

# Reflecting small LEDs ( $\phi$ 3.1 mm)

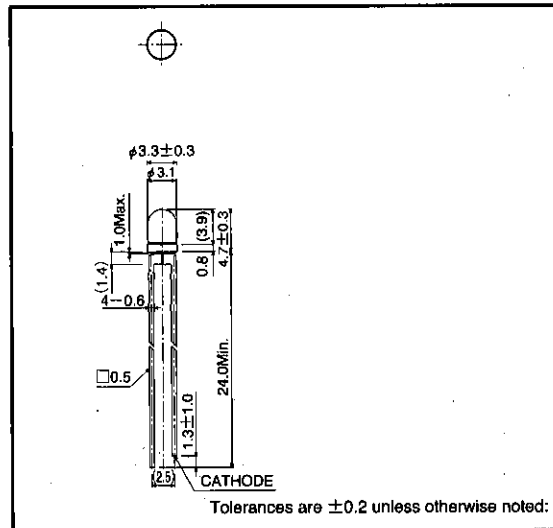
## SLR-37 Series

The SLR-37 series are small  $\phi$  3.1 mm LEDs with a high luminous efficiency. Four colors are available, and they are suitable for use in a wide variety of applications.

### ●Features

- 1) Very bright.
- 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 3.1 mm.
- 5) High reliability

### ●External dimensions (Unit: mm)



### ●Selection guide

Emitting color Lens	Red	Orange	Yellow	Green
	Colored diffused	SLR-37VR	SLR-37DU	SLR-37YY
Colored clear	SLR-37VC	—	—	SLR-37MC

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

Parameter	Symbol	Red	Orange	Yellow	Green	Unit
		SLR-37VR SLR-37VC	SLR-37DU	SLR-37YY	SLR-37MG SLR-37MC	
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 <sub>F</sub>	I <sub>F</sub> =10mA	—	2.0	3.0	—	2.0	3.0	—	2.1	3.0	—	2.1	3.0	V
Reverse current	I <sub>R</sub>	I <sub>R</sub> =3V	—	—	10	—	—	10	—	—	10	—	—	10	μA
Peak wavelength	λ <sub>P</sub>	I <sub>F</sub> =10mA	—	650	—	—	610	—	—	585	—	—	563	—	nm
Spectral line half width	Δλ	I <sub>F</sub> =10mA	—	40	—	—	40	—	—	40	—	—	40	—	nm
Emission power half angle	2θ <sub>1/2</sub>	Transparent	—	50	—	—	—	—	—	—	—	—	50	—	deg
		Diffused	—	55	—	—	55	—	—	55	—	—	55	—	

●Luminous intensity vs. wavelength

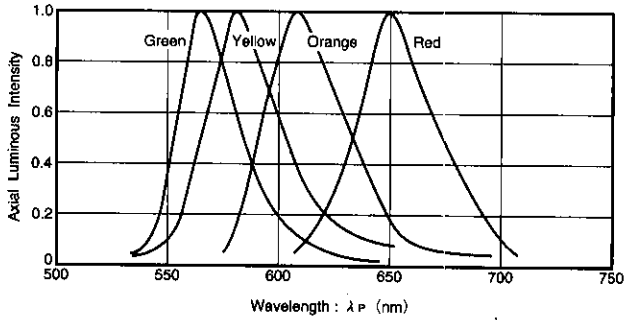


Fig. 1

●Luminous intensity

Color	λ <sub>P</sub>	Type	Min.	Typ.	Max.	Unit
Red	650	SLR-37VR	5.6	16	—	mcd
		SLR-37VC	5.6	16	—	mcd
Orange	610	SLR-37DU	5.6	16	—	mcd
Yellow	585	SLR-37YY	3.6	10	—	mcd
Green	563	SLR-37MG	9.0	25	—	mcd
		SLR-37MC	9.0	25	—	mcd

Note: Measured at I<sub>F</sub> = 10 mA

●Directional pattern

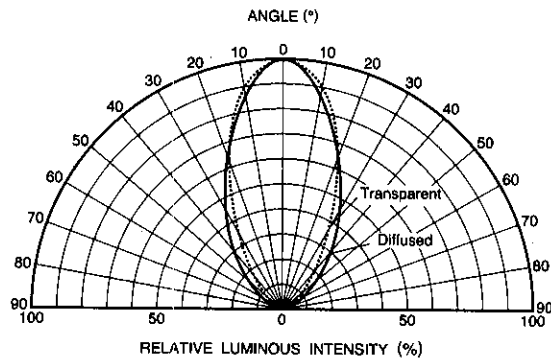


Fig. 2

● Electrical characteristics 1 (red)

