BS100C Photodiode for Visible Light

T-41-51

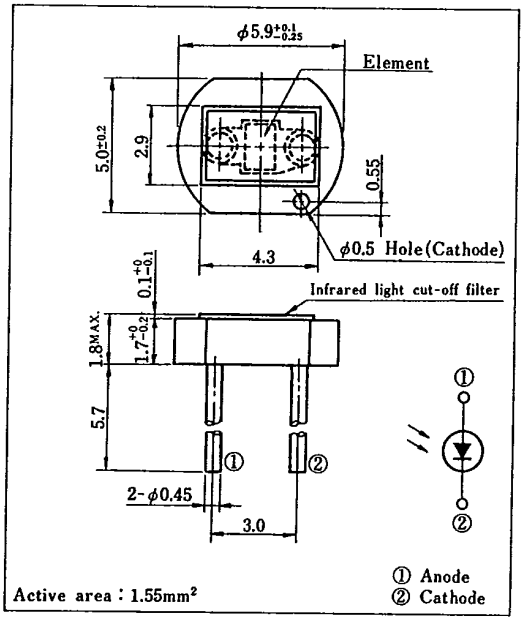
■ Features

1. Wide dynamic range
   (Capable of $E_V=10^{-3}\sim10^{4}\ell x$ range measurement)
2. Low dark current
   (I_d : MAX. 10^{-11}A at $V_R=1V$)
3. Infrared light cut-off type

■ Applications

1. AE (automatic exposure) system and ES (electronic 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}	−20~+60	°C
Storage temperature	T_{stg}	−30~+80	°C
*1 Soldering temperature	T_{sol}	260	°C

*1 For 5 seconds

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

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
*2 Short circuit current	I_{sc}	$E_V=100\ \ell x$	0.14	0.16	0.21	μA
*2 Short circuit current temperature coefficient	β_T	$E_V=100\ \ell x$	—	0.02	0.07	%/°C
Dark current	I_d	$V_R=1V$	—	3×10^{-12}	10^{-11}	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		500	560	600	nm
*3 Spectral sensitivity infrared radiation ratio	ΔI_R		—	6	10	%

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

*3 $\Delta I_R=\frac{I_{sc}(\lambda\geqq700nm)}{I_{sc}(\text{full wavelength})}\times100\%$

Fig. 1 Short Circuit Current vs. Illuminance

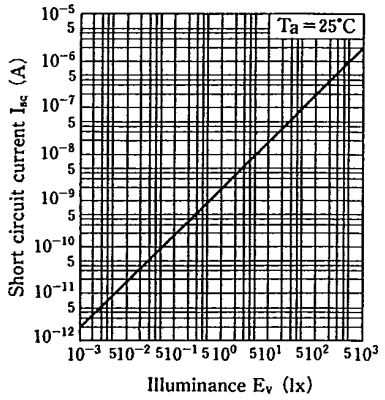


Fig. 2 Short Circuit Current vs. Ambient Temperature

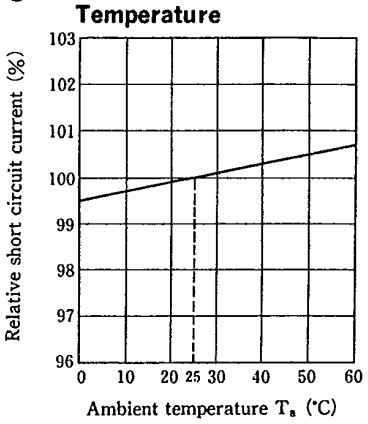


Fig. 3 Dark Current vs. Reverse Voltage

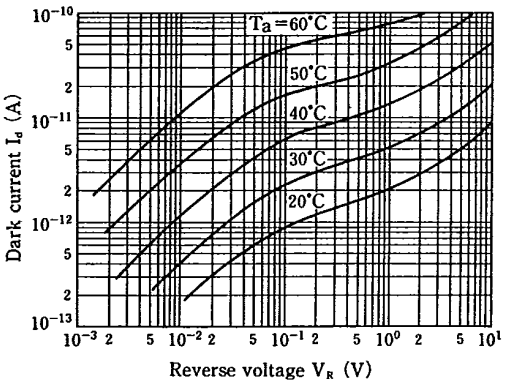


Fig. 4 Spectral Sensitivity

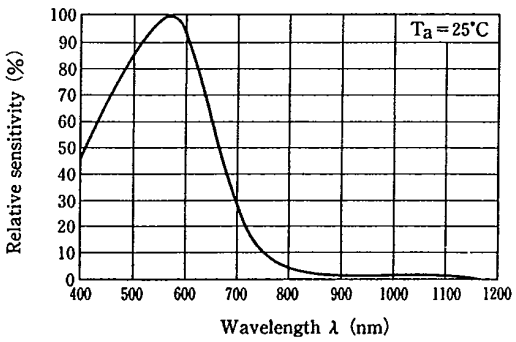
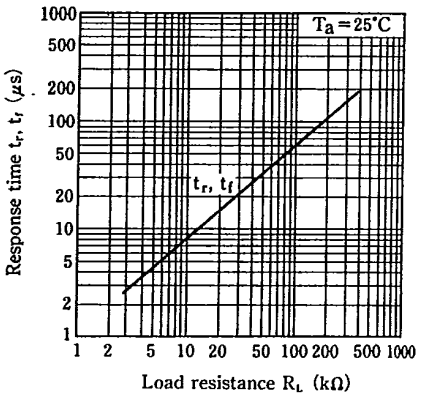


Fig. 5 Response Time vs. Load Resistance



Test Circuit for Response Time