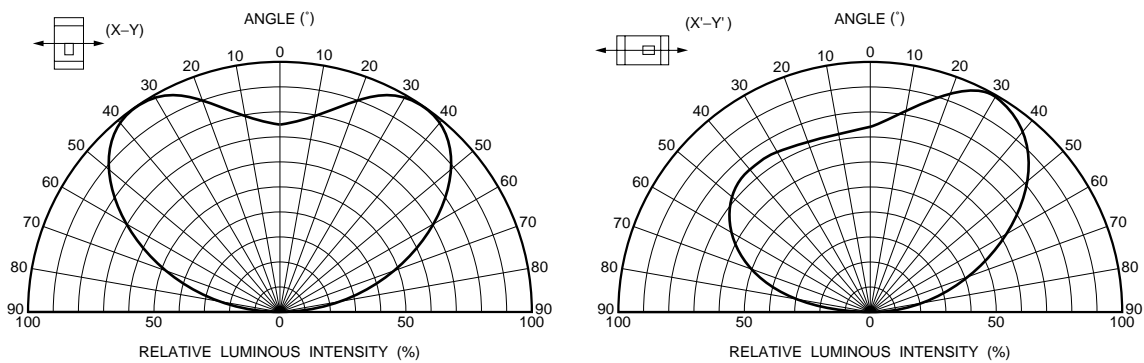


Fig.1 Directional pattern

●Electrical characteristics curves

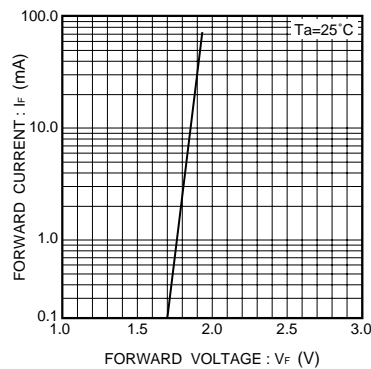


Fig. 2 Forward current vs. forward voltage

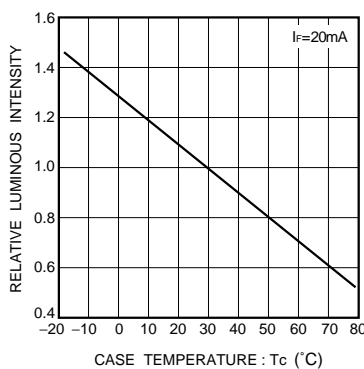


Fig. 3 Luminous intensity vs. case temperature

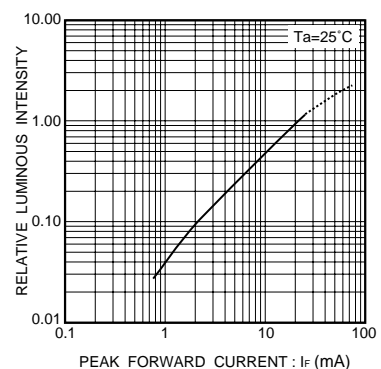


Fig. 4 Luminous intensity vs. forward current

LED lamps

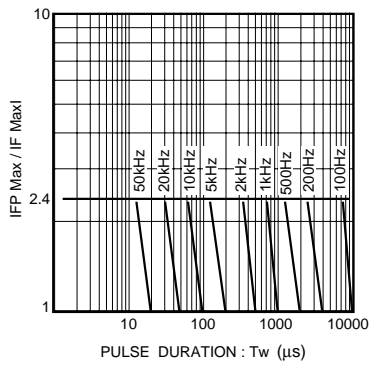


Fig. 5 Maximum tolerable peak current vs. pulse duration

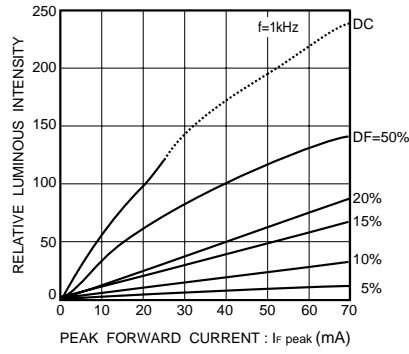


Fig. 6 Luminous intensity vs. peak forward current

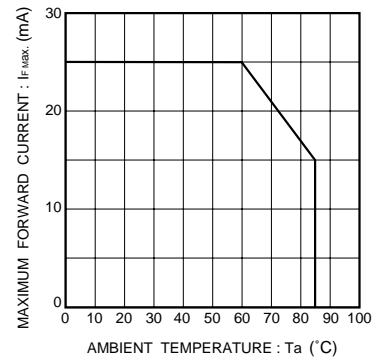


Fig.7 Maximum forward current vs. ambient temperature (Derating)