

# BS500A/BS501A Wide Wavelength Band Type Photodiode T-41-31

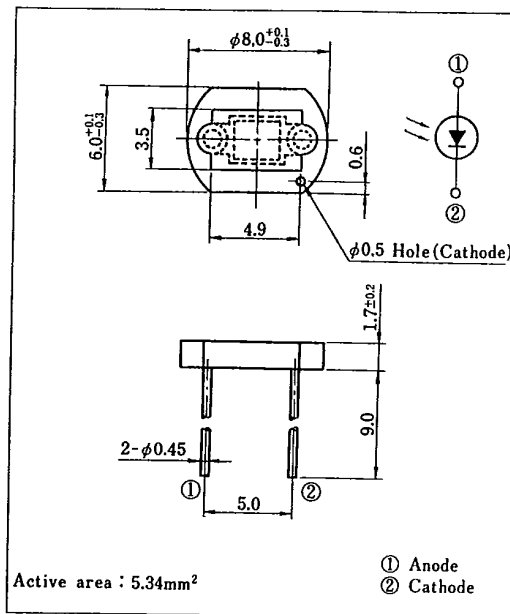
## ■ Features

1. High sensitivity ( $I_{sc}$ : MIN.  $3.3\mu A$  at  $E_v = 100 lx$ )
2. Wide dynamic range
3. A wide range of sensitivity wavelength

## ■ 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	BS500A	BS501A	Unit
Reverse voltage	$V_R$	10	10	V
Operating temperature	$T_{opr}$	-10 ~ +60	-10 ~ +60	°C
Storage temperature	$T_{stg}$	-20 ~ +80	-20 ~ +80	°C
*1 Soldering temperature	$T_{sol}$	260	260	°C

\*1 For 5 seconds

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

Parameter	Symbol	Conditions	BS500A			BS501A			Unit
			MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
*2 Short circuit current	$I_{sc}$	$E_v = 100 lx$	3.3	—	5.5	3.3	—	5.5	$\mu A$
*2 Short circuit current temperature coefficient	$\beta_T$	$E_v = 100 lx$	—	0.2	—	—	0.2	—	%/°C
Dark current	$I_d$	$V_R = 2V$	—	$10^{-11}$	$2 \times 10^{-9}$	—	$3 \times 10^{-12}$	$5 \times 10^{-12}$	A
Terminal capacitance	$C_t$	$V_R = 0, f = 1MHz$	—	600	—	—	600	—	pF
Peak sensitivity wavelength	$\lambda_p$		800	850	900	800	850	900	nm

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

Fig. 1 Short Circuit Current vs. Illuminance

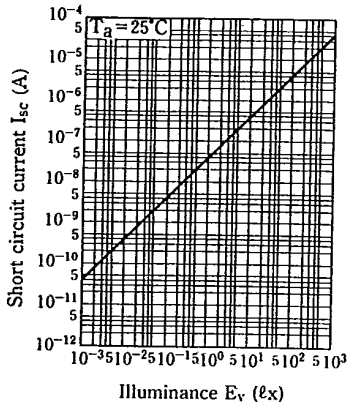


Fig. 2 Relative Short Circuit Current vs. Ambient Temperature

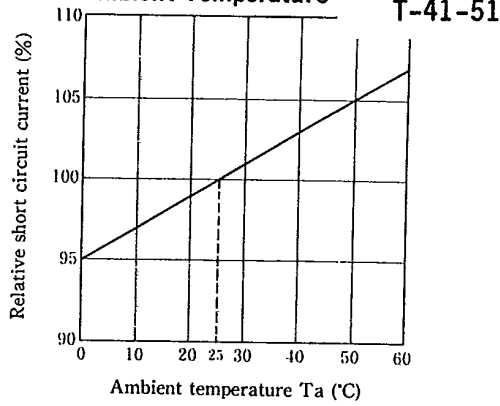


Fig. 3 Dark Current vs. Reverse Voltage

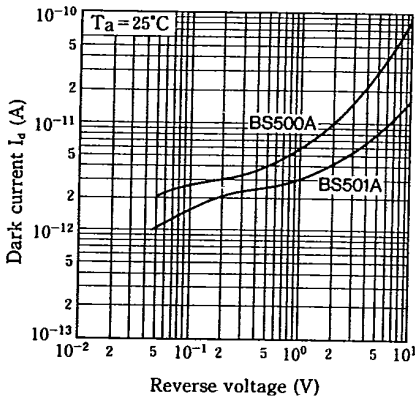
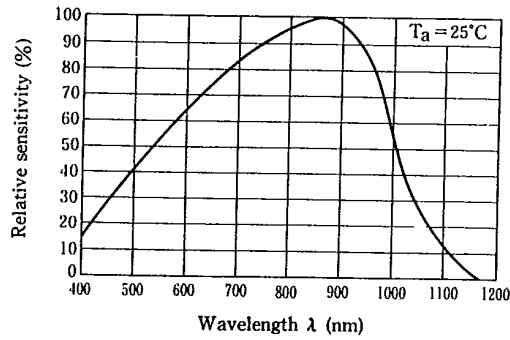
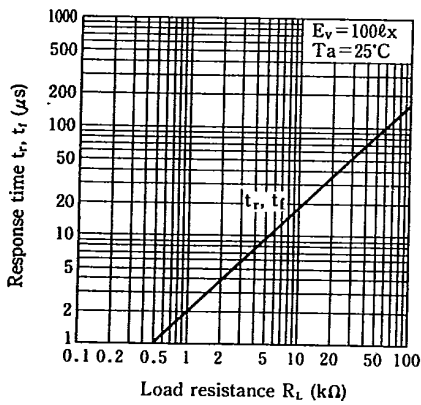


Fig. 4 Spectral Sensitivity



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Fig. 5 Response Time vs. Load Resistance



Test Circuit for Response Time

