

# Small cylindrical LEDs ( $\phi 2.0$ mm)

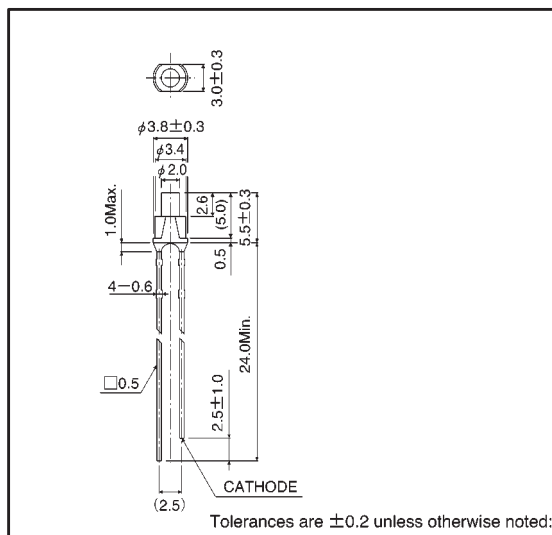
## SLC-22 Series

The SLC-22 series are  $\phi 2$  mm small cylindrical LEDs with a high luminous efficiency. They are available in four colors and are suitable for use in a wide variety of applications.

### ●Features

- 1) Small and cylindrical ( $\phi 2$  mm in diameter) with planar light emission.
- 2) High luminance.
- 3) Available in four colors : red, orange, yellow, and green.
- 4) High reliability.

### ●External dimensions (Units: mm)



### ●Selection guide

Emitting color Lens	Red	Orange	Yellow	Green
	Colored diffused	SLC-22VR	SLC-22DU	SLC-22YY

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

Parameter	Symbol	Red	Orange	Yellow	Green	Unit
		SLC-22VR	SLC-22DU	SLC-22YY	SLC-22MG	
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 ~ +85				$^\circ\text{C}$
Storage temperature	$T_{stg}$	-30 ~ +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	$V_F$	$I_F=10mA$	—	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	$\mu A$
Peak wavelength	$\lambda_P$	$I_F=10mA$	—	650	—	—	610	—	—	585	—	—	563	—	nm
Spectral line half width	$\Delta \lambda$	$I_F=10mA$	—	40	—	—	40	—	—	40	—	—	40	—	nm
Viewing angle	$2\theta_{1/2}$	Diffused	—	115	—	—	115	—	—	115	—	—	115	—	deg

●Luminous intensity vs. wavelength

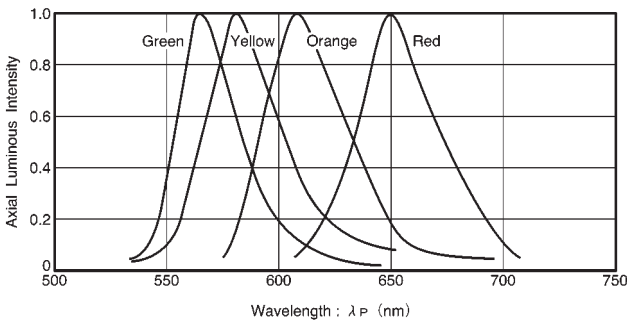


Fig.1

●Luminous intensity

Color	$\lambda_P$	Type	Min.	Typ.	Max.	Unit
Red	650	SLC-22VR	0.9	2.5	—	mcd
Orange	610	SLC-22DU	0.56	1.6	—	mcd
Yellow	585	SLC-22YY	0.90	2.5	—	mcd
Green	563	SLC-22MG	0.90	2.5	—	mcd

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

●Directional pattern

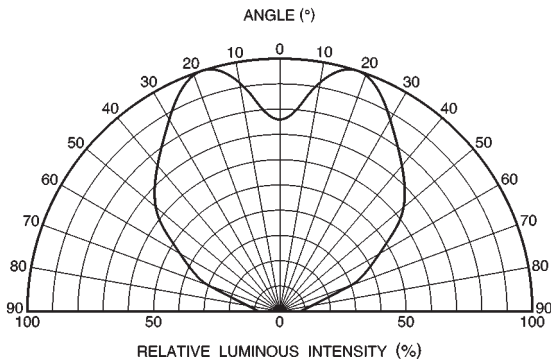


Fig. 2

●Electrical characteristic curves 1 (red)

