Inverted cone LEDs, directly mountable (ϕ3 mm)

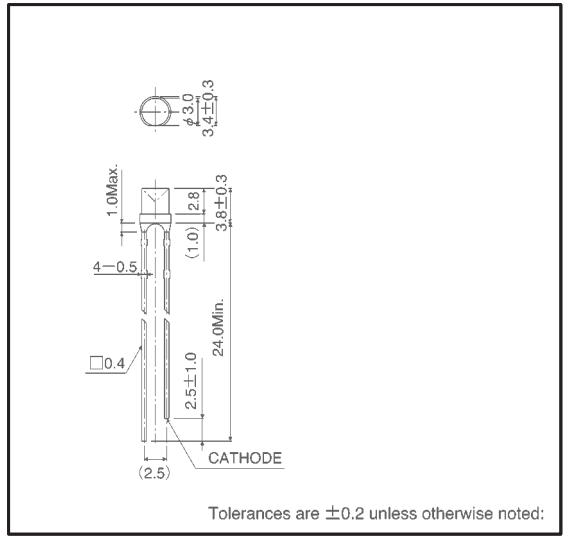
SLV-312 Series

The SLV-312 series are 3 mm inverted cone LEDs which are directly mountable on a printed circuit board. Four colors are available, and they are suitable for use in a wide variety of applications.

●Features

1) Four colors : red, orange, yellow, and green.
2) Compact epoxy resin package with a diameter of 3 mm.
3) High reliability.

●External dimensions (Units: mm)



●Selection guide

Emitting color / Lens	Red	Orange	Yellow	Green
Colored clear	SLV-312VC	SLV-312DC	SLV-312YC	SLV-312MC

●Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Red	Orange	Yellow	Green	Unit
		SLV-312VC	SLV-312DC	SLV-312YC	SLV-312MC	
Power dissipation	P_D	60	60	60	60	mW
Forward current	I_F	20	20	20	25	mA
Peak forward current	I_{FP}	60*	60*	60*	60*	mA
Reverse voltage	V_R	3	3	3	3	V
Operating temperature	Topr	−25～+85				℃
Storage temperature	Tstg	−30～+100				℃
Soldering temperature	—	260℃ 5 seconds maximum				—

* Pulse width 1ms Duty 1 / 5

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

Parameter	Symbol	Conditions	Red			Orange			Yellow			Green			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Forward voltage	V_F	I_F=10mA	—	2.0	3.0	—	2.0	3.0	—	2.1	3.0	—	2.1	3.0	V
Reverse current	I_R	V_R=3V	—	—	10	—	—	10	—	—	10	—	—	10	μA
Peak wavelength	λ_P	I_F=10mA	—	650	—	—	610	—	—	585	—	—	563	—	nm
Spectral line half width	$\Delta\lambda$	I_F=10mA	—	40	—	—	40	—	—	40	—	—	40	—	nm
Viewing angle	$2\theta_{1/2}$	Colored clear	—	140	—	—	140	—	—	140	—	—	140	—	deg

●Luminous intensity vs. wavelength

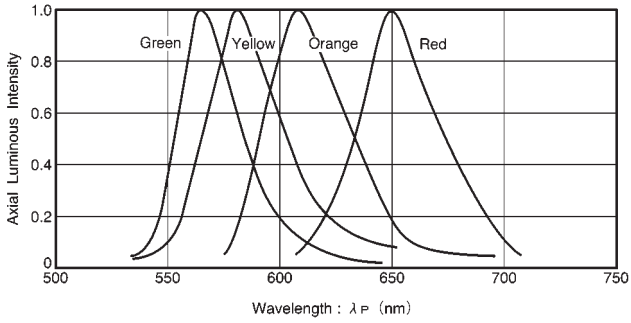


Fig. 1

●Luminous intensity

Color	λ_P	Type	Min.	Typ.	Max.	Unit
Red	650	SLV-312VC	0.56	1.6	—	mcd
Orange	610	SLV-312DC	0.56	1.6	—	mcd
Yellow	585	SLV-312YC	0.56	1.6	—	mcd
Green	563	SLV-312MC	1.4	4.0	—	mcd

Note: Measured at I_F = 10 mA

●Directional pattern

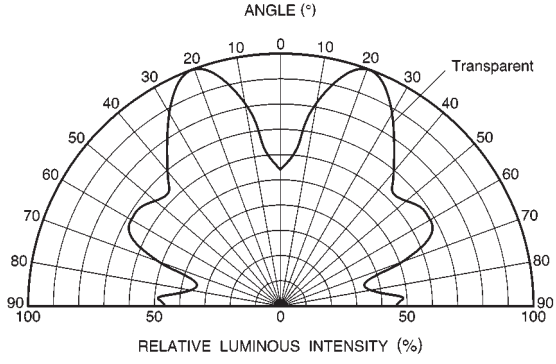


Fig. 2 Colored clear type

●Electrical characteristic curvers 1 (red)