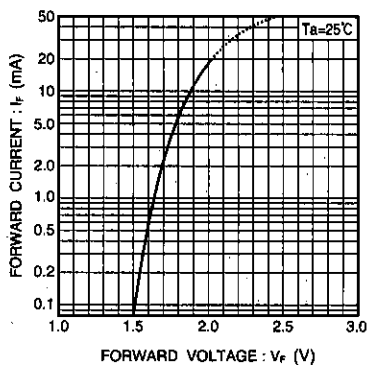


Fig. 3 Forward current vs. forward voltage

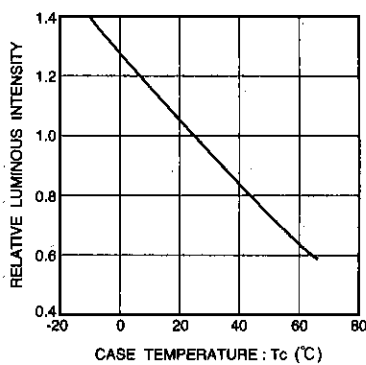


Fig. 4 Luminous intensity vs. case temperature

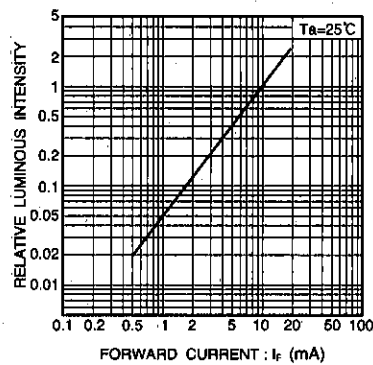


Fig. 5 Luminous intensity vs. forward current

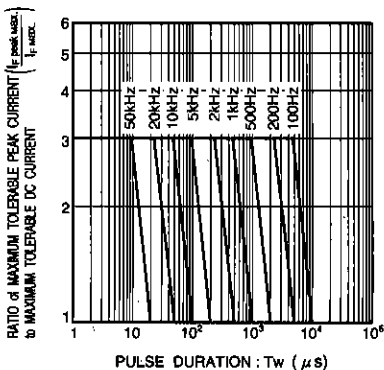


Fig. 6 Maximum tolerable peak current vs. pulse duration

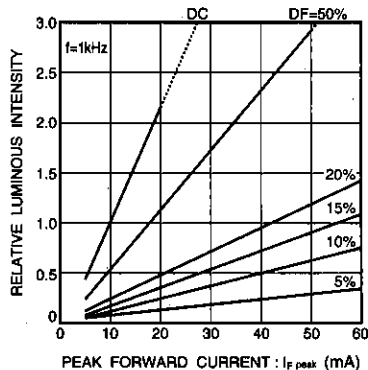


Fig. 7 Luminous intensity vs. peak forward current

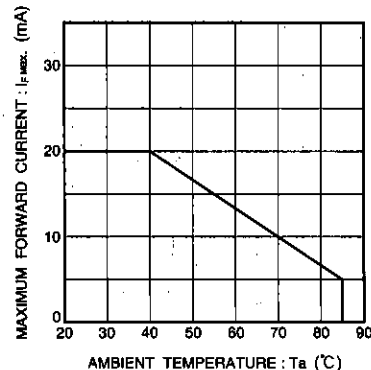
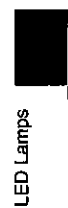


Fig. 8 Maximum forward current vs. ambient temperature



●Electrical characteristics 2 (orange)

