

# Reflecting small LEDs, wide viewing angle and directly mountable ( $\phi 3.2$ mm)

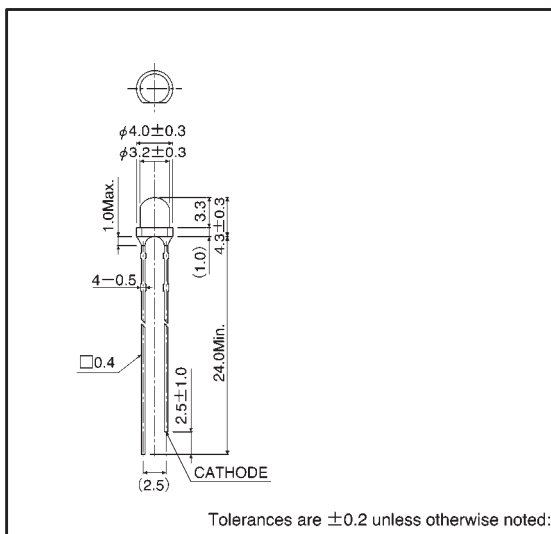
## SLR-332 Series

The SLR-332 series are small  $\phi 3.2$  mm LEDs which can be directly mounted on a printed circuit board. Four colors and two lens types are available for a total of eight types, and they are suitable for use in a wide variety of applications.

### ●Features

- 1) Bright over a wide angle.
- 2) Four colors : red, orange, yellow and green.
- 3) Two lens types : Colored diffused and Colored clear.
- 4) Compact epoxy resin package with a diameter of 3.2 mm.
- 5) High reliability.

### ●External dimensions (Units: mm)



### ●Selection guide

Emitting color	Red	Orange	Yellow	Green
Lens				
Colored diffused	SLR-332VR	SLR-332DU	SLR-332YY	SLR-332MG
Colored clear	SLR-332VC	SLR-332DC	SLR-332YC	SLR-332MC

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

Parameter	Symbol	Red	Orange	Yellow	Green	Unit
		SLR-332VR SLR-332VC	SLR-332DU SLR-332DC	SLR-332YY SLR-332YC	SLR-332MG SLR-332MC	
Power dissipation	$P_D$	60	60	60	75	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	$T_{opr}$	$-25 \sim +85$				$^\circ\text{C}$
Storage temperature	$T_{stg}$	$-30 \sim +100$				$^\circ\text{C}$
Soldering temperature	—	260 $^\circ\text{C}$ 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	$V_F$	$I_F=10\text{mA}$	—	2.0	3.0	—	2.0	3.0	—	2.1	3.0	—	2.1	3.0	V
Reverse current	$I_R$	$V_R=3\text{V}$	—	—	10	—	—	10	—	—	10	—	—	10	$\mu\text{A}$
Peak wavelength	$\lambda_P$	$I_F=10\text{mA}$	—	650	—	—	610	—	—	585	—	—	563	—	nm
Spectral line half width	$\Delta\lambda$	$I_F=10\text{mA}$	—	40	—	—	40	—	—	40	—	—	40	—	nm
Viewing angle	$2\theta_{1/2}$	Diffused	—	85	—	—	85	—	—	85	—	—	85	—	deg
		Transparent	—	75	—	—	75	—	—	75	—	—	75	—	

## ●Luminous intensity vs. wavelength

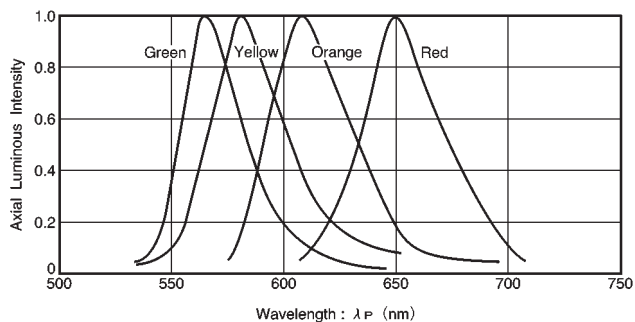


Fig. 1

## ●Luminous intensity

Color	$\lambda_P$	Type	Min.	Typ.	Max.	Unit
Red	650	SLR-332VR	3.6	10	—	mcd
		SLR-332VC	3.6	10	—	mcd
Orange	610	SLR-332DU	3.6	10	—	mcd
		SLR-332DC	5.6	16.0	—	mcd
Yellow	585	SLR-332YY	2.2	6.3	—	mcd
		SLR-332YC	3.6	10	—	mcd
Green	563	SLR-332MG	5.6	16.0	—	mcd
		SLR-332MC	5.6	16.0	—	mcd

