

Two-color LEDs ($\phi 3.1$ mm)

SPR-39 Series

The SPR-39 series are $\phi 3.1$ mm, two-color LEDs with a high luminous efficiency. Red and green elements are built into a single package, and these LEDs are suitable for a wide range of uses.

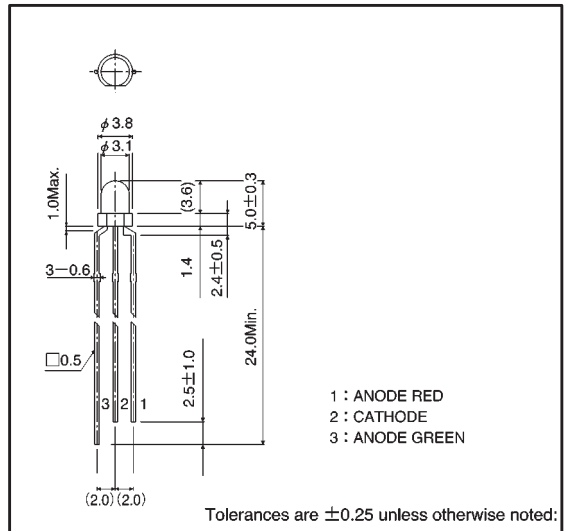
●Features

- 1) Two-color emission : red and green.
- 2) Epoxy resin package with a diameter of 3.1 mm.
- 3) Milky white lens.
- 4) High reliability.
- 5) Lead pitch of 2 mm.

●Selection guide

Emitting color	Red / Green
Lens	
Milky white	SPR-39MVW

●External dimensions (Units: mm)



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

Parameter	Symbol	Red	Green	Unit
Power dissipation	P_D	60	75	mW
Forward current	I_F	20	25	mA
Peak forward current	I_{FP}	60*	60*	mA
Reverse voltage	V_R	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			Green			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	
Forward voltage	V_F	$I_F=10\text{mA}$	—	2.0	3.0	—	2.1	3.0	V
Reverse current	I_R	$V_R=3\text{V}$	—	—	100	—	—	10	μA
Peak wavelength	λ_P	$I_F=10\text{mA}$	—	650	—	—	563	—	nm
Spectral line half width	$\Delta \lambda$	$I_F=10\text{mA}$	—	40	—	—	40	—	nm
Viewing angle	$2\theta_{1/2}$	Diffused	—	60	—	—	60	—	deg
Luminous intensity	I_v	$I_F=10\text{mA}$	2.2	6.3	—	3.6	10	—	mcd

●Luminous intensity vs. wavelength

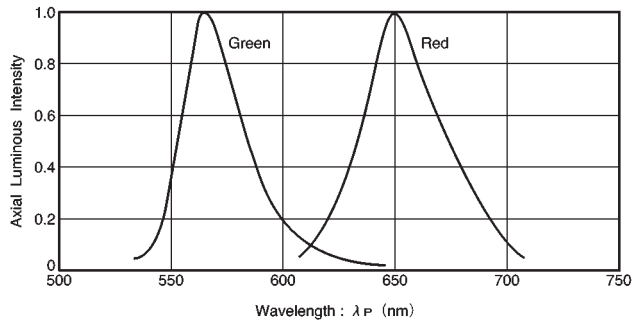


Fig.1

●Directional pattern

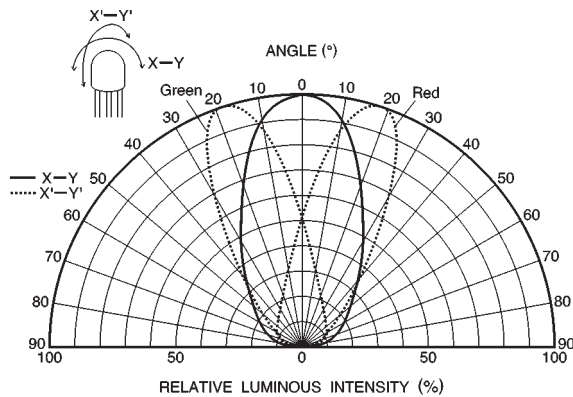


Fig. 2

●Electrical characteristic curves (red, green)

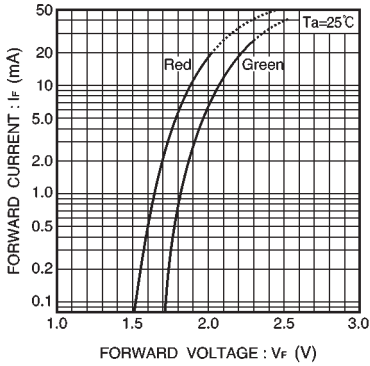


Fig. 3 Forward current vs. forward voltage

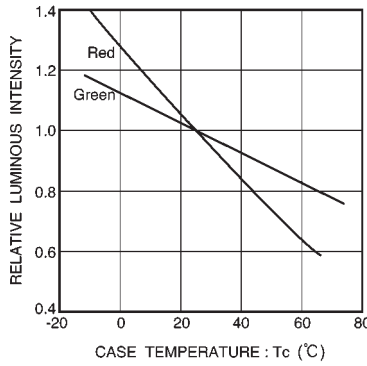


Fig. 4 Luminous intensity vs. case temperature

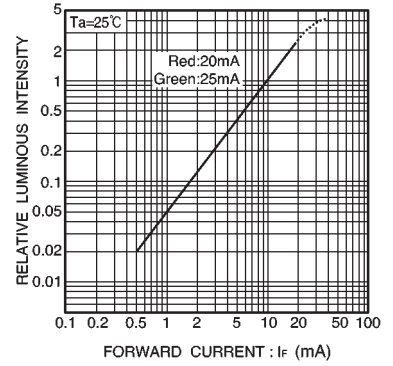


Fig. 5 Luminous intensity vs. forward current

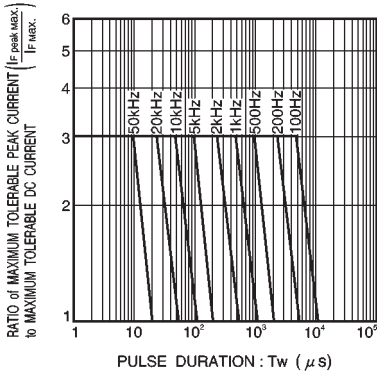


Fig. 6 Maximum tolerable peak current vs. pulse duration (red)

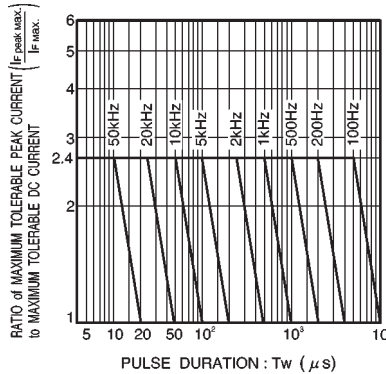


Fig. 7 Maximum tolerable peak current vs. pulse duration (green)

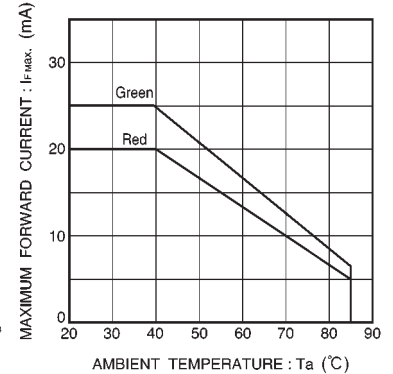


Fig. 8 Maximum forward current vs. ambient temperature