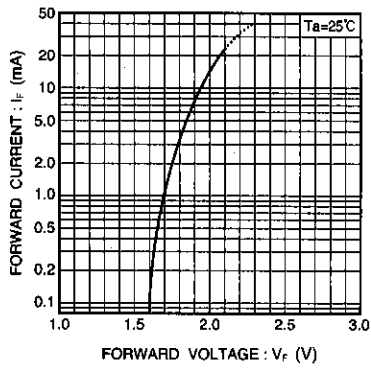


Fig. 9 Forward current vs. forward voltage

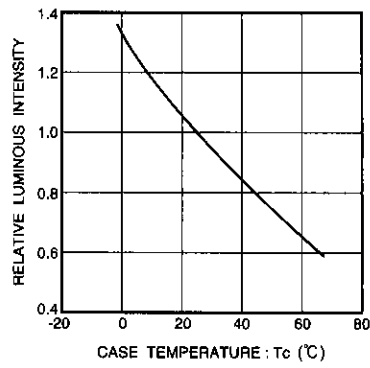


Fig. 10 Luminous intensity vs. case temperature

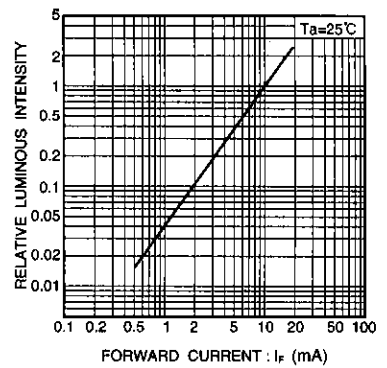


Fig. 11 Luminous intensity vs. forward current

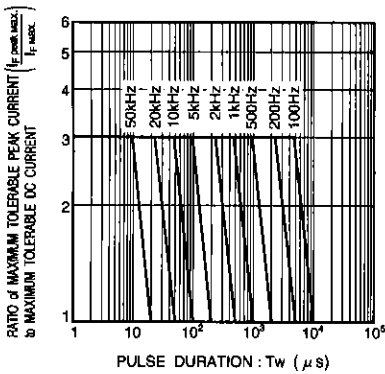


Fig. 12 Maximum tolerable peak current vs. pulse duration

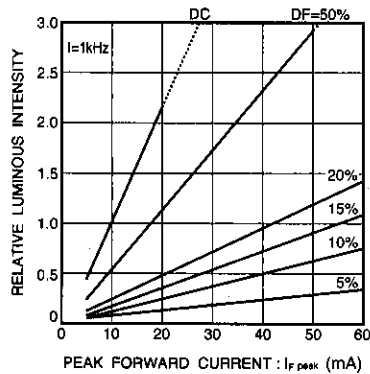


Fig. 13 Luminous intensity vs. peak forward current

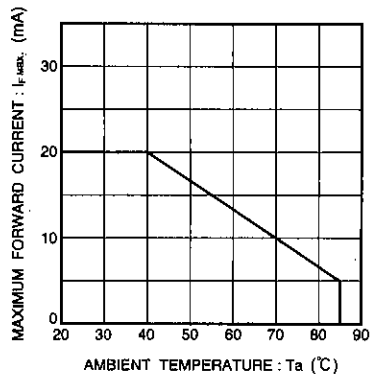


Fig. 14 Maximum forward current vs. ambient temperature

●Electrical characteristics 3 (yellow)