Note: Measured at  $I_F = 10\text{ mA}$ 

## ●Directional pattern

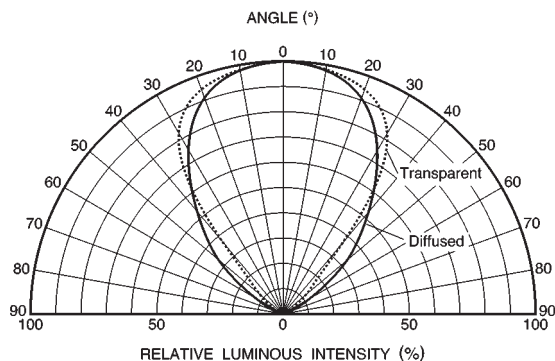


Fig. 2

●Electrical characteristic curves 1 (red)

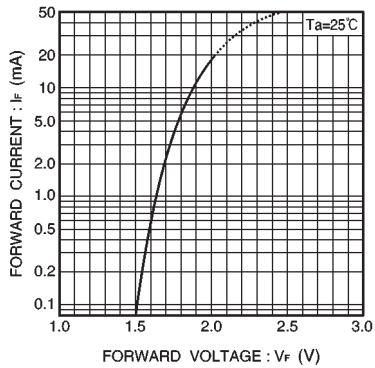


Fig. 3 Forward current vs. forward voltage

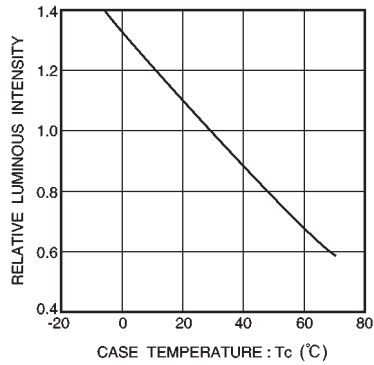


Fig. 4 Luminous intensity vs. case temperature

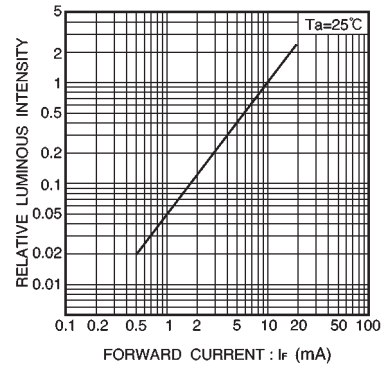


Fig. 5 Luminous intensity vs. forward current

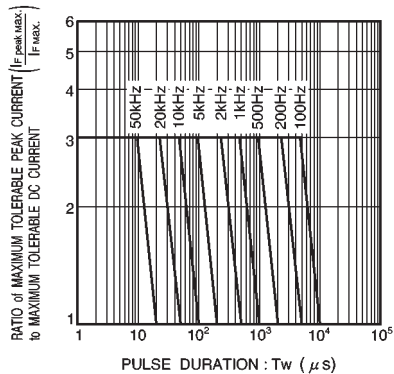


Fig. 6 Maximum tolerable peak current vs. pulse duration

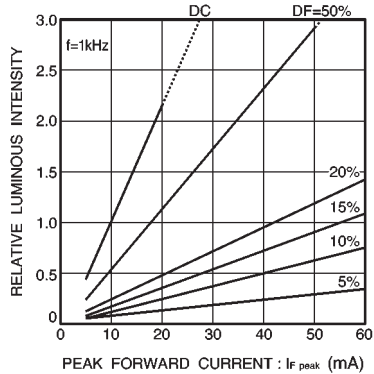


Fig. 7 Luminous intensity vs. peak forward current

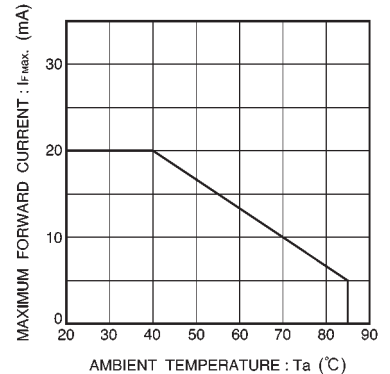


Fig. 8 Maximum forward current vs. ambient temperature

●Electrical characteristic curves 2 (orange)