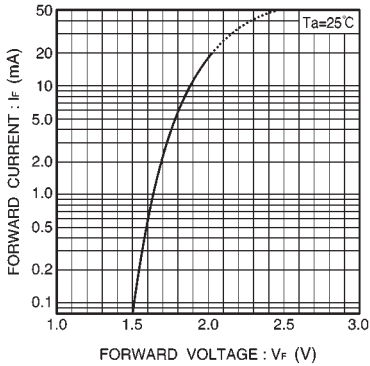


Fig. 3 Forward current vs. forward voltage

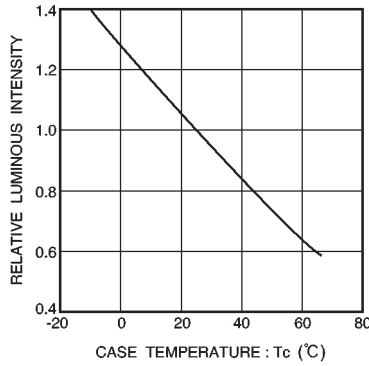


Fig. 4 Luminous intensity vs. case temperature

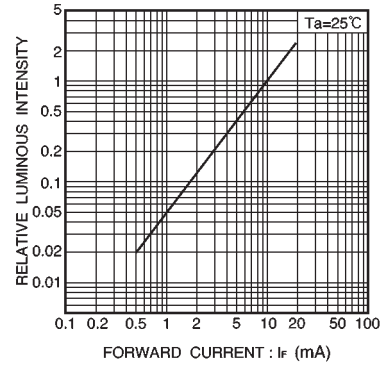


Fig. 5 Luminous intensity vs. forward current

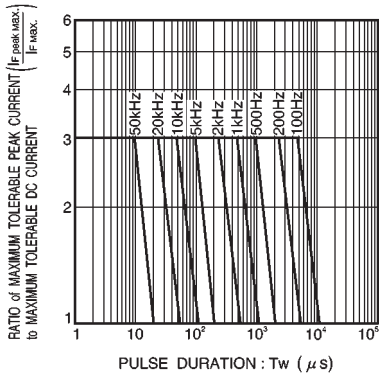


Fig. 6 Maximum tolerable peak current vs. pulse duration

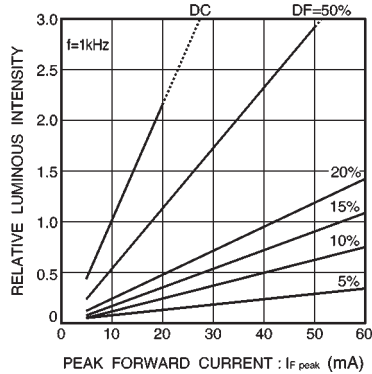


Fig. 7 Luminous intensity vs. peak forward current

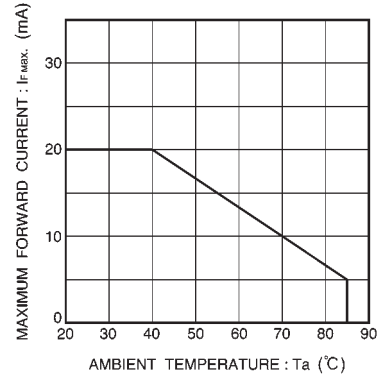


Fig. 8 Maximum forward current vs. ambient temperature

●Electrical characteristic curves 2 (orange)

