

SBC Series Wide Wavelength Band Type Photodiode T-41-51

■ Features

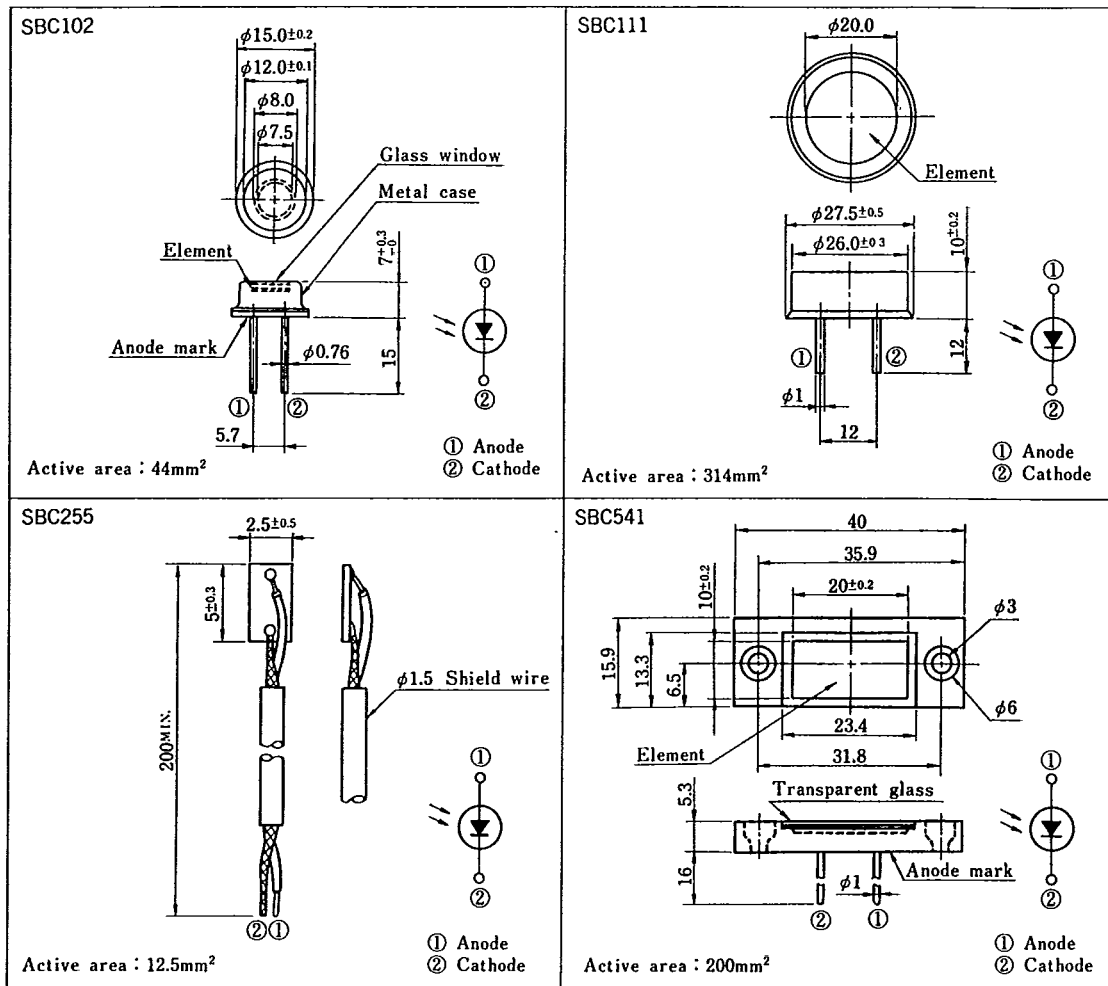
1. Suitable for visible light measurement
2. A wide range of sensitivity wavelength ($\lambda : 350 \sim 1,100\text{nm}$)
3. Wide acceptance

■ Applications

1. Illuminance meters
2. Scientific color measuring instruments such as colorimeters, flame color meters, analyzers and spectral photo meters
3. Automated instruments, such as hue comparators and mark detectors

■ Outline Dimensions

(Unit : mm)



SHARP

■ Configuration

Item	SBC102	SBC111	SBC255	SBC541	Unit
Outline	φ15.0	φ27.5	2.5×5.0	15.9×40	mm
Active area	44	314	12.5	200	mm ²
Package	Metal	Acrylic resin	—	Phenol resin (Black)	—

■ Absolute Maximum Ratings

Parameter	Symbol	SBC102	SBC111	SBC255	SBC541	Unit
Operating temperature	T _{opr}	-10~+70	-10~+70	-10~+70	-10~+70	°C
Storage temperature	T _{stg}	-10~+80	-10~+70	-10~+80	-10~+80	°C

■ Electro-optical Characteristics

(T_a=25°C)

Parameter	Symbol	Conditions	SBC102		SBC111		SBC255		SBC541		Unit
			MIN.	TYP.	MIN.	TYP.	MIN.	TYP.	MIN.	TYP.	
*1 Open circuit voltage	V _{oc}	E _v =100 lx	0.18	—	0.18	—	0.18	—	0.18	—	V
*1 Short circuit current	I _{sc}	E _v =100 lx	15.5	—	110	—	4.4	—	70	—	μA
Response time	t _r		—	20	—	200	—	8	—	130	μs