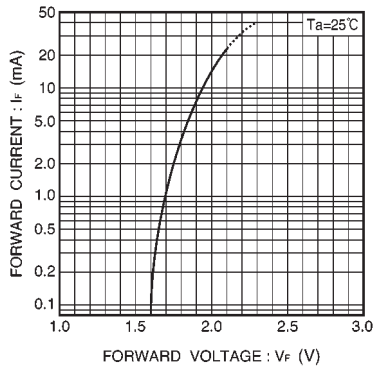


Fig. 9 Forward current vs. forward voltage

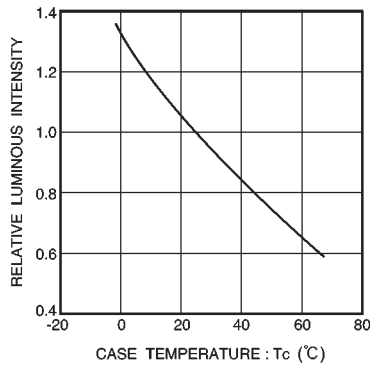


Fig. 10 Luminous intensity vs. case temperature

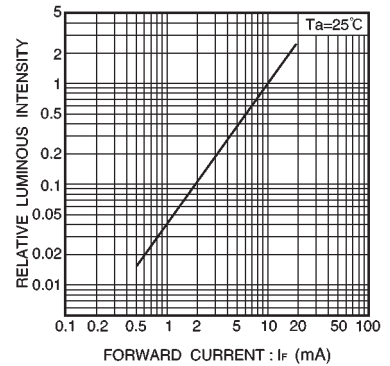


Fig. 11 Luminous intensity vs. forward current

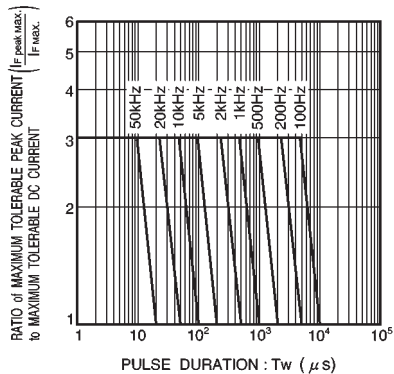


Fig. 12 Maximum tolerable peak current vs. pulse duration

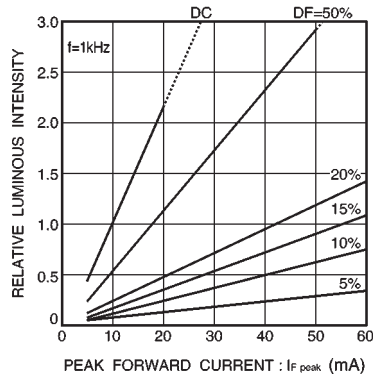


Fig. 13 Luminous intensity vs. peak forward current

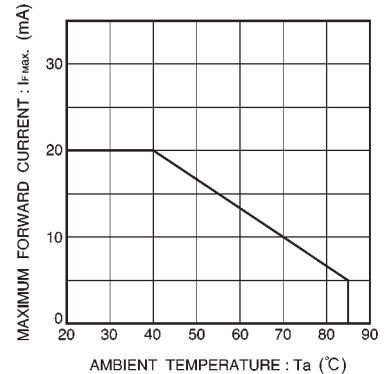


Fig. 14 Maximum forward current vs. ambient temperature

●Electrical characteristic curves 3 (yellow)

