Two-color LEDs (ϕ5.0 mm)

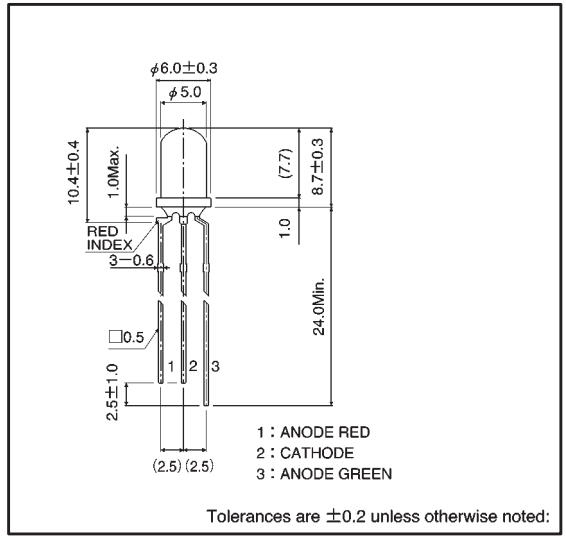
SPR-54 Series

The SPR-54 series are ϕ5 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 5 mm.
3) Milky white lens.
4) High reliability.

●External dimensions (Units: mm)



●Selection guide

Emitting color / Lens	Red / Green
Milky white	SPR-54MVW

●Absolute maximum ratings (Ta = 25°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	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			Green			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	
Forward voltage	V_F	I_F=10mA	—	2.0	3.0	—	2.1	3.0	V
Reverse current	I_R	V_R=3V	—	—	10	—	—	10	μA
Peak wavelength	λ_P	I_F=10mA	—	650	—	—	563	—	nm
Spectral line half width	$\Delta\lambda$	I_F=10mA	—	40	—	—	40	—	nm
Viewing angle	$2\theta_{1/2}$	Diffused	—	40	—	—	40	—	deg
Luminous intensity	I_V	I_F=10mA	2.2	6.3	—	3.6	10	—	mcd

●Luminous intensity vs. wavelength

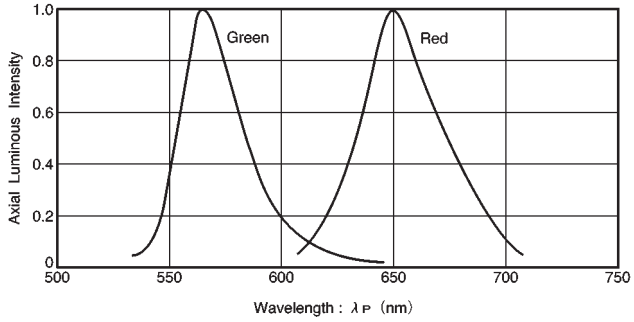


Fig. 1

●Directional pattern

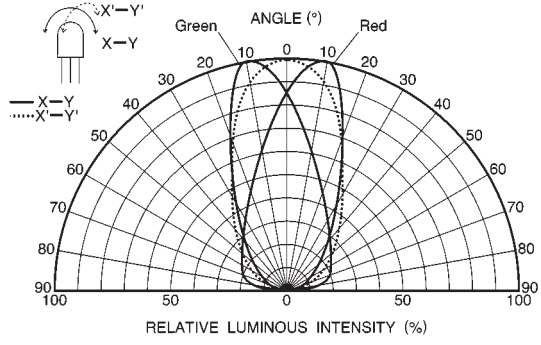


Fig.2

●Electrical characteristic curves (red, green)

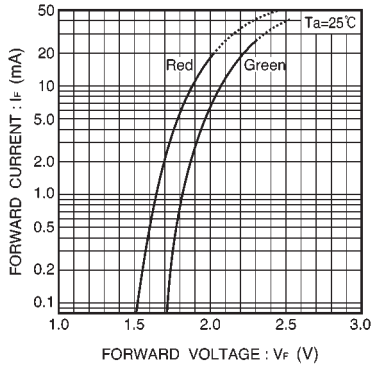


Fig. 3 Forward current vs. forward voltage

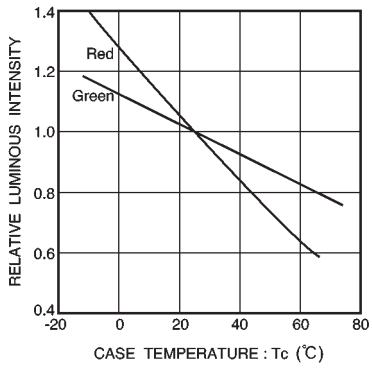


Fig. 4 Luminous intensity vs. case temperature

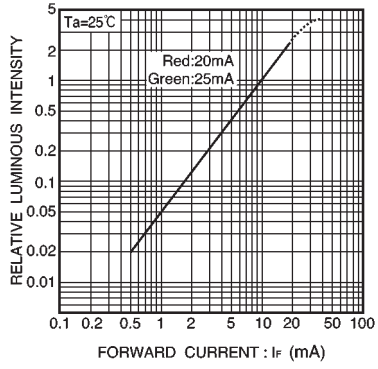


Fig. 5 Luminous intensity vs. forward current

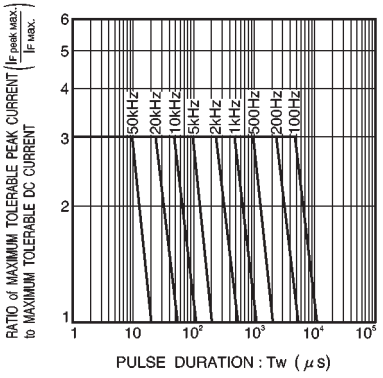


Fig. 6 Maximum tolerable peak current vs.pulse duration (red)

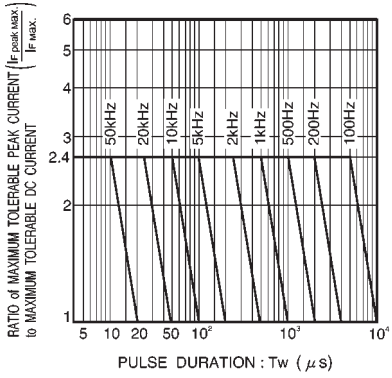


Fig. 7 Maximum tolerable peak current vs. pulse duration (green)

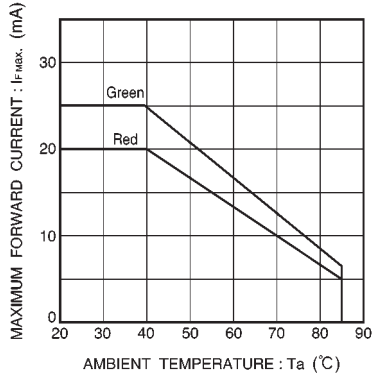


Fig. 8 Maximum forward current vs. ambient temperature