

BS100D Wide Wavelength Band Type Photodiode

T-41-51

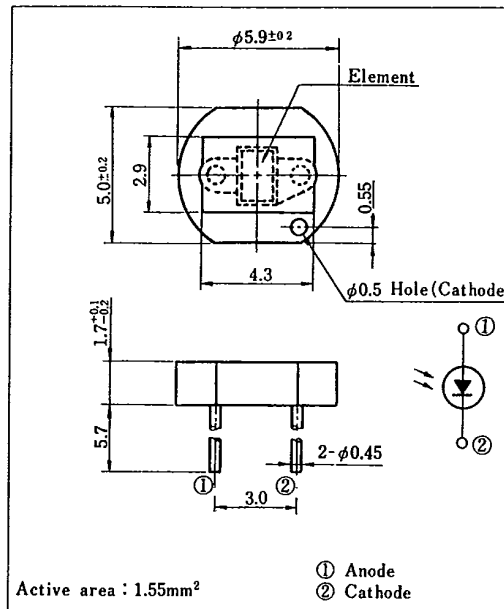
■ Features

1. Wide dynamic range
(Capable of $E_v = 10^{-3} \sim 10^4 \ell x$ range measurement)
2. Very low dark current
(I_d : MAX. 10^{-10} A at $V_R = 1V$)
3. A wide range of sensitivity wavelength

■ Applications

1. AE (automatic exposure) systems and ES (electronics shutter) system for cameras
2. Precise optical instruments

■ Outline Dimensions (Unit : mm)



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■ Absolute Maximum Ratings (T_a = 25°C)

Parameter	Symbol	Rating	Unit
Reverse voltage	V _R	10	V
Operating temperature	T _{opr}	-10 ~ +60	°C
Storage temperature	T _{stg}	-20 ~ +80	°C
*1 Soldering temperature	T _{sol}	260	°C

*1 For 5 seconds

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

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
*2 Short circuit current	I _{sc}	E _v = 100 ℓx	0.80	1.05	1.50	μA
*2 Short circuit current temperature coefficient	β _T	E _v = 100 ℓx	—	0.2	—	%/°C
Dark current	I _d	V _R = 1V	—	5 × 10 ⁻¹²	10 ⁻¹⁰	A
Dark current temperature coefficient	α _T	V _R = 1V	—	3.5	5.0	times/10°C
Terminal capacitance	C _t	V _R = 0, f = 1MHz	—	—	500	pF
Peak sensitivity wavelength	λ _p		—	880	—	nm

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

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Fig. 1 Short Circuit Current vs. Illuminance

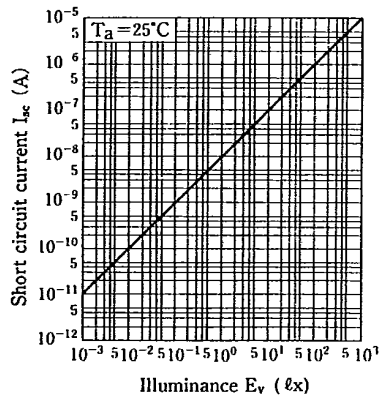


Fig. 2 Relative Short Circuit Current vs. Ambient Temperature

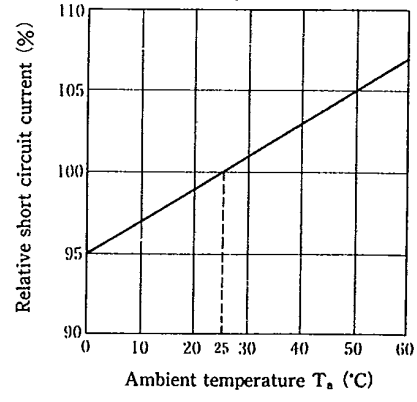


Fig. 3 Dark Current vs. Reverse Voltage

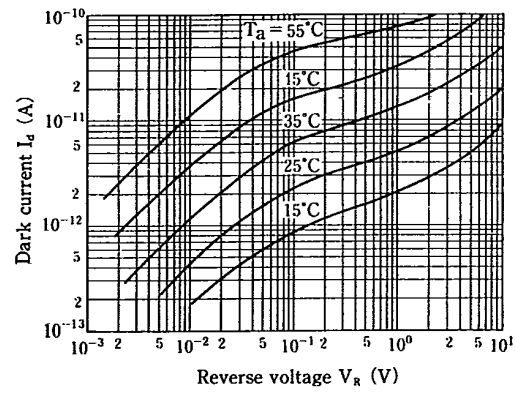


Fig. 4 Spectral Sensitivity

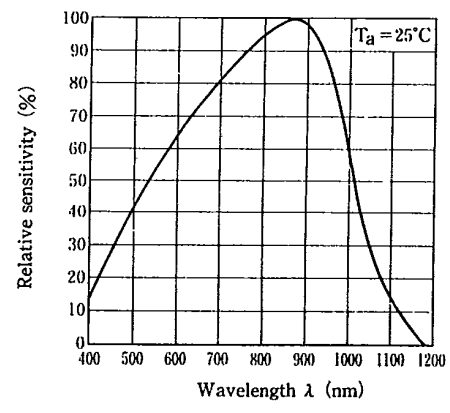
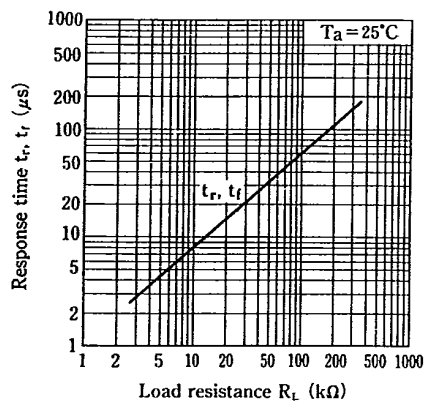


Fig. 5 Response Time vs. Load Resistance



Test Circuit for Response Time

