

SG - 244

The SG-244 photointerrupter high-performance standard type, combines high-output GaAs IRED with high sensitive phototransistor.

**FEATURES**

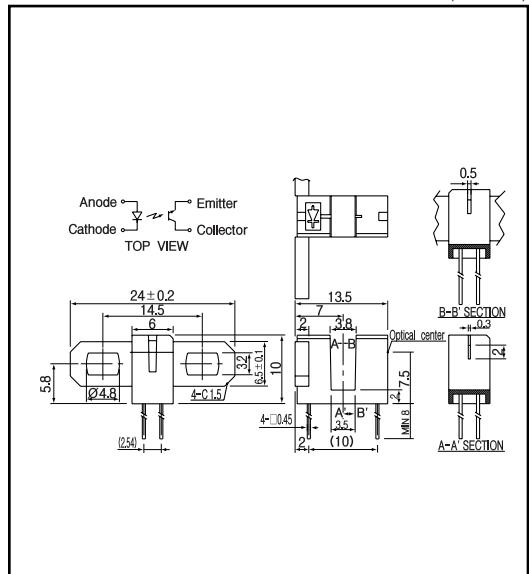
- PWB direct mount type
- GAP : 3.5mm
- Double-sided screw-mount
- Slit 0.3mm
- With adjustable mounting position

**APPLICATIONS**

- Printers
- Plotters
- Robots
- Auto stampers

**DIMENSIONS**

(Unit : mm)



**MAXIMUM RATINGS**

(Ta=25 )

Item	Symbol	Rating	Unit
Input	Power dissipation	P <sub>D</sub>	100 mW
	Forward current	I <sub>F</sub>	60 mA
	Reverse voltage	V <sub>R</sub>	5 V
	Pulse forward current <sup>*1</sup>	I <sub>FP</sub>	1 A
Output	Collector power dissipation	P <sub>C</sub>	100 mW
	Collector current	I <sub>C</sub>	40 mA
	C - E voltage	V <sub>CEO</sub>	30 V
	E - C voltage	V <sub>ECO</sub>	5 V
Operating temp. <sup>*2</sup>	Topr.	- 20 ~ +85	
Storage temp. <sup>*2</sup>	Tstg.	- 30 ~ +85	
Soldering temp. <sup>*3</sup>	Tsol.	260	

\*1. pulse width : t w 100 μsec, period : T=10msec.

\*2. No icebound or dew

\*3. For MAX.5 seconds at the position of 1mm from the package

**ELECTRO-OPTICAL CHARACTERISTICS**

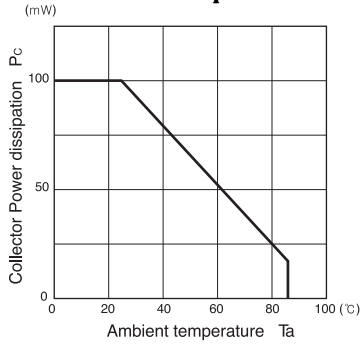
(Ta=25 )

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Input	Forward voltage	V <sub>F</sub>	I <sub>F</sub> =20mA	1.2	1.4	V
	Reverse current	I <sub>R</sub>	V <sub>R</sub> =5V		10	μA
	Peak wavelength	λ <sub>p</sub>	I <sub>F</sub> =20mA		940	nm
Output	Collector dark current	I <sub>CEO</sub>	V <sub>CE</sub> =10V	1	100	nA
	Light current	I <sub>C</sub>	I <sub>F</sub> =20mA, V <sub>ES</sub> =5V, Non-shading	0.2	2	mA
Transmissi	leakage current	I <sub>CEO0</sub>	I <sub>F</sub> =20mA, V <sub>S</sub> =5V(shading)	0.5	10	μA
	C - E saturation voltage	V <sub>CE(sat)</sub>	I <sub>F</sub> =20mA, I <sub>C</sub> =0.1mA	0.15	0.4	V
	Rise time	t <sub>r</sub>	V <sub>CC</sub> =5V, I <sub>t</sub> =2mA, R=100		4	μsec.
	Fall time	t <sub>f</sub>		5	μsec.	

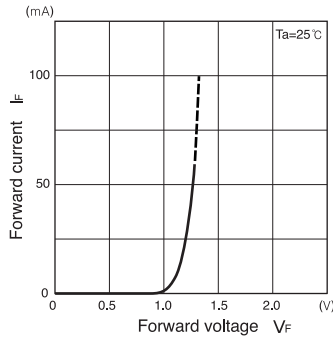
Photo interrupters(Transmissive)

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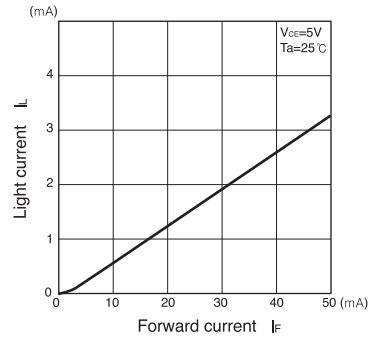
**Collector power dissipation Vs. Ambient temperature**



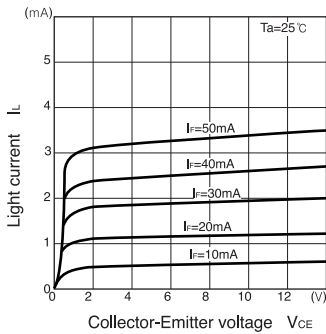
**Forward current Vs. Forward voltage**



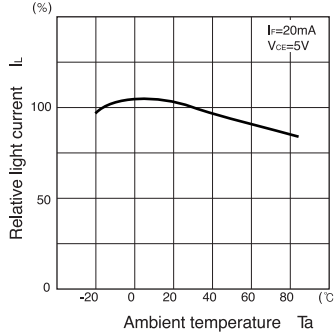
**Light current Vs. Forward current**



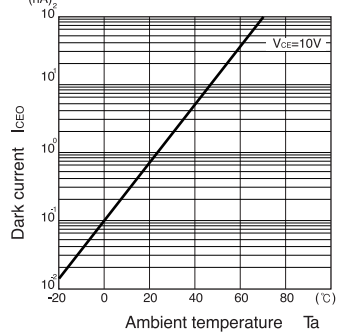
**Light current Vs. Collector-Emitter voltage**



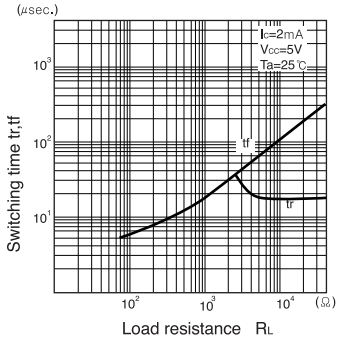
**Relative light current Vs. Ambient temperature**



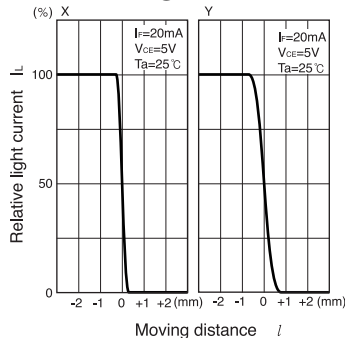
**Dark current Vs. Ambient temperature**



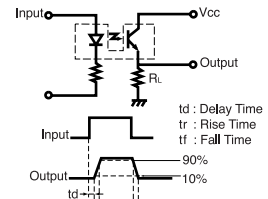
**Switching time Vs. Load resistance**



**Relative light current Vs. Moving distance**



Switching time measurement circuit



Method of measuring position detection characteristic

