Small, two-color LEDs (2 × 5 mm)

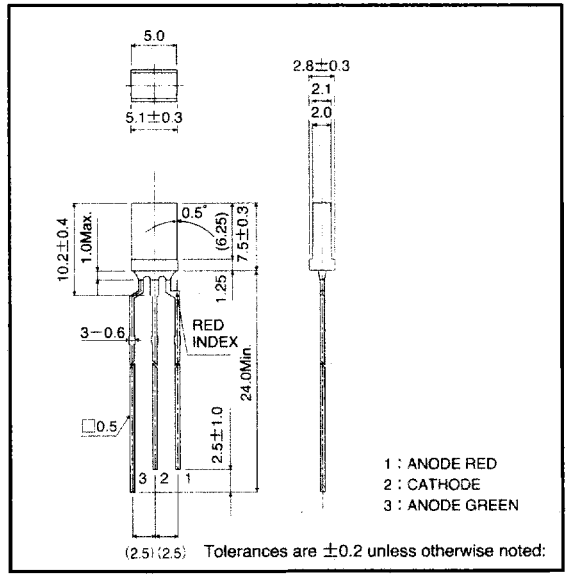
SPB-25 Series

The SPB-25 series are two-color, rectangular LEDs with an emission size of 2 × 5 mm and 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) Uniform light emission with no irregularities.
3) Rectangular shape and planar light emission.
4) Milky white lens.
5) High reliability and excellent heat tolerance.

●External dimensions (Unit: mm)



●Selection guide

Emitting color / Lens	Red/Green
Milky white	SPB-25MVW

●Absolute maximum ratings (Ta = 25℃)

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℃)

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
Emission power half angle	$2\theta_{1/2}$	Diffused	—	100	—	—	100	—	deg
Luminous intensity	I_V	I_F=10mA	0.36	1.0	—	0.36	1.0	—	mcd

●Luminous intensity vs. wavelength

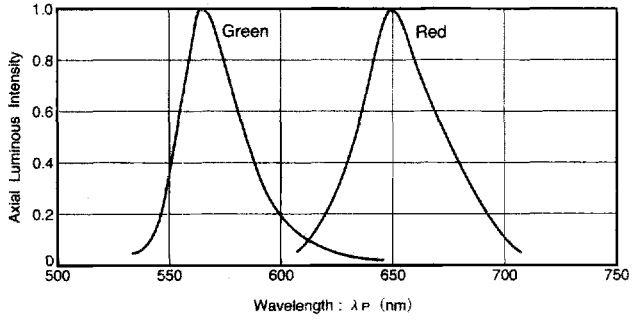


Fig. 1

●Directional pattern

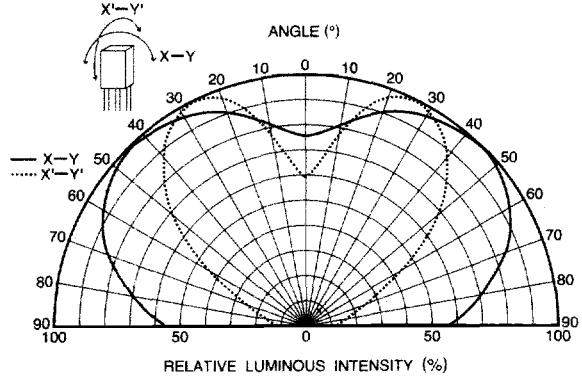


Fig. 2

●Electrical characteristics (red, green)

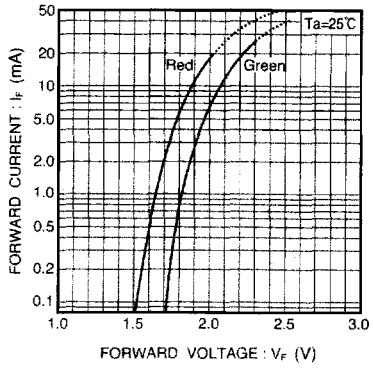


Fig. 3 Forward current vs. forward voltage

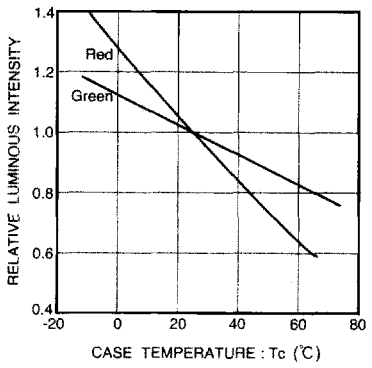


Fig. 4 Luminous intensity vs. case temperature

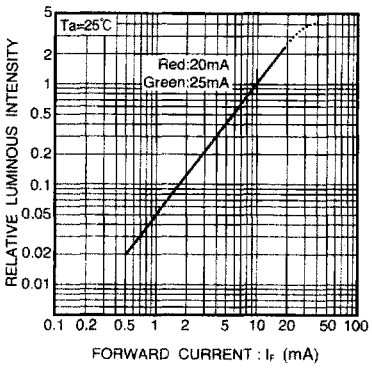


Fig. 5 Luminous intensity vs. forward current

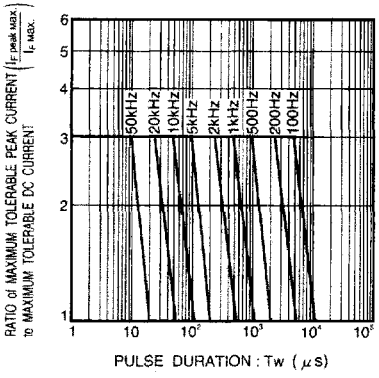


Fig. 6 Maximum tolerable peak current vs. pulse duration (red)

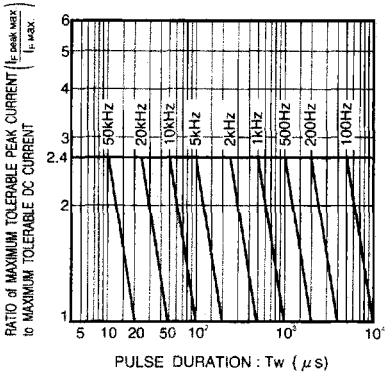


Fig. 7 Maximum tolerable peak current vs. pulse duration (green)

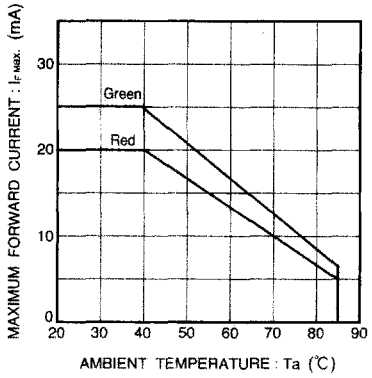


Fig. 8 Maximum forward current vs. ambient temperature