



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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BS100C Photodiode for Visible Light

T-41-51

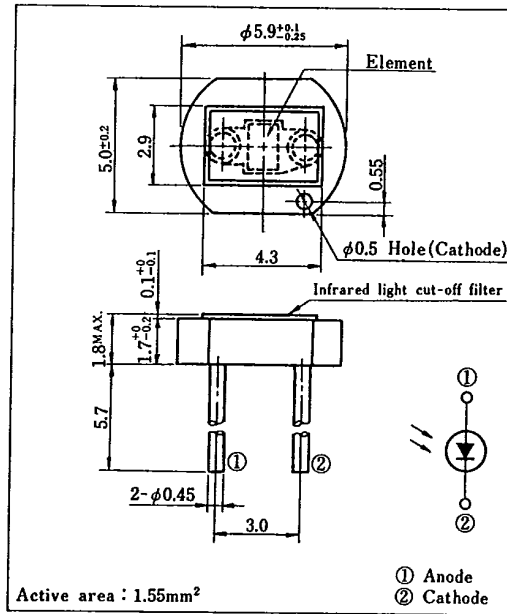
Features

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

Applications

- AE (automatic exposure) system and ES (electronic shutter) system for cameras
- 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

Electro-optical Characteristics (T_a = 25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
**Short circuit current	I _{sc}	E _v = 100 ℓx	0.14	0.16	0.21	μA
**Short circuit current temperature coefficient	β _I	E _v = 100 ℓx	—	0.02	0.07	%/°C
Dark current	I _d	V _R = 1V	—	3 × 10 ⁻¹²	10 ⁻¹¹	A
Dark current temperature coefficient	α _I	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
**Spectral sensitivity infrared radiation ratio	ΔI _R		—	6	10	%

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

*3 $\Delta I_R = \frac{I_{sc}(\lambda \geq 700nm)}{I_{sc}(\text{full wavelength})} \times 100\%$

Fig. 1 Short Circuit Current vs. Illuminance

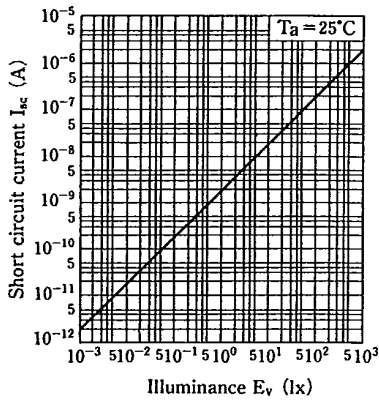


Fig. 2 Short Circuit Current vs. Ambient Temperature

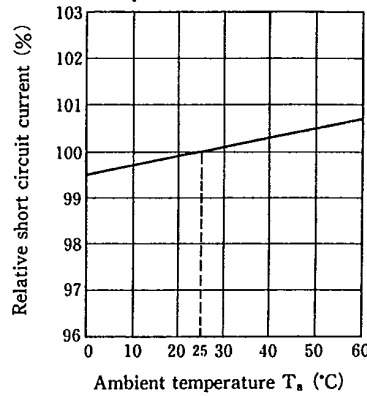


Fig. 3 Dark Current vs. Reverse Voltage

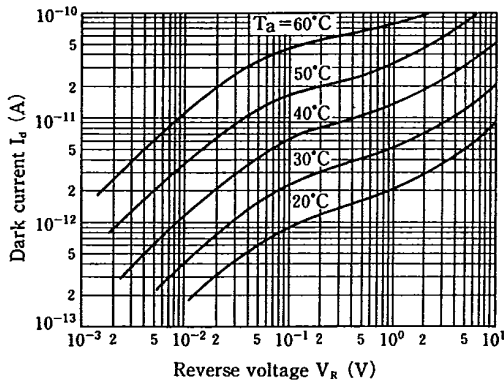


Fig. 4 Spectral Sensitivity

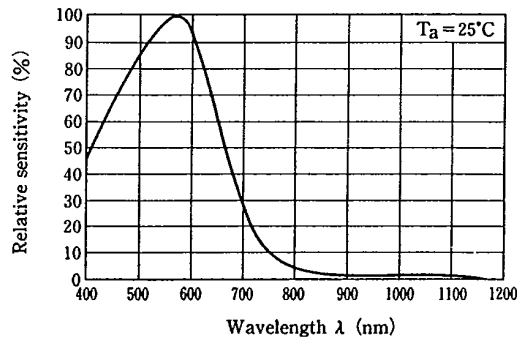
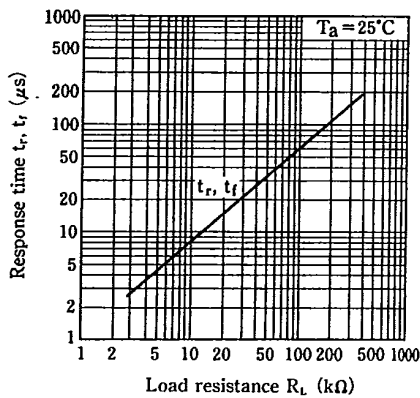


Fig. 5 Response Time vs. Load Resistance



Test Circuit for Response Time

