

SG - 204

The SG - 204 photointerrupter high - performance standard type, combines high - output GaAs IRED with high sensitive phototransistor.

**FEATURES**

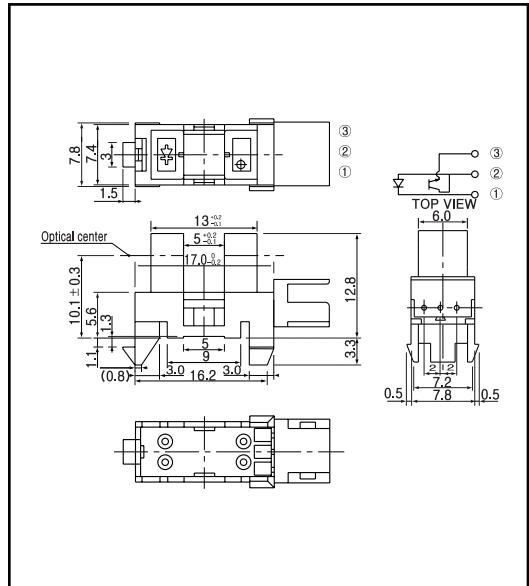
- 0.5mm aperture
- High - speed response
- Available for 2 type P.C.Bs.
- Widely applicable

**APPLICATIONS**

- Copiers
- Facsimiles
- Printers
- Edge sensors
- Floppy disk drives

**DIMENSIONS**

(Unit : mm)



**MAXIMUM RATINGS**

(Ta=25 )

Item	Symbol	Rating	Unit
Input	Power dissipation	P <sub>b</sub>	100 mW
	Reverse voltage	V <sub>R</sub>	5 V
	Forward current	I <sub>F</sub>	60 mA
	Pulse forward current *1	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>ECCO</sub>	5 V
	Operating temp.	Topr.*2	- 20 ~ +85
Storage temp.	Tstg.*2	- 30 ~ +85	

\*1. t w 100 μsec.period :T=10msec.

\*2. The connector shall be inserted or pulled out at normal temperature

**ELECTRO-OPTICAL CHARACTERISTICS**

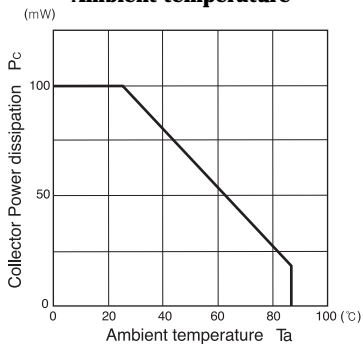
(Ta=25 )

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Input	Forward voltage	V <sub>F</sub>	I <sub>F</sub> =30mA		1.2	1.5 V
	Reverse current	I <sub>R</sub>	V <sub>R</sub> =5V			10 μA
	Capacitance	C <sub>t</sub>	V=0, f=1KHz		25	pF
	Peak wavelength	λ			940	nm
Output	Collector dark current	I <sub>CEO</sub>	V <sub>CE</sub> =10V		0.1	μA
Light current	I <sub>L</sub>	V <sub>CE</sub> =5V, I <sub>F</sub> =20mA	0.6			mA
C - E saturation voltage	V <sub>CE(sat)</sub>	I <sub>F</sub> =30mA, I <sub>C</sub> =0.1mA			0.4	V
Switching speeds	Rise time	t <sub>r</sub>	V <sub>CC</sub> =5V, I <sub>C</sub> =2mA		5	μsec.
	Fall time	t <sub>f</sub>	R <sub>L</sub> =100		5	μsec.

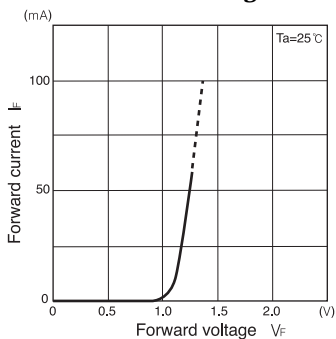
Photo interrupters(Transmissive)

SG - 204

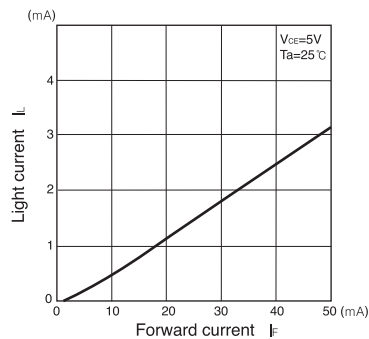
**Collector power dissipation Vs. Ambient temperature**



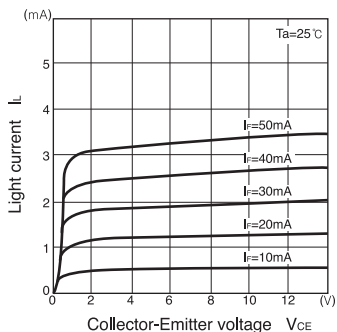
**Forward current Vs. Forward voltage**



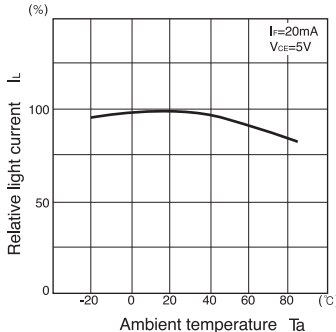
**Light current Vs. Forward current**



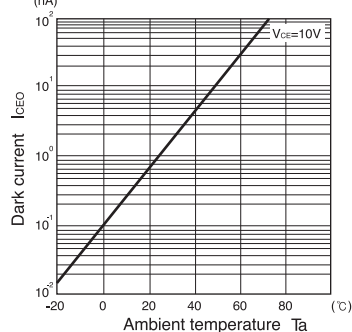
**Light current Vs. Collector-Emitter voltage**



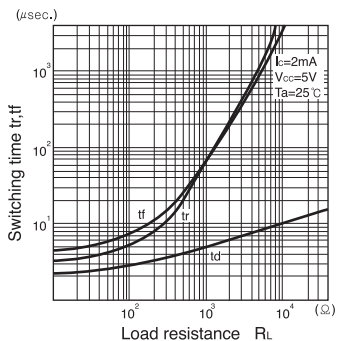
**Relative light current Vs. Ambient temperature**



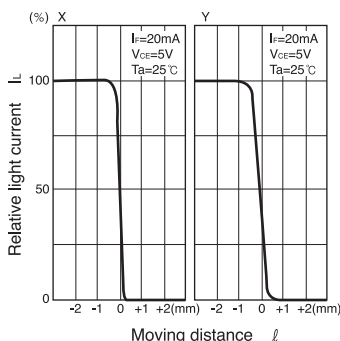
**Dark current Vs. Ambient temperature**



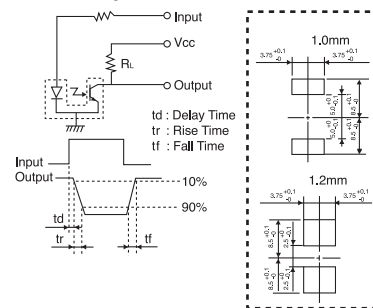
**Switching time Vs. Load resistance**



**Relative light current Vs. Moving distance**



Switching time measurement circuit



Method of measuring position characteristic