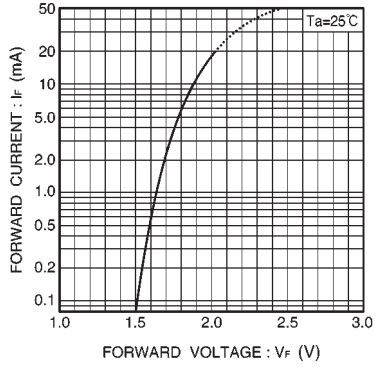


Fig. 3 Forward current vs. forward voltage

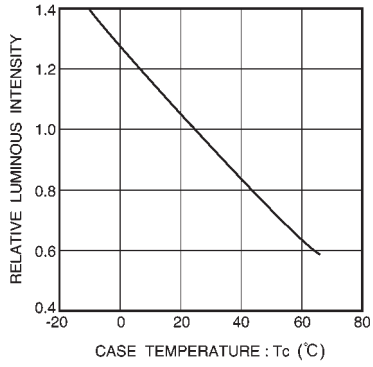


Fig. 4 Luminous intensity vs. case temperature

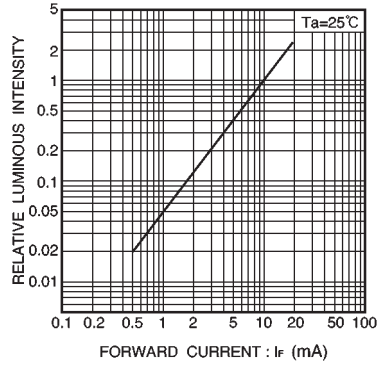


Fig. 5 Luminous intensity vs. forward current

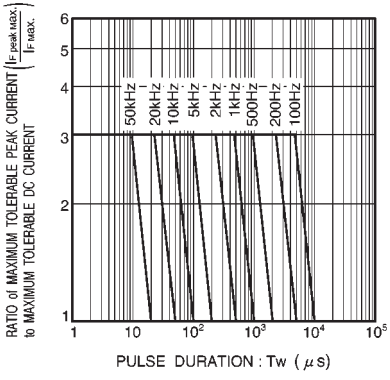


Fig. 6 Maximum tolerable peak current vs. pulse duration

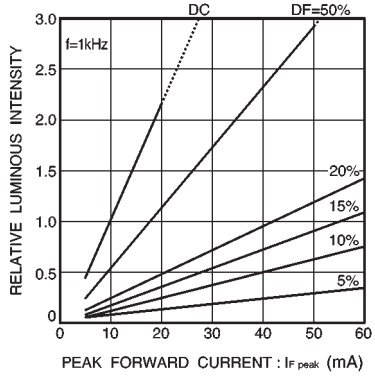


Fig. 7 Luminous intensity vs. peak forward current

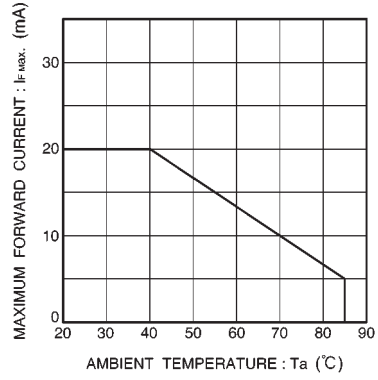


Fig. 8 Maximum forward current vs. ambient temperature

●Electrical characteristic curves 2 (orange)

