

Chip LEDs with low power consumption

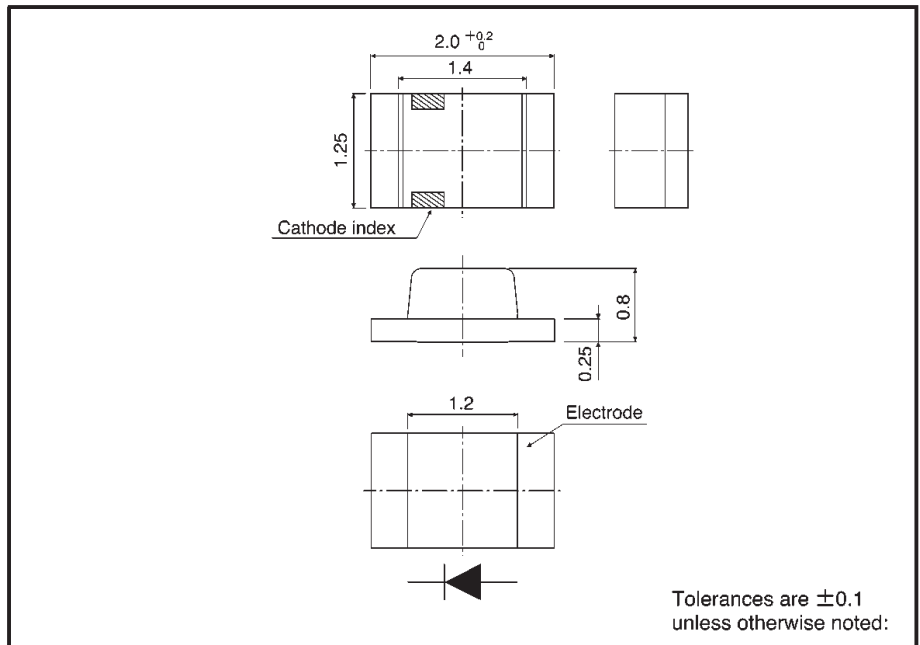
SML-211 Series

The SML-211 series are low power consumption, chip LEDs equipped with an AlGaInP chip. These LEDs are compact and leadless to allow a higher mounting density, and low power consumption makes them an ideal light source for battery driven products.

●Features

- 1) Three colors : red, orange and yellow.
- 2) Low power consumption chip LEDs equipped with an AlGaInP chip.
- 3) Six times the brightness of previous GaAsP chips at $I_F = 2$ mA.
- 4) Compact 2.0 mm × 1.25 mm surface mount package.
- 5) Thin 0.8 mm package.
- 6) Ideal light source for battery driven products.

●External dimensions (Units: mm)



●Selection guide

| Emitting color Lens | Red | Orange | Yellow | Green |
|------------------------|-------------------|-----------|-----------|-----------|
| | Transparent clear | SML-211UT | SML-211DT | SML-211YT |

●Absolute maximum ratings (Ta = 25°C)

| Parameter | Symbol | Red | Orange | Yellow | Unit |
|-----------------------|-----------|-----------|-----------|-----------|------|
| | | SML-211UT | SML-211DT | SML-211YT | |
| Power dissipation | P_D | 22 | 22 | 22 | mW |
| Forward current | I_F | 10 | 10 | 10 | mA |
| Peak forward current | I_{FP} | 60 | 60 | 60 | mA* |
| Reverse voltage | V_R | 4 | 4 | 4 | V |
| Operating temperature | T_{opr} | -30 ~ +85 | | | °C |
| Storage temperature | T_{stg} | -40 ~ +85 | | | °C |

* Pulse width 1ms Duty 1/5

●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-211 | UT | Red | 1.8 | 2.2 | 2 | 100 | 4 | 0.9 | 2.5 | 2 | 630 | 2 | 18 | 2 |
| | DT | Orange | 1.8 | 2.2 | 2 | 100 | 4 | 0.9 | 2.5 | 2 | 611 | 2 | 16 | 2 |
| | YT | Yellow | 1.8 | 2.2 | 2 | 100 | 4 | 0.56 | 1.6 | 2 | 590 | 2 | 15 | 2 |

