

# Chip LEDs with reflectors

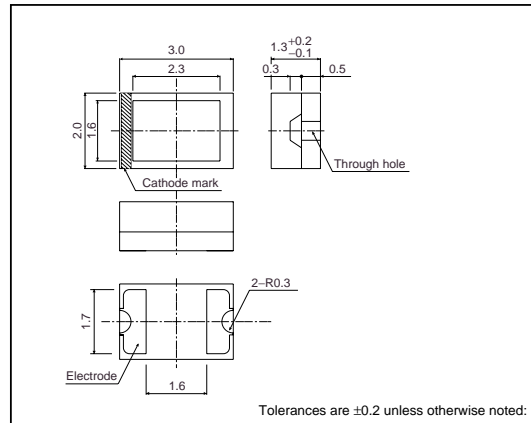
## SML-011 / 012 series

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-012UT	SML-012DT	SML-012YT

### ●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Power dissipation	P <sub>D</sub>	75	mW
Forward current	I <sub>F</sub>	30	mA
Peak forward current	I <sub>FP</sub>	100	mA*
Reverse voltage	V <sub>R</sub>	5	V
Operating temperature	T <sub>opr</sub>	-40 to +100	°C
Storage temperature	T <sub>stg</sub>	-40 to +100	°C

\* Duty 1 / 10 1KHz

Light Emitting Diodes

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

Type	Parameter	Color	Forward voltage			Reverse current		Luminous intensity			Peak wavelength		Spectral line half width	
			V <sub>F</sub> (V)		Cond.	I <sub>R</sub> (μA)	Cond.	I <sub>v</sub> (mcd)		λ <sub>P</sub> (nm)	Cond.	Δλ (nm)	Cond.	
			Typ.	Max.	I <sub>F</sub> (mA)	Max.	V <sub>R</sub> (V)	Min.	Typ.	I <sub>F</sub> (mA)	Typ.	I <sub>F</sub> (mA)	Typ.	I <sub>F</sub> (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

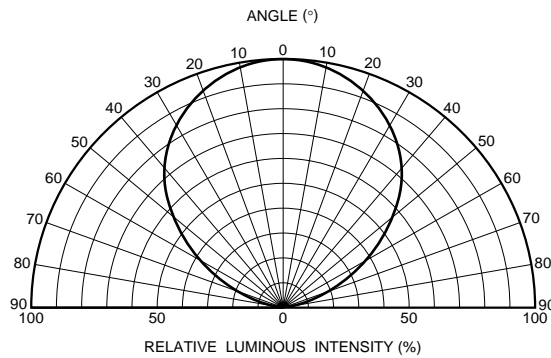


Fig.1 Directional pattern

●Electrical characteristic curves

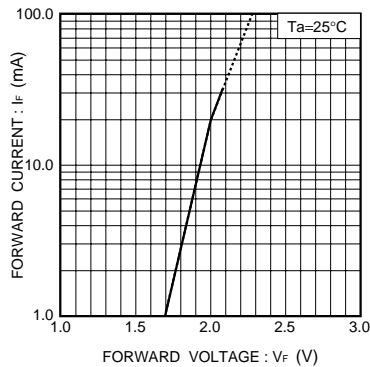


Fig.2 Forward current vs. forward voltage

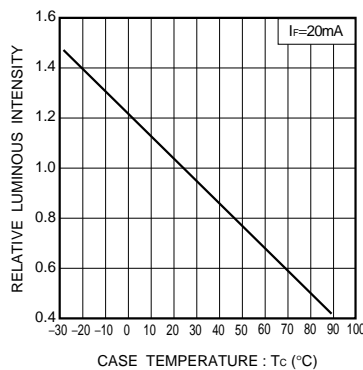


Fig.3 Luminous intensity vs. case temperature

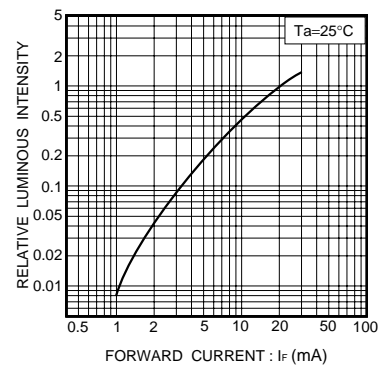


Fig.4 Luminous intensity vs. forward current

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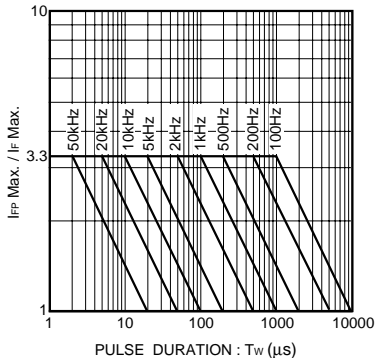


Fig.5 Maximum tolerable peak current vs. pulse duration

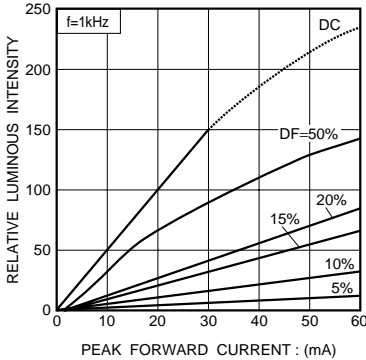


Fig.6 Luminous intensity vs. forward current

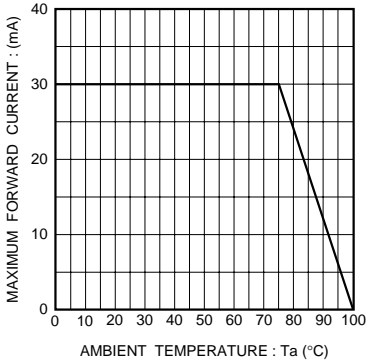


Fig.7 Derating