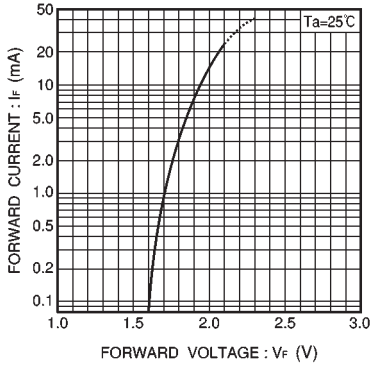


Fig. 9 Forward current vs. forward voltage

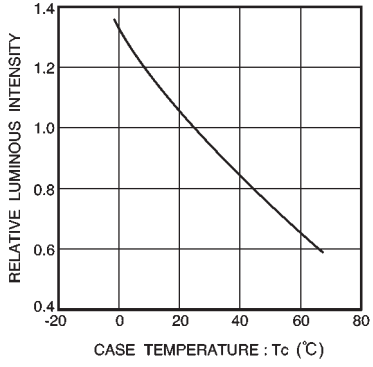


Fig. 10 Luminous intensity vs. case temperature

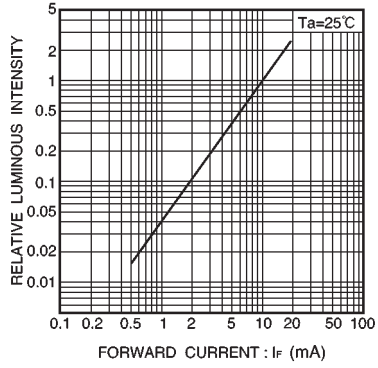


Fig. 11 Luminous intensity vs. forward current

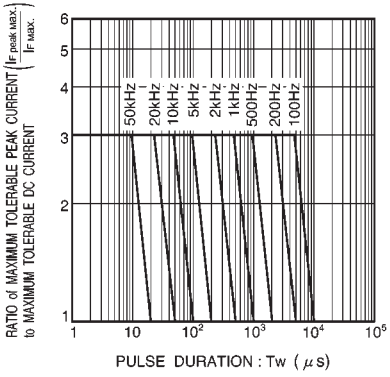


Fig. 12 Maximum tolerable peak current vs. pulse duration

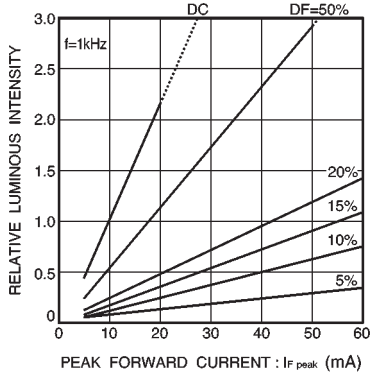


Fig. 13 Luminous intensity vs. peak forward current

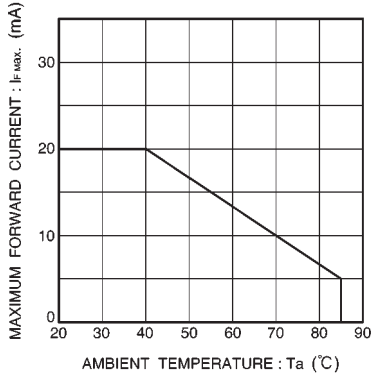


Fig. 14 Maximum forward current vs. ambient temperature

●Electrical characteristic curvers 3 (yellow)

