

# BS520

## Photodiode for Visible Light

### ■ Features

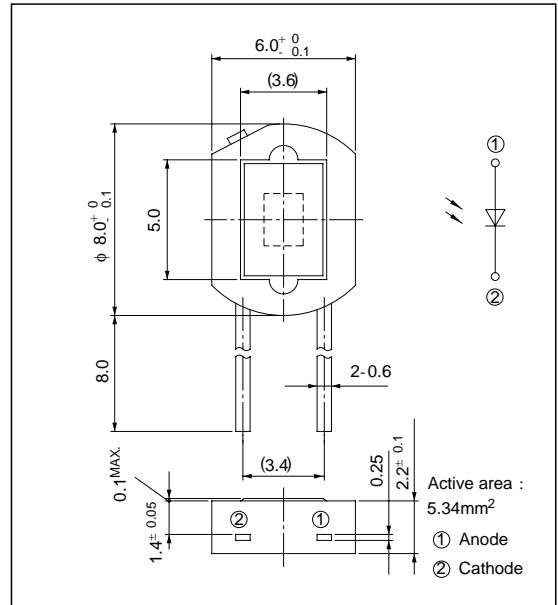
1. Spectral sensitivity characteristics akin to that of human eye
2. Compact flat package
3. Low dark current ( $I_d$  : MAX.  $10^{-11}$  A at  $V_R=1V$ )
4. Infrared light cut-off type

### ■ 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

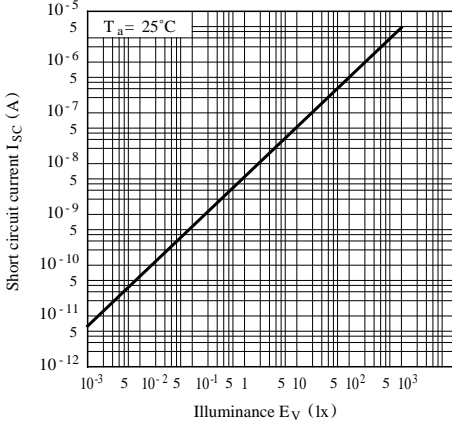
### ■ Electro-optical Characteristics (Ta= 25°C)

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

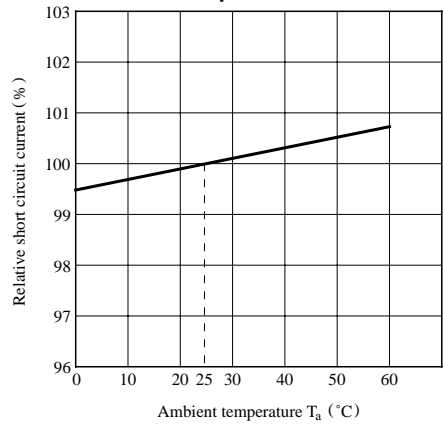
\*2  $E_v$ : Illuminance by CIE standard light source A (tungsten lamp)

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

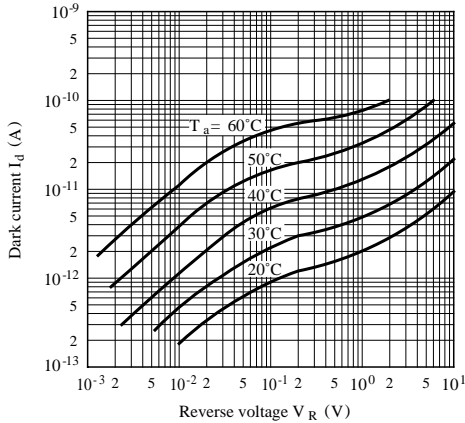
**Fig. 1 Short Circuit Current vs. Illuminance**



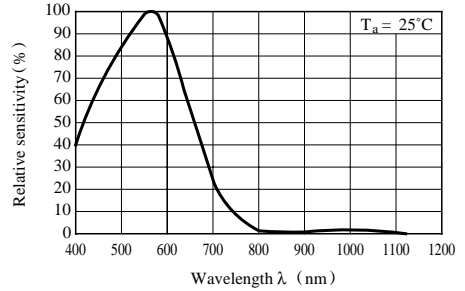
**Fig. 2 Relative Short Circuit Current vs. Ambient Temperature**



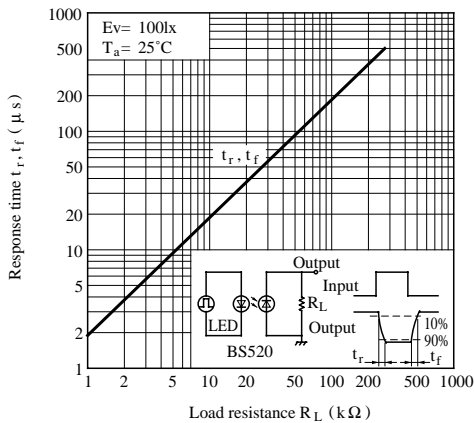
**Fig. 3 Dark Current vs. Reverse Voltage**



**Fig. 4 Spectral Sensitivity**



**Fig. 5 Response Time vs. Load Resistance**



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