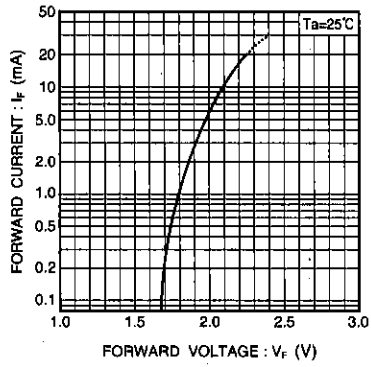


Fig. 15 Forward current vs. forward voltage

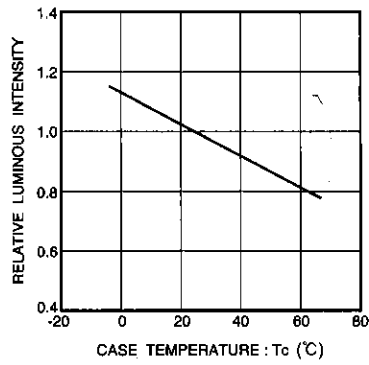


Fig. 16 Luminous intensity vs. case temperature

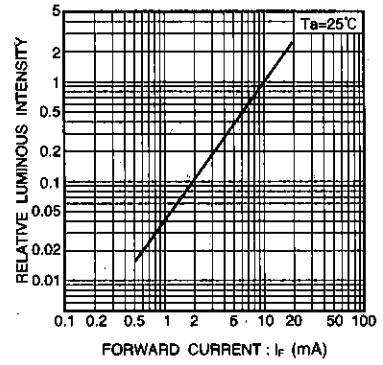


Fig. 17 Luminous intensity vs. forward current

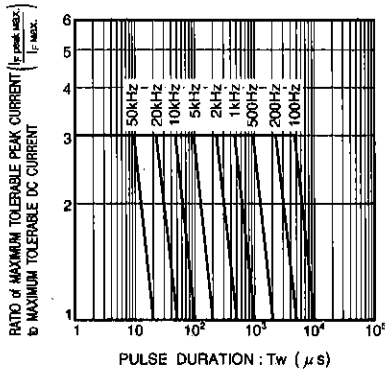


Fig. 18 Maximum tolerable peak current vs. pulse duration

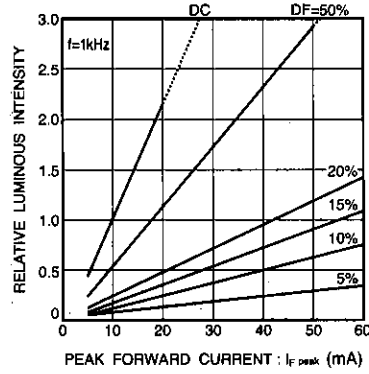


Fig. 19 Luminous intensity vs. peak forward current

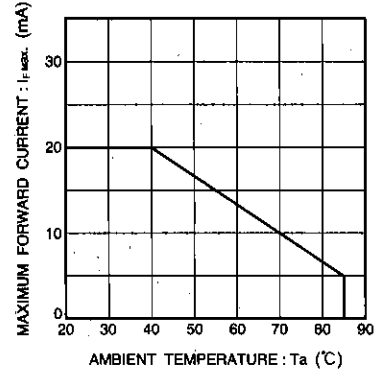


Fig. 20 Maximum forward current vs. ambient temperature

LED Lamps

● Electrical characteristics 4 (green)

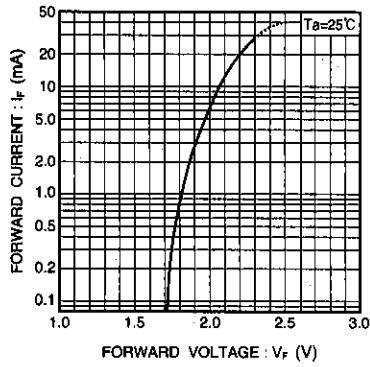


Fig. 21 Forward current vs. forward voltage

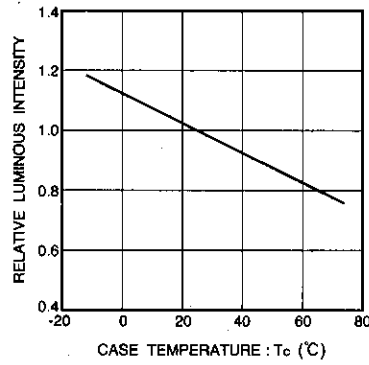


Fig. 22 Luminous intensity vs. case temperature

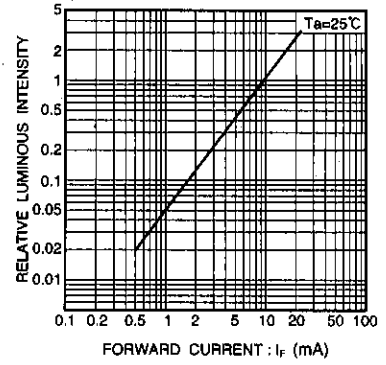


Fig. 23 Luminous intensity vs. forward current

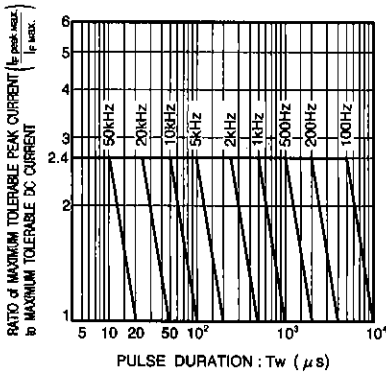


Fig. 24 Maximum tolerable peak current vs. pulse duration

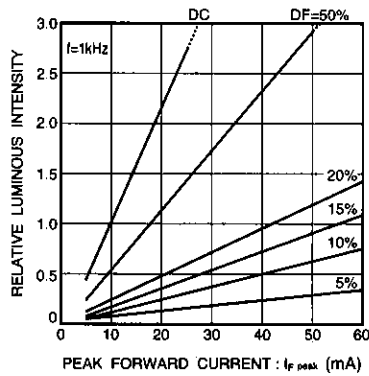


Fig. 25 Luminous intensity vs. peak forward current

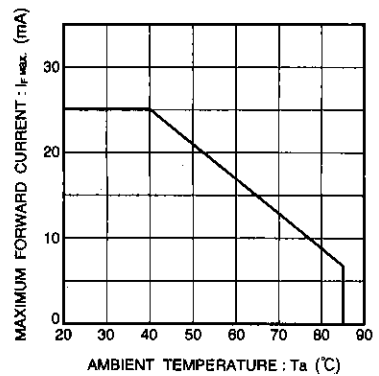


Fig. 26 Maximum forward current vs. ambient temperature

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