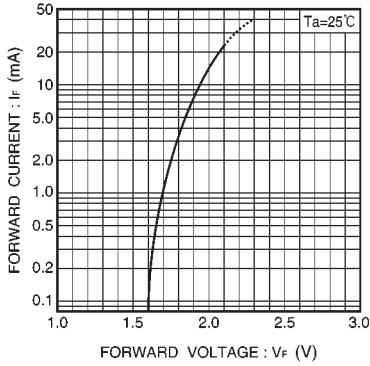


Fig. 9 Forward current vs. forward voltage

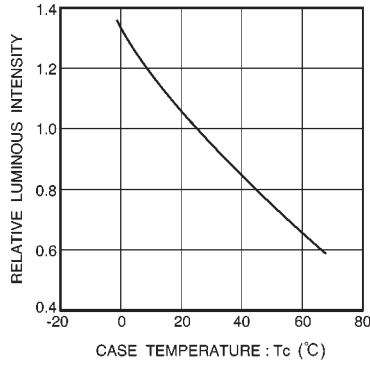


Fig. 10 Luminous intensity vs. case temperature

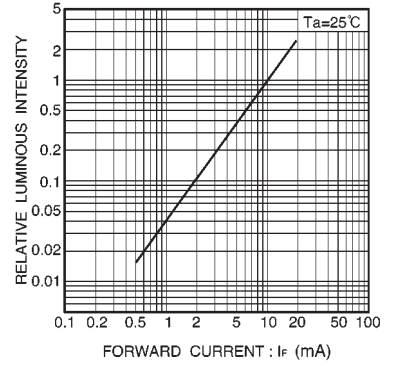


Fig. 11 Luminous intensity vs. forward current

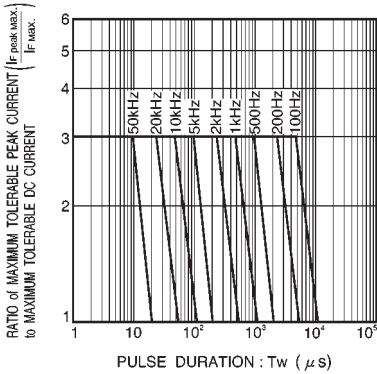


Fig. 12 Maximum tolerable peak current vs. pulse duration

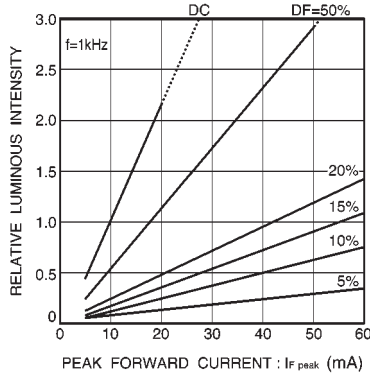


Fig. 13 Luminous intensity vs. peak forward current

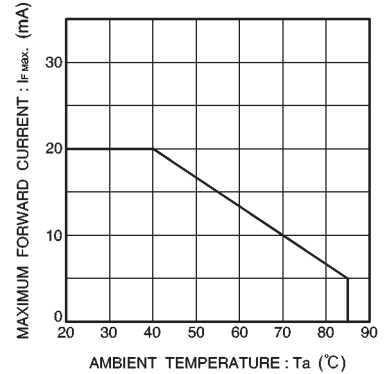


Fig. 14 Maximum forward current vs. ambient temperature

● Electrical characteristic curves 3 (yellow)

