

BS520

Photodiode for Visible Light

■ Features

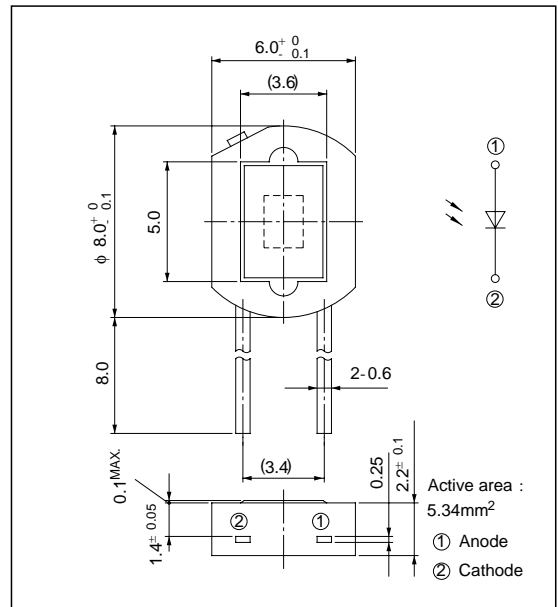
1. Spectral sensitivity characteristics akin to that of human eye
2. Compact flat package
3. Low dark current (I_d : MAX. 10^{-11} A at $V_R=1V$)
4. Infrared light cut-off type

■ Applications

1. AE (automatic exposure) system and ES (electronic shutter) system for cameras
2. Stroboscopes
3. Precise optical instruments

■ Outline Dimensions

(Unit:mm)



■ Absolute Maximum Ratings (Ta= 25°C)

Parameter	Symbol	Rating	Unit
Reverse voltage	V_R	10	V
Operating temperature	T_{opr}	-20 to +60	°C
Storage temperature	T_{stg}	-30 to +80	°C
*1 Soldering temperature	T_{sol}	260	°C

*1 For 5 seconds

■ Electro-optical Characteristics (Ta= 25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
*2 Short circuit current	I_{sc}	$E_v = 100lx$	0.40	0.55	0.65	μA
*2 Short circuit current temperature coefficient	β_T	$E_v = 100lx$	-	0.02	0.06	%/°C
Dark current	I_d	$V_R = 1V$	-	3×10^{-12}	10^{-11}	A
Dark current temperature coefficient	α_T	$V_R = 1V$	-	4.0	5.0	times/10°C
Terminal capacitance	C_t	$V_R = 0, f = 100kHz$	-	600	1 000	pF
Peak sensitivity wavelength	λ_p	-	500	560	600	nm
*3 Spectral sensitivity infrared radiation ratio	ΔI_R	-	-	5	10	%

*2 E_v : Illuminance by CIE standard light source A (tungsten lamp)

$$*3 \Delta I_R = \frac{I_{sc}(\mu >= 700nm)}{I_{sc}(\text{entire wavelength})} \times 100\%$$

Fig. 1 Short Circuit Current vs. Illuminance

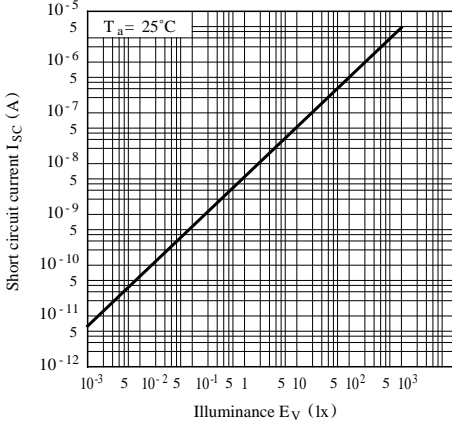


Fig. 2 Relative Short Circuit Current vs. Ambient Temperature

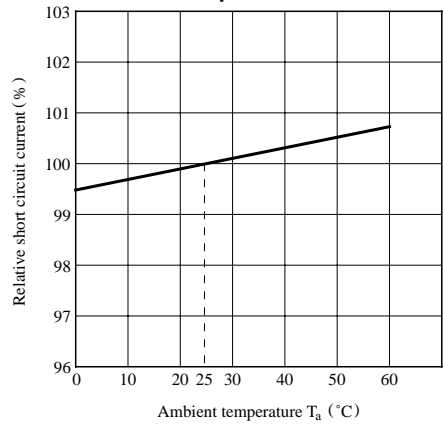


Fig. 3 Dark Current vs. Reverse Voltage

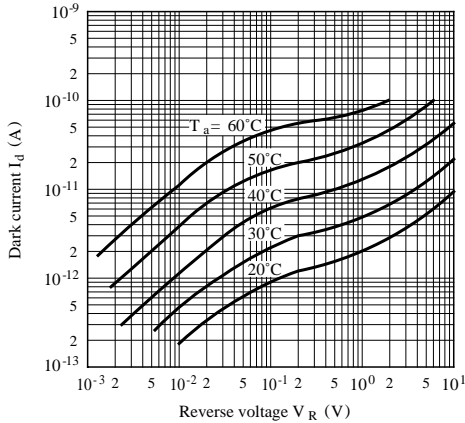


Fig. 4 Spectral Sensitivity

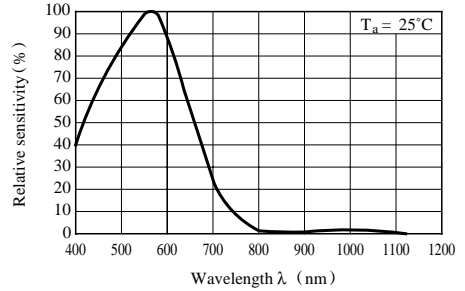
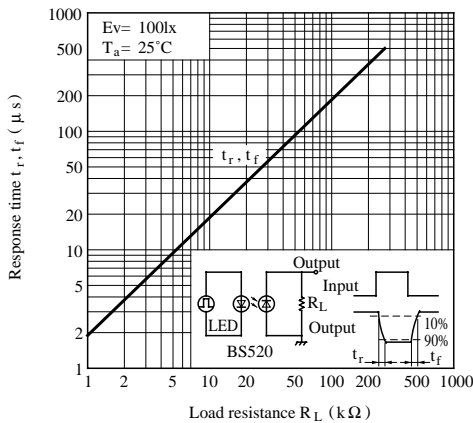


Fig. 5 Response Time vs. Load Resistance



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