

# High brightness LEDs

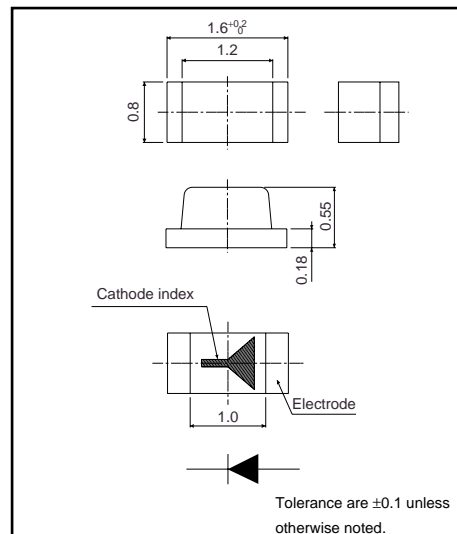
## SML-511 Series

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

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

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-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

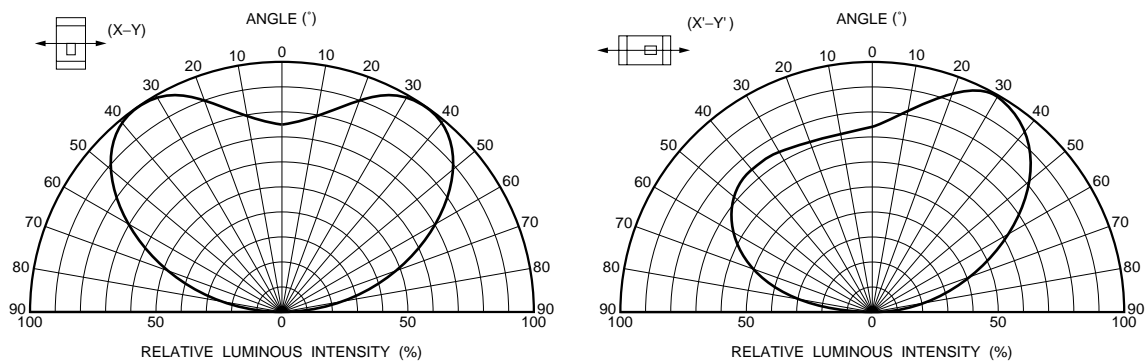


Fig.1 Directional pattern

●Electrical characteristics curves

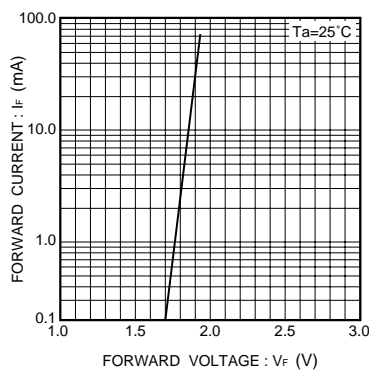


Fig. 2 Forward current vs. forward voltage

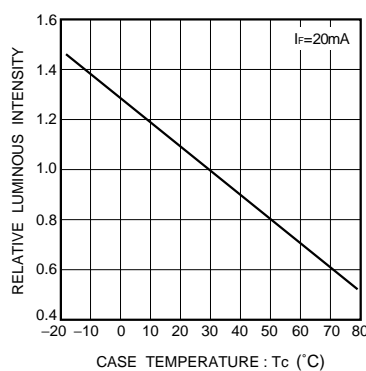


Fig. 3 Luminous intensity vs. case temperature

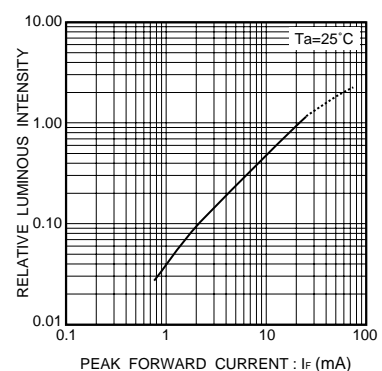


Fig. 4 Luminous intensity vs. forward current

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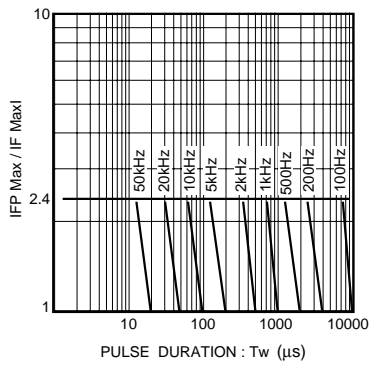


Fig. 5 Maximum tolerable peak current vs. pulse duration

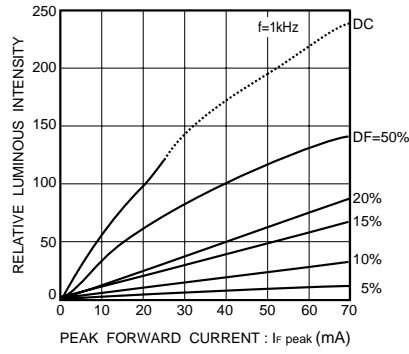


Fig. 6 Luminous intensity vs. peak forward current

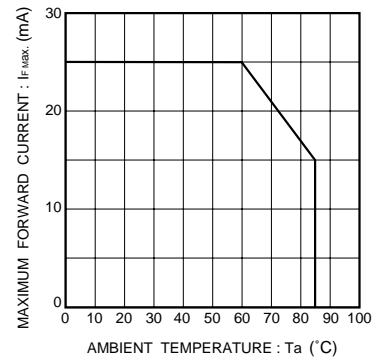


Fig.7 Maximum forward current vs. ambient temperature (Derating)