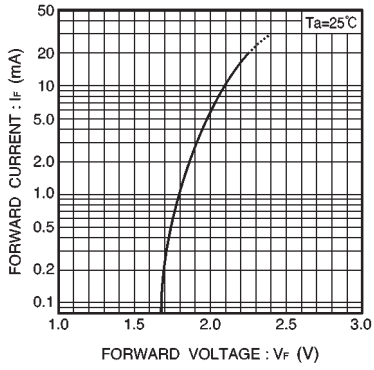


Fig. 15 Forward current vs. forward voltage

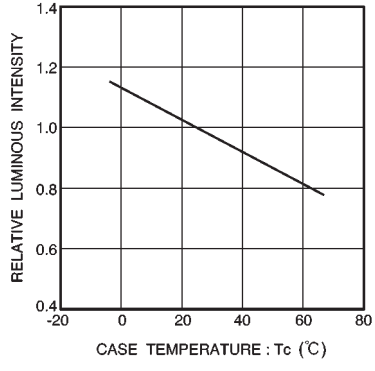


Fig. 16 Luminous intensity vs. case temperature

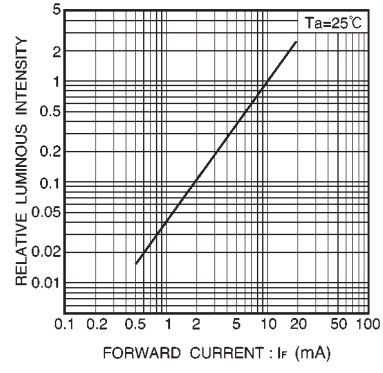


Fig. 17 Luminous intensity vs. forward current

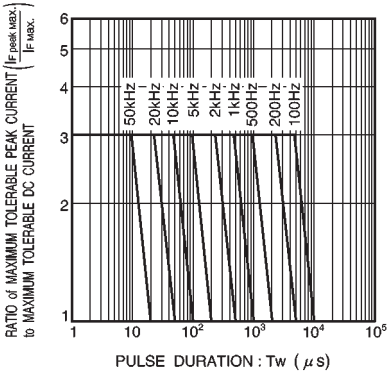


Fig. 18 Maximum tolerable peak current vs. pulse duration

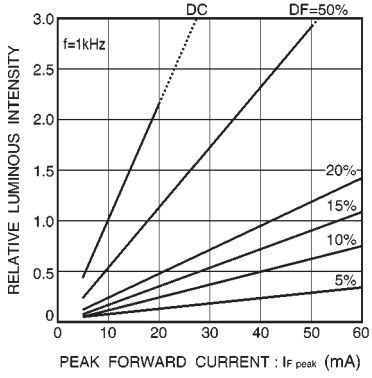


Fig. 19 Luminous intensity vs. peak forward current

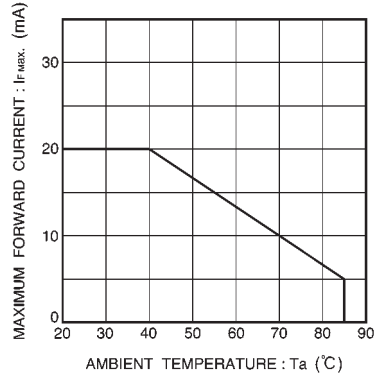


Fig. 20 Maximum forward current vs. ambient temperature

●Electrical characteristic curvers 4 (green)

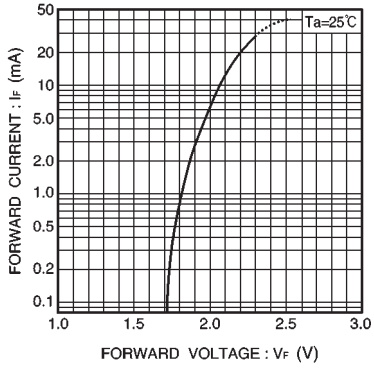


Fig. 21 Forward current vs. forward voltage

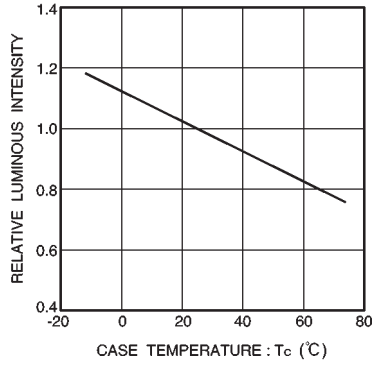


Fig. 22 Luminous intensity vs. case temperature

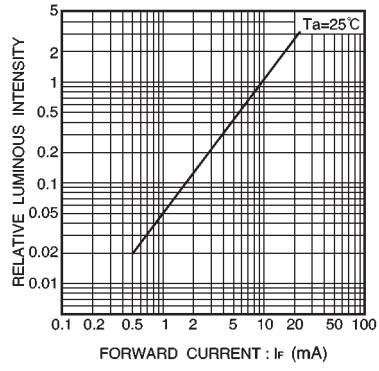


Fig. 23 Luminous intensity vs. forward current

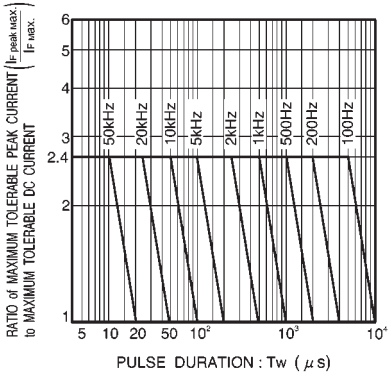


Fig. 24 Maximum tolerable peak current vs. pulse duration

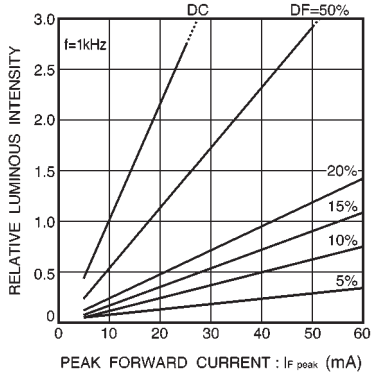


Fig. 25 Luminous intensity vs. peak forward current

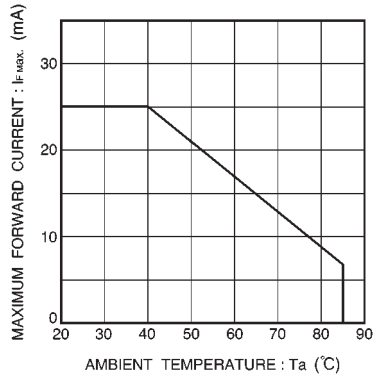


Fig. 26 Maximum forward current vs. ambient temperature