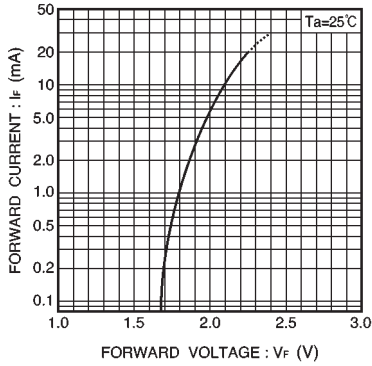


Fig. 15 Forward current vs. forward voltage

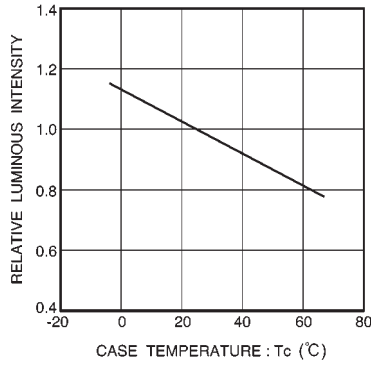


Fig. 16 Luminous intensity vs. case temperature

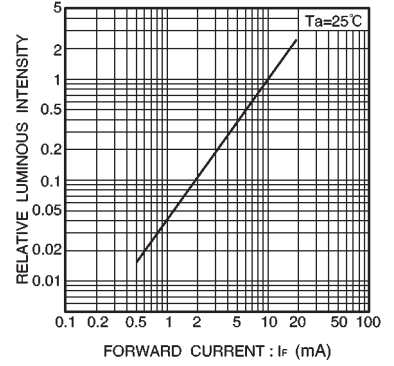


Fig. 17 Luminous intensity vs. forward current

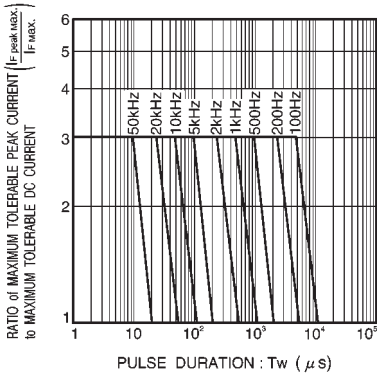


Fig. 18 Maximum tolerable peak current vs. pulse duration

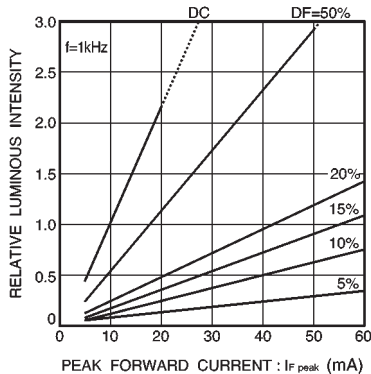


Fig. 19 Luminous intensity vs. peak forward current

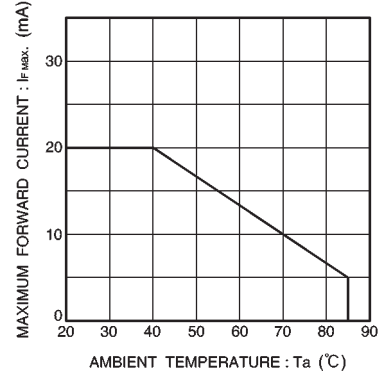


Fig. 20 Maximum forward current vs. ambient temperature

●Electrical characteristic curves 4 (green)

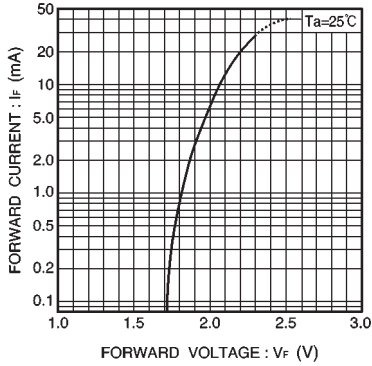


Fig. 21 Forward current vs. forward voltage

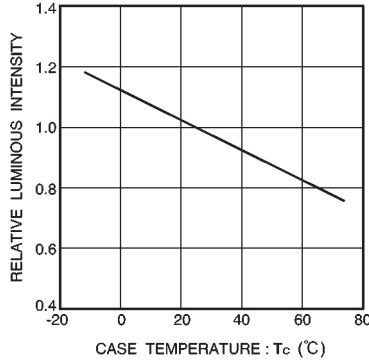


Fig. 22 Luminous intensity vs. case temperature

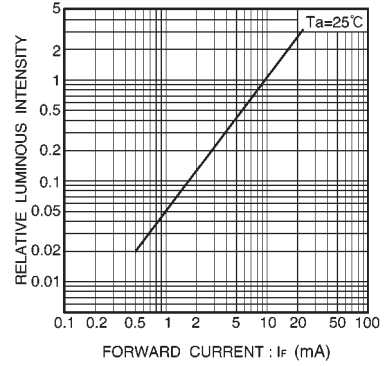


Fig. 23 Luminous intensity vs. forward current

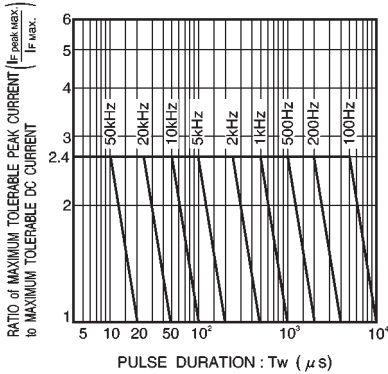


Fig. 24 Maximum tolerable peak current vs. pulse duration

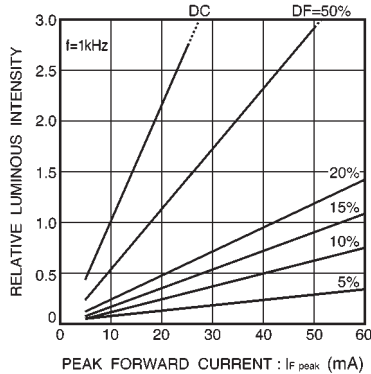


Fig. 25 Luminous intensity vs. peak forward current

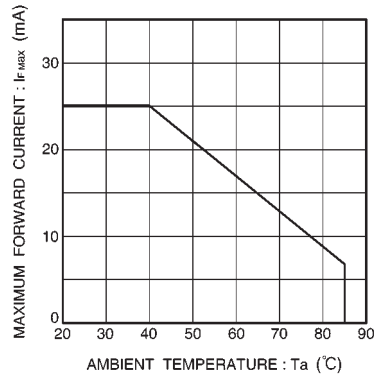


Fig. 26 Maximum forward current vs. ambient temperature