●Directional pattern

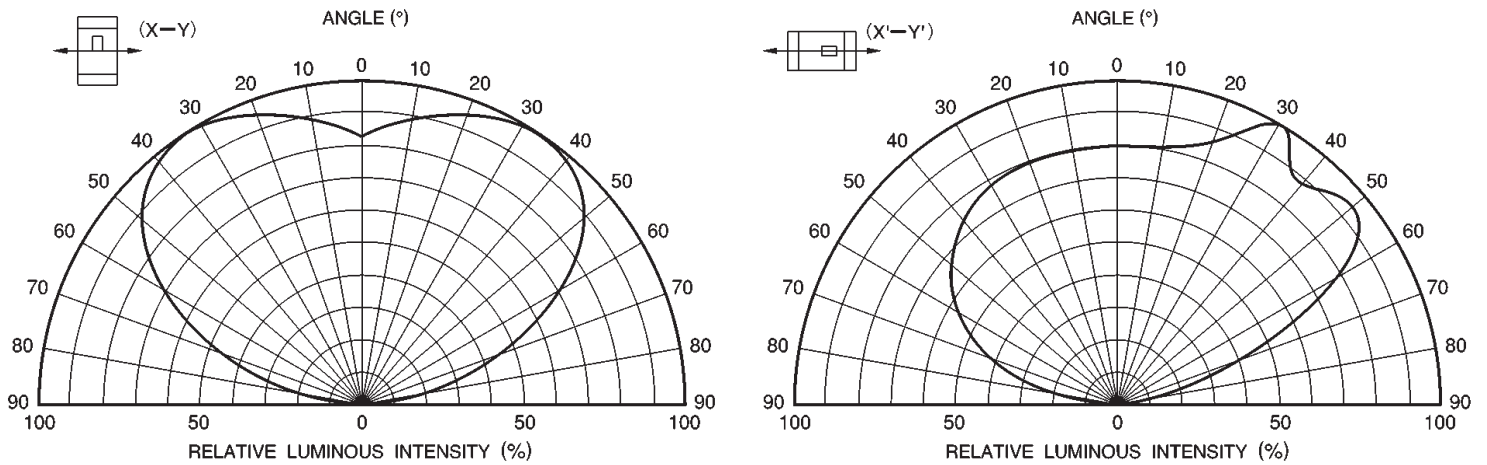


Fig. 1 Directional pattern

●Electrical characteristic curves (SML-211UT, DT, YT)

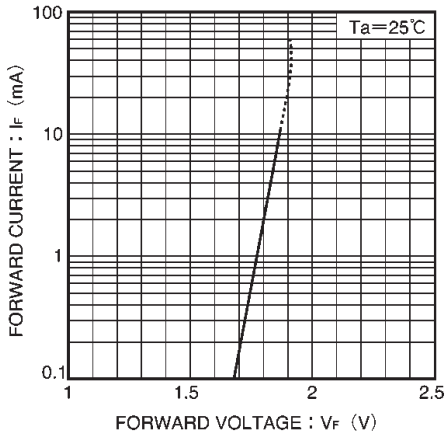


Fig. 2 Forward current vs. forward voltage

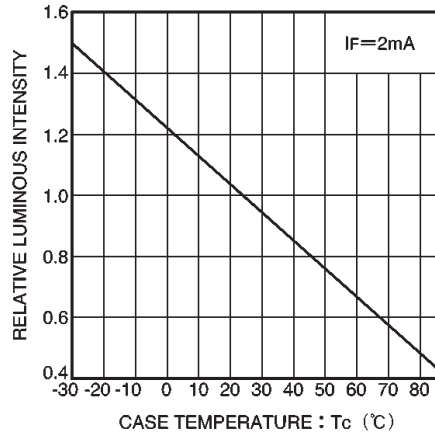


Fig. 3 Luminous intensity vs. case temperature

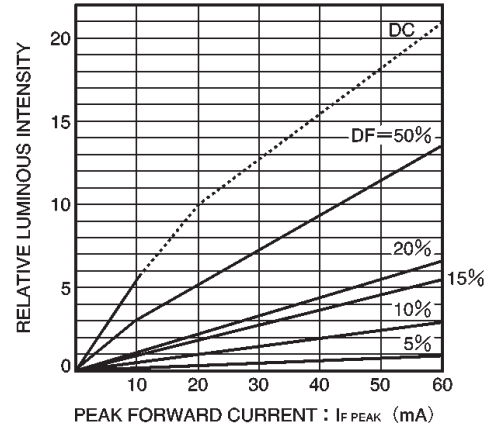


Fig. 4 Luminous intensity vs. peak forward current

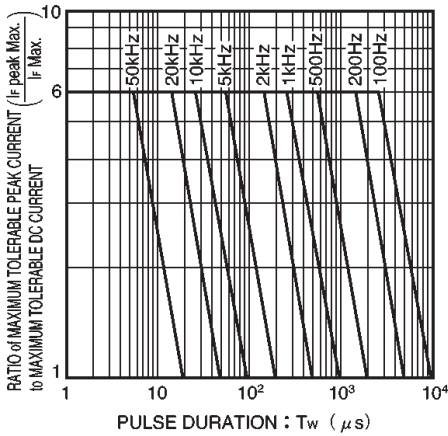


Fig. 5 Maximum tolerable peak current vs. pulse duration

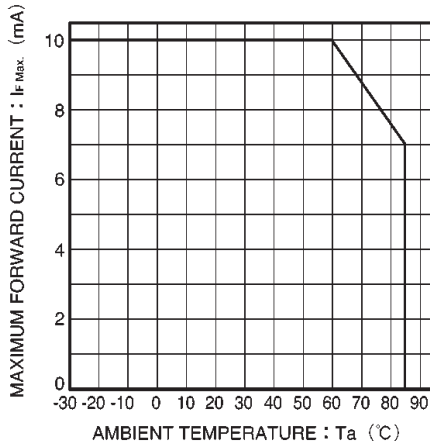


Fig. 6 Maximum forward current vs. ambient temperature