Chip LEDs with reflectors

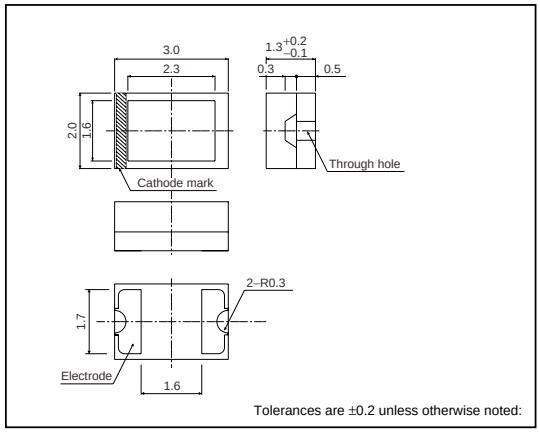
SML-011 / 012 series

The SML-011 / 012 series are ultra high luminance chip LEDs with reflectors by using AlGaInP die.

●Features

1) Reflectors are used to achieve a high luminance.
2) Two series : SML-011, SML-012
   Three colors : red, orange and yellow
3) Rectangular and leadless (3×2mm).
4) Can be mounted by automatic mounting.

●External dimensions (Unit : mm)



●Selection guide

Emitting color / Lens	Red	Orange	Yellow
Transparent clear	SML-011UT	SML-011DT	SML-011YT
	SML-012UT	SML-012DT	SML-012YT

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Power dissipation	P_D	75	mW
Forward current	I_F	30	mA
Peak forward current	I_{FP}	100	mA*
Reverse voltage	V_R	5	V
Operating temperature	Topr	−40 to +100	°C
Storage temperature	Tstg	−40 to +100	°C

* Duty 1 /10 1KHz

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

Type		Color	Forward voltage V_F (V) Typ.	Forward voltage V_F (V) Max.	Cond. I_F (mA)	Reverse current I_R (μA) Max.	Cond. V_R (V)	Luminous intensity I_V (mcd) Min.	Luminous intensity I_V (mcd) Typ.	Cond. I_F (mA)	Peak wavelength λ_P (nm) Typ.	Cond. I_F (mA)	Spectral line half width $\Delta\lambda$ (nm) Typ.	Cond. I_F (mA)
SML-011	VT	Red	2.0	2.5	20	10	5	22.0	63.0	20	630	20	18	20
	DT	Orange	2.0	2.5	20	10	5	22.0	63.0	20	611	20	17	20
	YT	Yellow	2.0	2.5	20	10	5	22.0	63.0	20	590	20	15	20
SML-012	VT	Red	2.0	2.5	20	10	5	36.0	100	20	630	20	18	20
	DT	Orange	2.0	2.5	20	10	5	36.0	100	20	611	20	17	20
	YT	Yellow	2.0	2.5	20	10	5	36.0	100	20	590	20	15	20

●**Directional pattern**

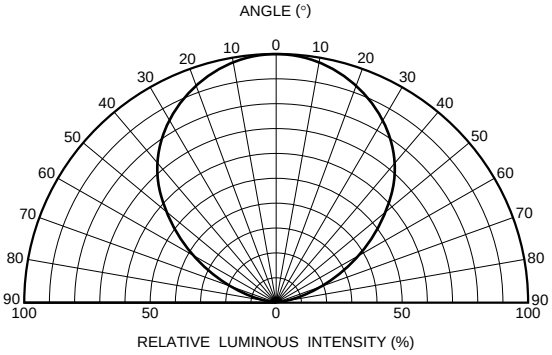


Fig.1 Directional pattern

●**Electrical characteristic curves**

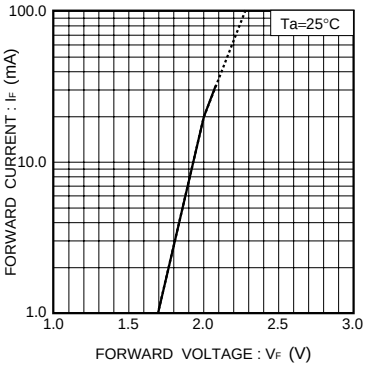


Fig.2 Forward current vs. forward voltage

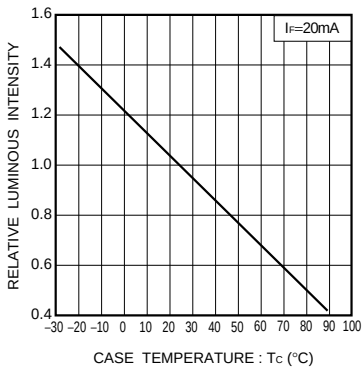


Fig.3 Luminous intensity vs. case temperature

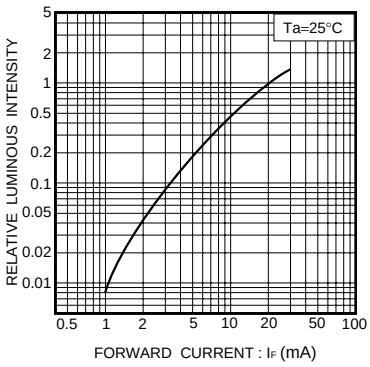


Fig.4 Luminous intensity vs. forward current

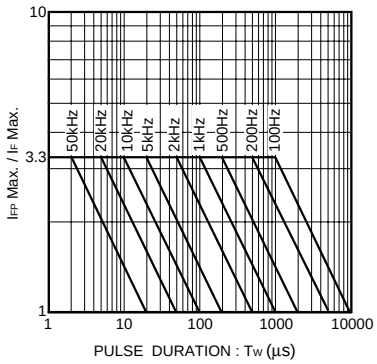


Fig.5 Maximum tolerable peak current vs. pulse duration

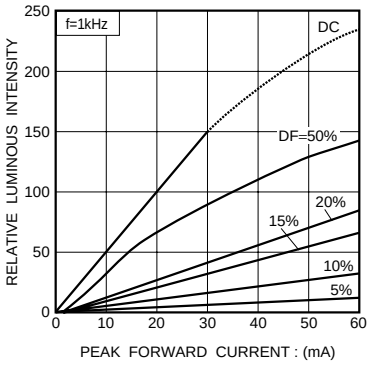


Fig.6 Luminous intensity vs. forward current

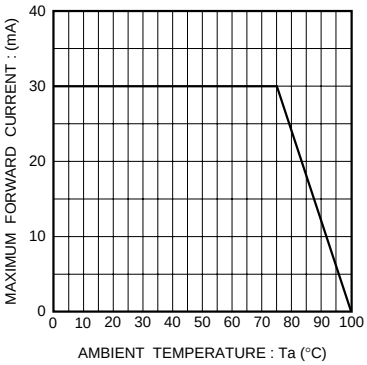


Fig.7 Dirating