

BS120

Photodiode for Visible Light

Features

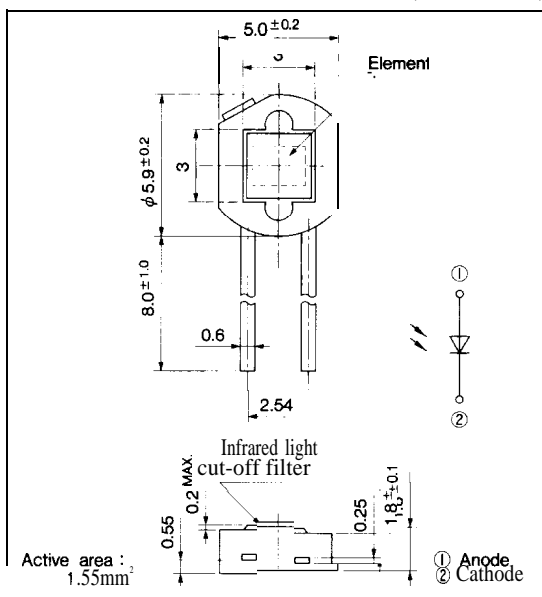
1. Spectral sensitivity characteristics akin to that of human eye
2. Compact flat package
3. Low dark current (I_d : MAX. 10^{-11} A at $V_R=1$ V)
4. Infrared light cut-off type

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 5 seconds

Electro-optical Characters*

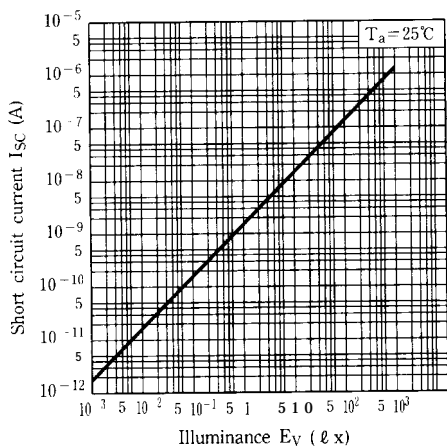
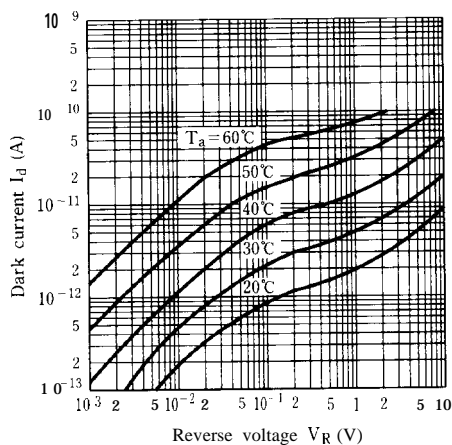
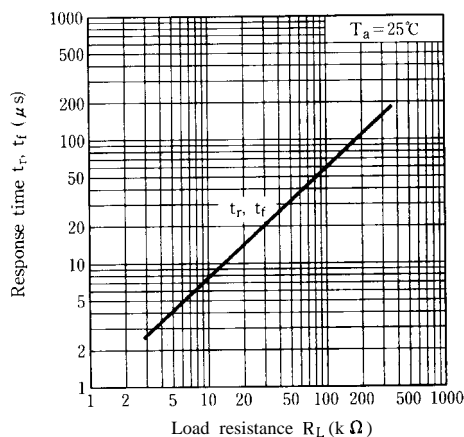
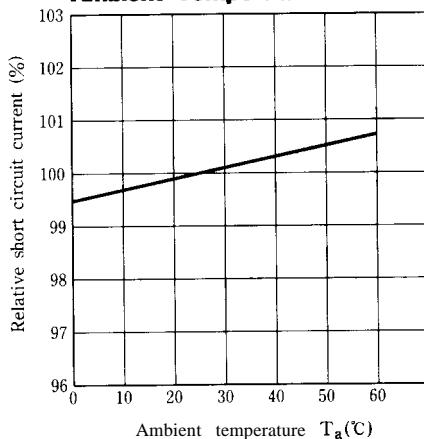
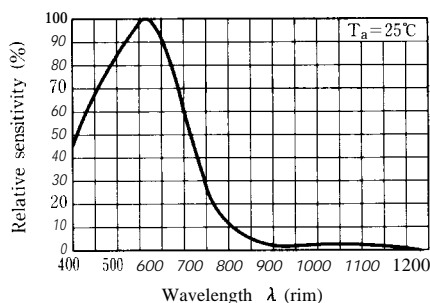
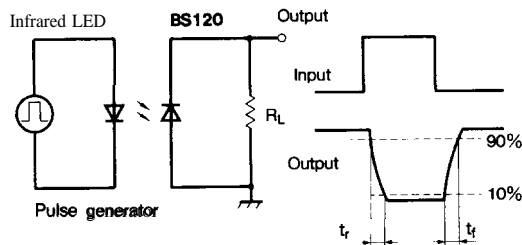
(Ta = 25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
*2 Short circuit current	I_{SC}	$E_v = 100$ lx	0.14	0.16	0.21	μ A
*2 Short circuit current temperature coefficient	β_T	$E_v = 100$ lx	-0.03	0.02	0.07	%/°C
Dark current	I_d	$V_R = 1$ V	—	3×10^{-12}	10^{-11}	A
Dark current temperature coefficient	α_T	$V_R = 1$ V	—	3.5	5.0	*3 times/10°C
Terminal capacitance	C_t	$V_R = 0, f = 1$ MHz	—	—	500	pF
Peak sensitivity wavelength	λ_p		500	560	600	nm
Spectral sensitivity infrared radiation ratio	AIR		—	6	10	%

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

*3 times/10°C

$$*4 \Delta I_R = \frac{I_{SC}(\lambda 2700\text{nm})}{I_{SC}(\text{full wavelength})} \times 100\%$$

Fig. 1 Short Circuit Current vs. Illuminance**Fig. 3 Dark Current vs. Reverse Voltage****Fig. 5 Response Time vs. Load Resistance****Fig. 2 Relative Short Circuit Current vs. Ambient Temperature****Fig. 4 Spectral Sensitivity****Test Circuit for Response Time**

Please refer to the chapter "Precautions for Use." (Page 78 to 93)