

Ultra high brightness chip LEDs

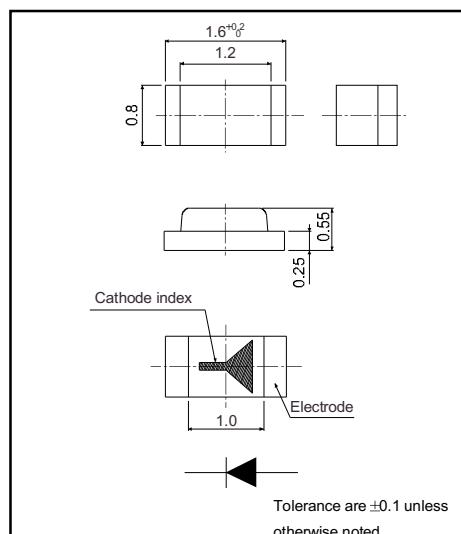
SML-512 Series

The SML-512 series are ultra high brightness chip LEDs equipped with an AlGaNp 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-512UW	SML-512DW	SML-512WW

●Absolute maximum ratings ($T_a=25^\circ\text{C}$)

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 ($T_a=25^\circ\text{C}$)

Type	Parameter	Color	Forward voltage			Reverse current		Luminous intensity			Peak wavelength		Spectral line half width	
			$V_F(\text{V})$		Cond.	$I_R(\text{mA})$	Cond.	$I_v(\text{mcd})$		Cond.	$\lambda_p(\text{nm})$	Cond.	$\Delta\lambda(\text{nm})$	Cond.
			Typ.	Max.	$I_F(\text{mA})$	Max.	$V_R(\text{V})$	Min.	Typ.	$I_F(\text{mA})$	Typ.	$I_F(\text{mA})$	Typ.	$I_F(\text{mA})$
SML-512	UW	Red	1.9	2.5	20	100	4	22	63	20	630	20	18	20
	DW	Orange	1.9	2.5	20	100	4	36	63	20	611	20	16	20
	WW	Yellow	1.9	2.5	20	100	4	36	63	20	590	20	15	20

●Directional pattern

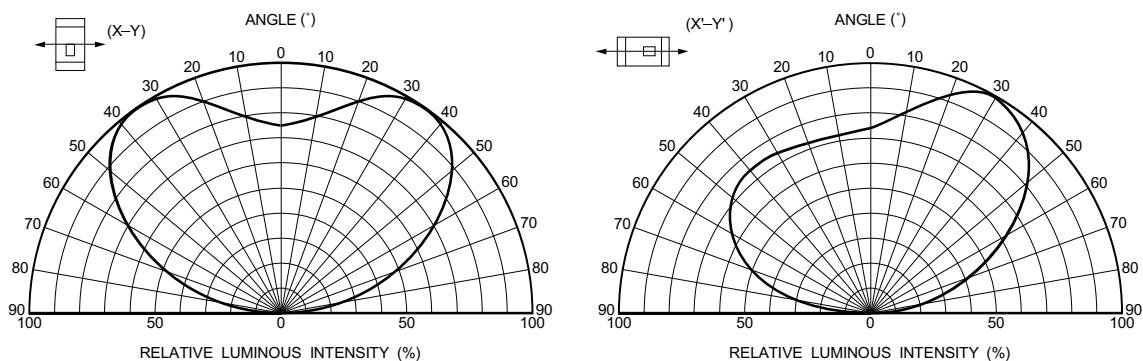


Fig.1 Directional pattern

●Electrical characteristics curves

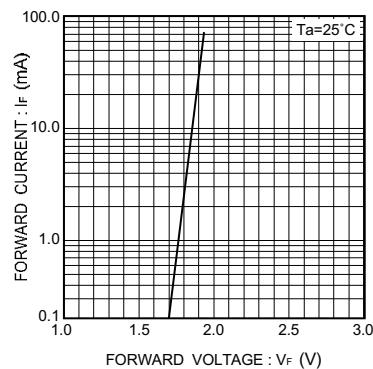


Fig. 2 Forward current vs. forward voltage

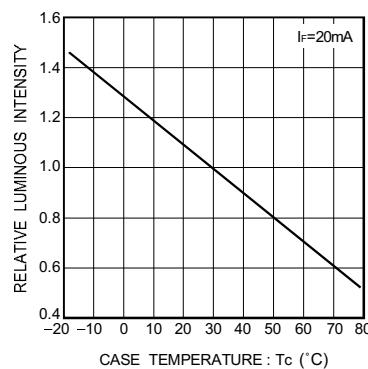


Fig. 3 Luminous intensity vs. case temperature

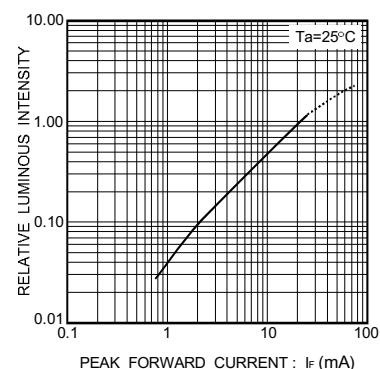


Fig. 4 Luminous intensity vs. forward current

LED lamps

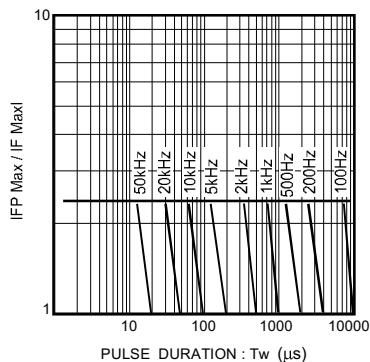


Fig. 5 Maximum tolerable peak current vs. pulse duration

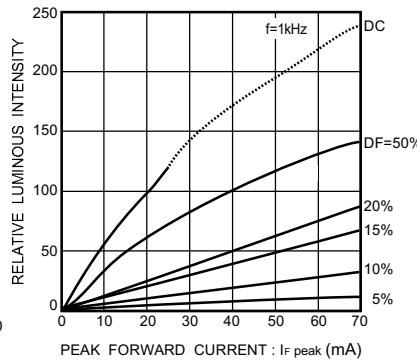


Fig. 6 Luminous intensity vs. peak forward current

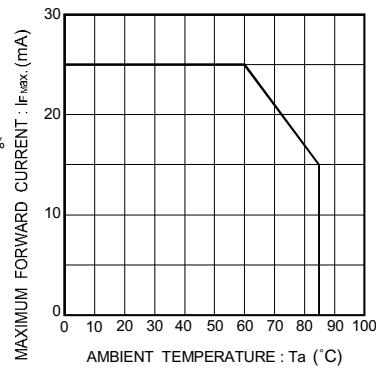


Fig. 7 Maximum forward current vs. ambient temperature (Derating)