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

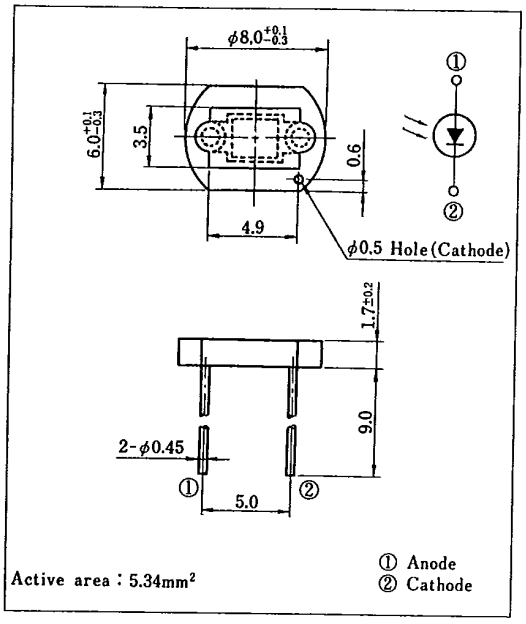
■ Features

1. High sensitivity (I_{SC}: MIN. 3.3μA 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
*1Soldering 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.	
*2Short circuit current	I_{SC}	E_V=100ℓx	3.3	—	5.5	3.3	—	5.5	μA
*2Short circuit current temperature coefficient	β_T	E_V=100ℓx	—	0.2	—	—	0.2	—	%/°C
Dark current	I_d	V_R=2V	—	10^{-11}	2×10^{-9}	—	3×10^{-12}	5×10^{-12}	A
Terminal capacitance	C_t	V_R=0, f=1MHz	—	600	—	—	600	—	pF
Peak sensitivity wavelength	λ_p		800	850	900	800	850	900	nm

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

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Fig. 1 Short Circuit Current vs. Illuminance

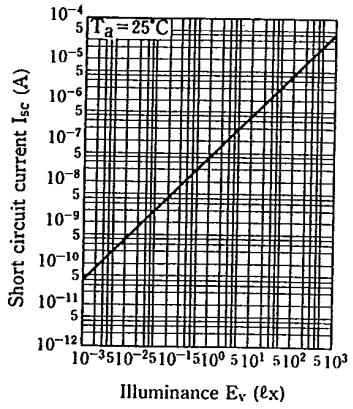

Fig. 2 Relative Short Circuit Current vs. Ambient Temperature

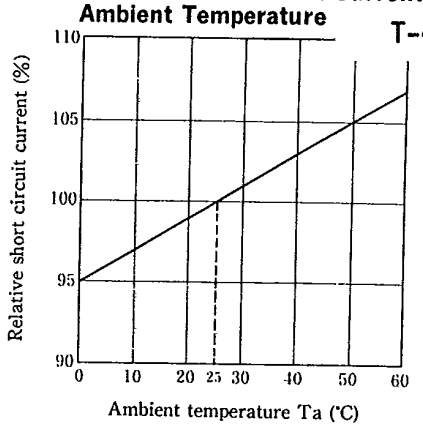

Fig. 3 Dark Current vs. Reverse Voltage

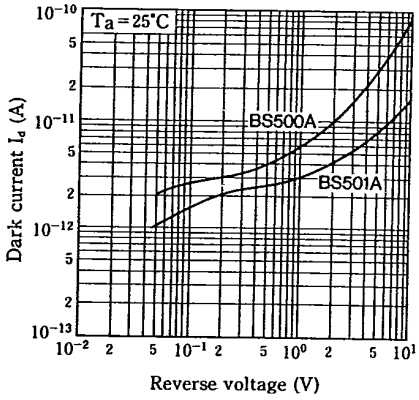

Fig. 4 Spectral Sensitivity

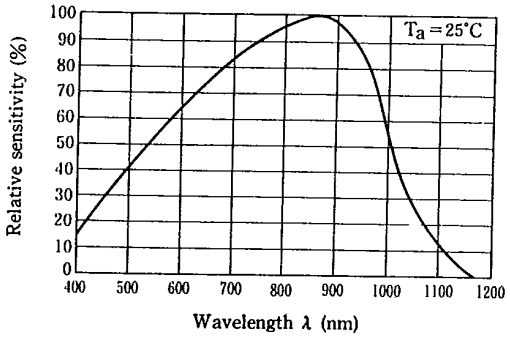

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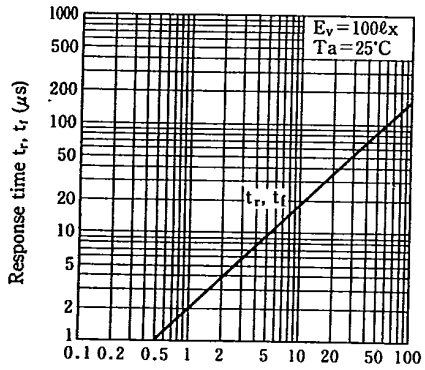
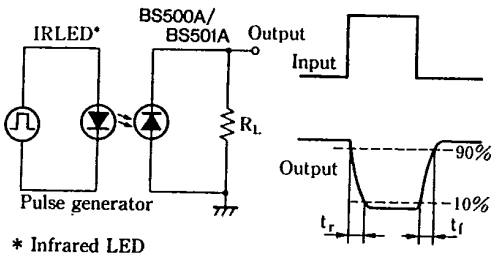
Fig. 5 Response Time vs. Load Resistance



Test Circuit for Response Time



* Infrared LED