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.

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BS120

Photodiode for Visible Light

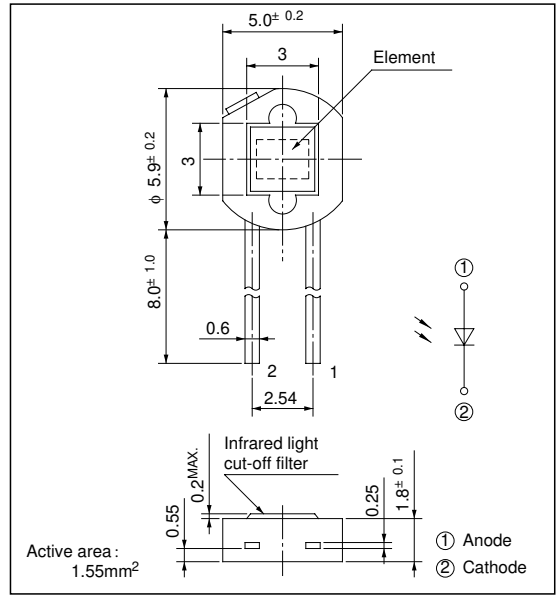
■ Features

1. Spectral sensitivity characteristics akin to that of human eye
2. Compact flat package
3. Low dark current(I_d: MAX. 10^{-11}A at V_R= 1V)
4. Infrared light cut-off type

■ 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	Rating	Unit
Reverse voltage	V_R	10	V
Operating temperature	T_{opr}	-20 to + 60	°C
Storage temperature	T_{stg}	-30 to + 80	°C
*1 Soldering temperature	T_{sol}	260	°C

*1 For 10 seconds

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

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
*2 Short circuit current	I_{SC}	E_V= 100lx	0.14	0.16	0.21	μA
*2 Short circuit current temperature coefficient	β_T	E_V= 100lx	- 0.03	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	*3 times/10°C
Terminal capacitance	C_t	V_R= 0, f= 1MHz	-	-	500	pF
Peak sensitivity wavelength	λ_p	-	500	560	600	nm
*4 Spectral sensitivity infrared radiation ratio	ΔI_R	-	-	6	10	%

*2 E_V: Illuminance by CIE standard light source A(tungsten lamp)
*3 times/10°C

*4 $\Delta I_R = \frac{I_{SC}(\lambda >= 700nm)}{I_{SC}(\text{full wavelength})} \times 100\%$

Fig. 1 Short Circuit Current vs. Illuminance

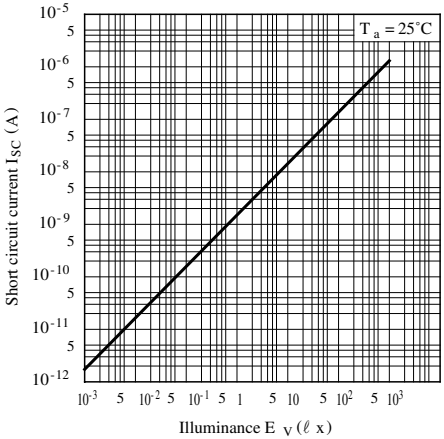


Fig. 2 Relative Short Circuit Current vs. Ambient Temperature

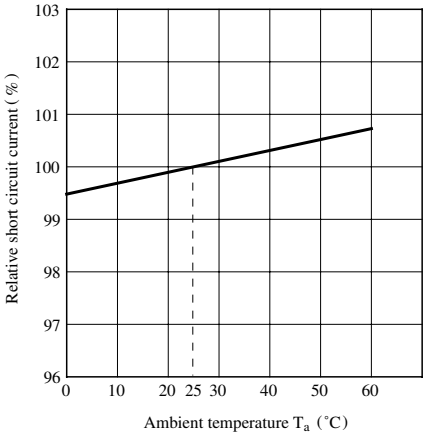


Fig. 3 Dark Current vs. Reverse Voltage

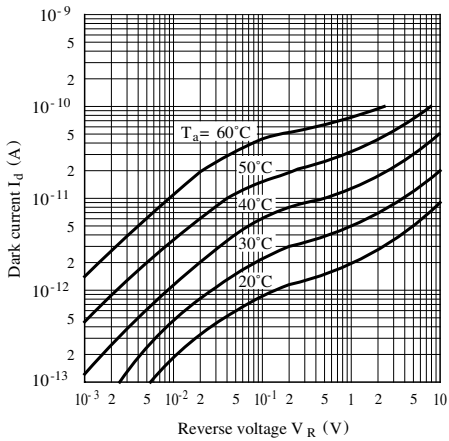


Fig. 4 Spectral Sensitivity

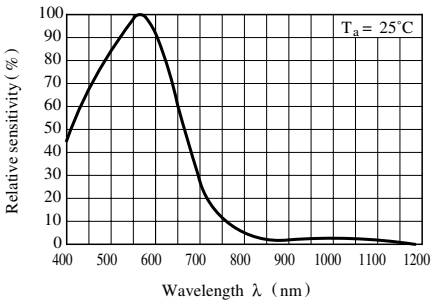
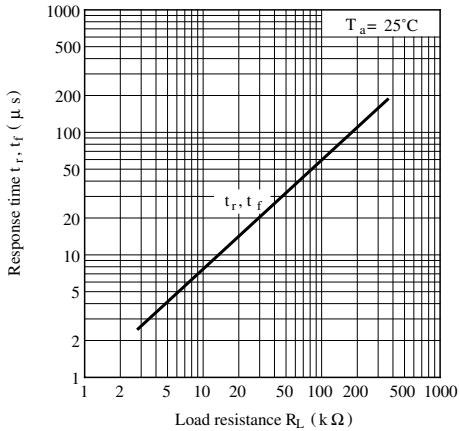
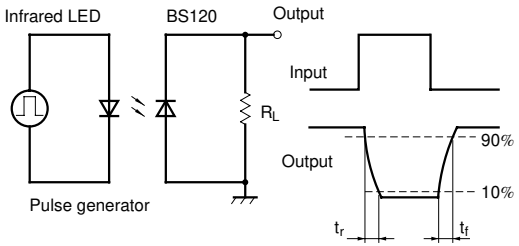


Fig. 5 Response Time vs. Load Resistance



Test Circuit for Response Time



● Please refer to the chapter "Precautions for Use."

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- Office automation equipment
- Telecommunication equipment [terminal]
- Test and measurement equipment
- Industrial control
- Audio visual equipment
- Consumer electronics

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- Traffic signals
- Gas leakage sensor breakers
- Alarm equipment
- Various safety devices, etc.

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