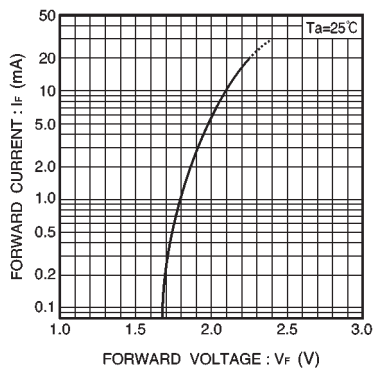


Fig. 15 Forward current vs. forward voltage

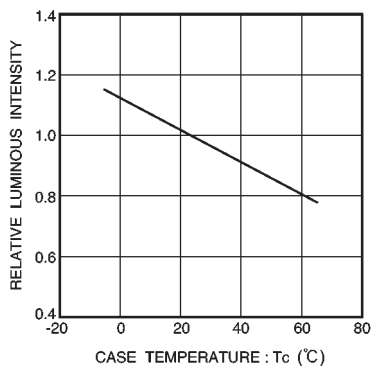


Fig. 16 Luminous intensity vs. case temperature

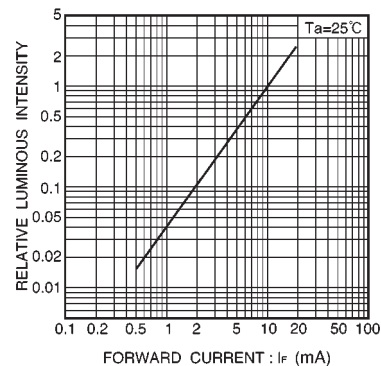


Fig. 17 Luminous intensity vs. forward current

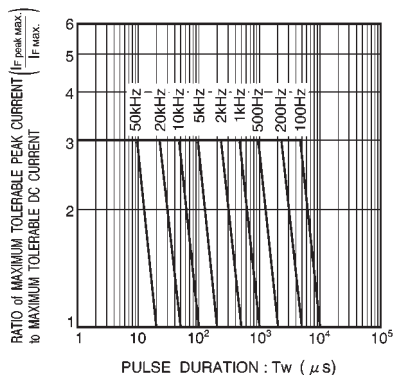


Fig. 18 Maximum tolerable peak current vs. pulse duration

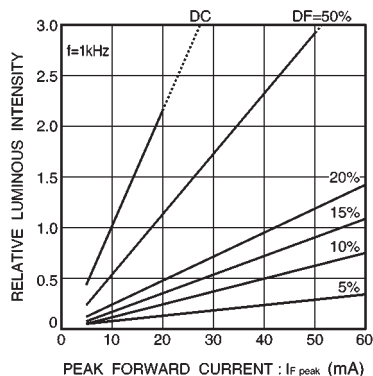


Fig. 19 Luminous intensity vs. peak forward current

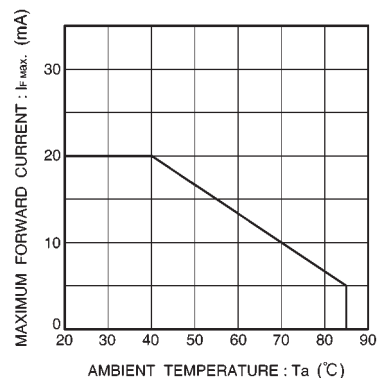


Fig. 20 Maximum forward current vs. ambient temperature

●Electrical characteristic curves 4 (green)

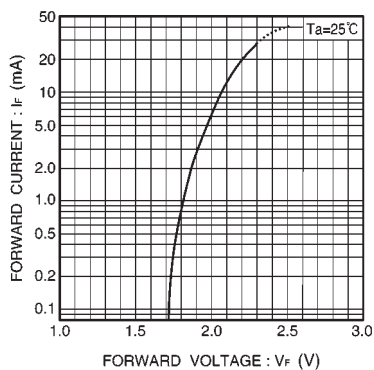


Fig. 21 Forward current vs. forward voltage

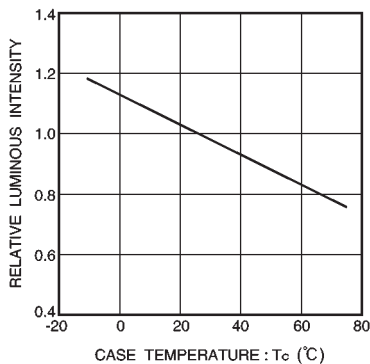


Fig. 22 Luminous intensity vs. case temperature

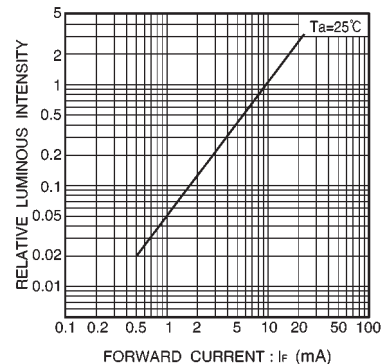


Fig. 23 Luminous intensity vs. forward current

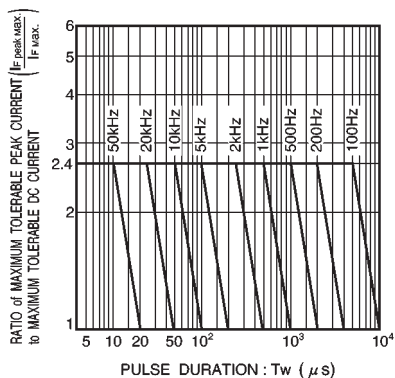


Fig. 24 Maximum tolerable peak current vs. pulse duration

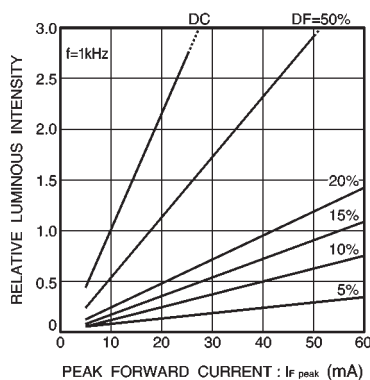


Fig. 25 Luminous intensity vs. peak forward current

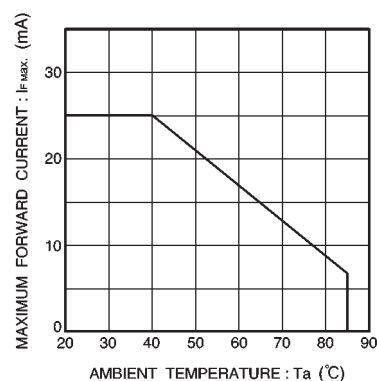


Fig. 26 Maximum forward current vs. ambient temperature