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

4

Fig. 1 Spectral Sensitivity

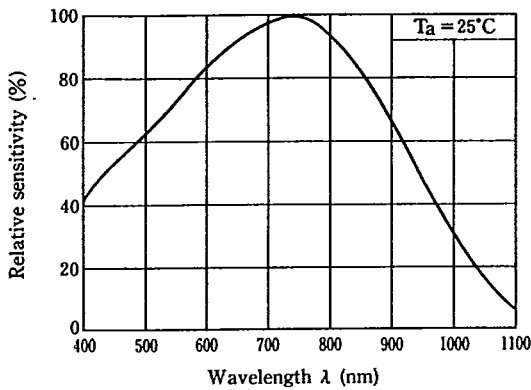
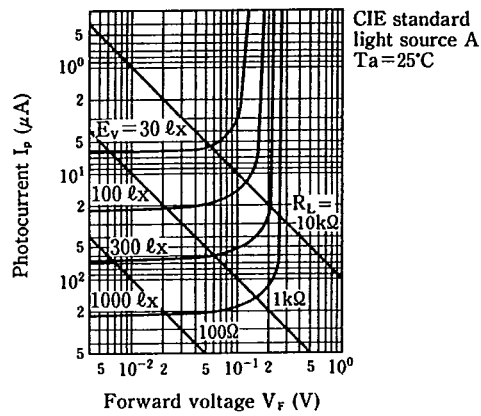


Fig. 2 Photocurrent vs. Forward Voltage (SBC102)



T-41-51

Fig. 3 Photocurrent vs. Forward Voltage (SBC255)

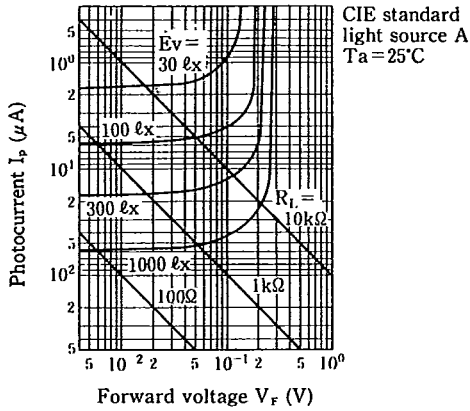


Fig. 4 Photocurrent vs. Forward Voltage (SBC541)

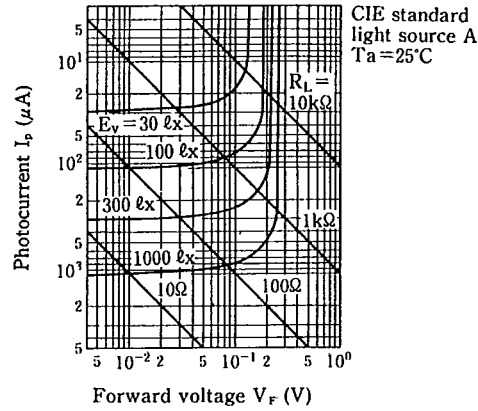


Fig. 5 Short Circuit Current, Open Circuit Voltage vs. Ambient Temperature (SBC255)

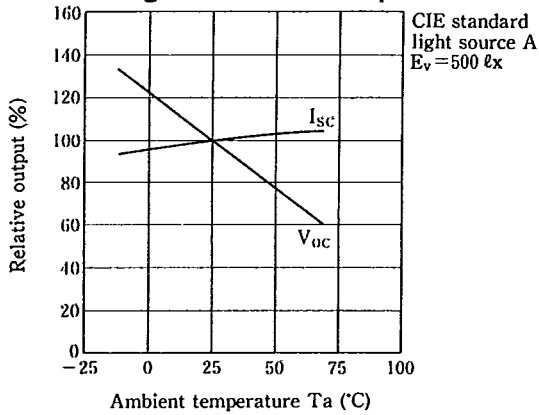
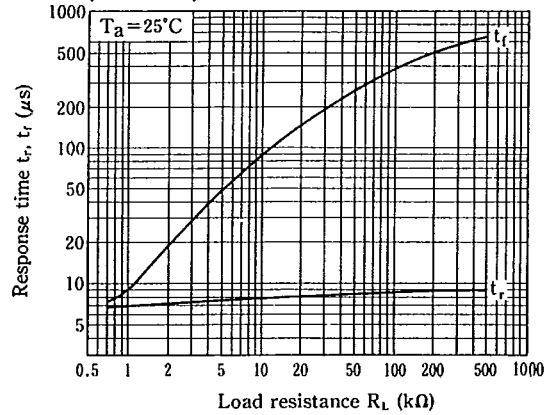
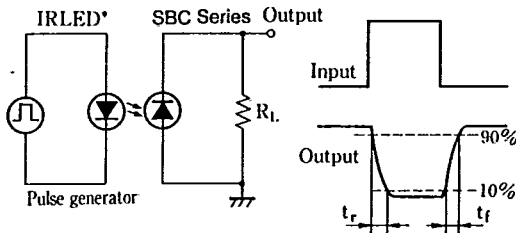


Fig. 6 Response Time vs. Load Resistance (SBC255)



Test Circuit for Response Time



* Infrared LED