

SG - 243

The SG - 243 photointerrupter high - performance standard type,combines high - output GaAs IRED with high sensitive phototransistor.

**FEATURES**

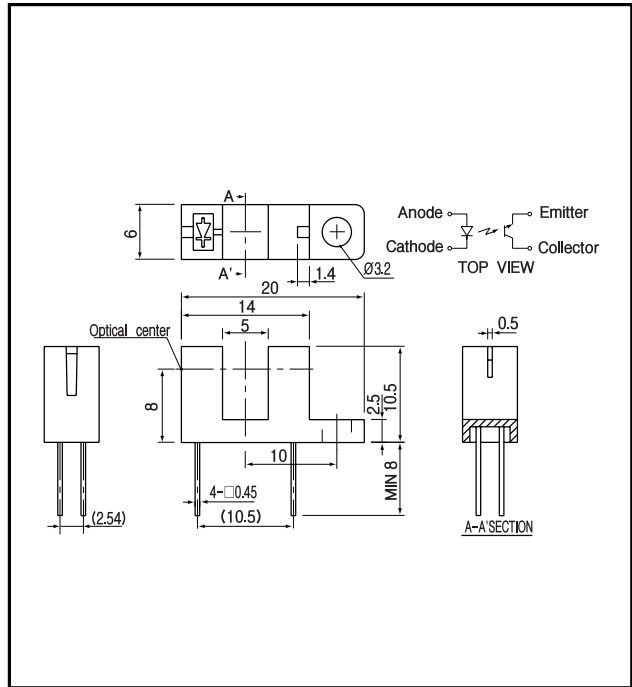
- PWB direct mount type
- GAP : 5.0mm
- Single - sided screw - mount
- Easy to mount

**APPLICATIONS**

- Printers
- Scanners
- Plotters
- 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>CE0</sub>	30	V
	E - C voltage	V <sub>EC0</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**

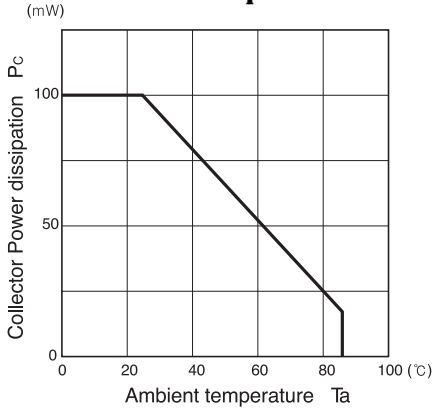
(Ta=25 )

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	ρ	I <sub>F</sub> = 20mA		940		nm
Output	Collector dark current	I <sub>CE0</sub>	V <sub>CE</sub> =10V		1	100	nA
Transmiss	Light current	I <sub>c</sub>	I <sub>F</sub> =20mA, V <sub>CE</sub> =5V, Non - shading	0.4		4	mA
	leakage current	I <sub>CE0D</sub>	I <sub>F</sub> =20mA, V <sub>CE</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> =0.2mA		0.15	0.4	V
Rise time		t <sub>r</sub>	V <sub>CC</sub> =5V, I <sub>c</sub> =2mA, R=100		4		μsec.
Fall time		t <sub>f</sub>			5		μsec.

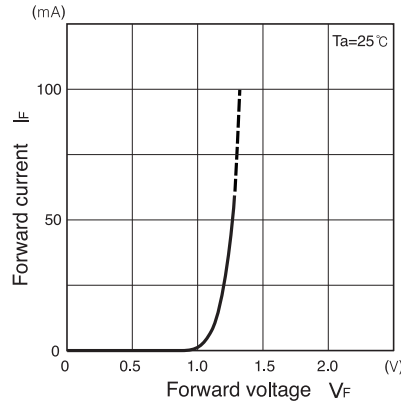
Photo interrupters(Transmissive)

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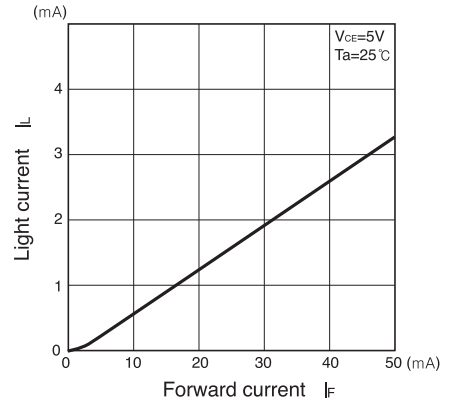
**Collector power dissipation Vs. Ambient temperature**



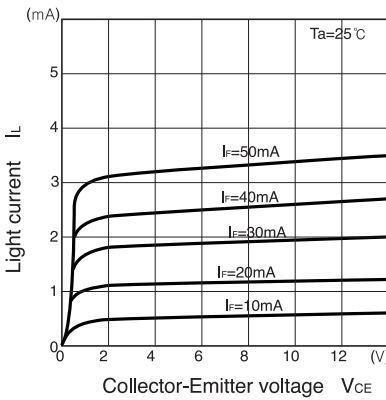
**Forward current Vs. Forward voltage**



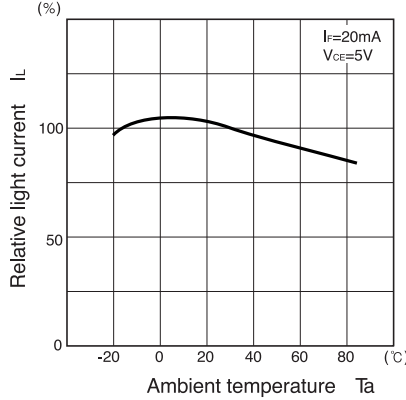
**Light current Vs. Forward current**



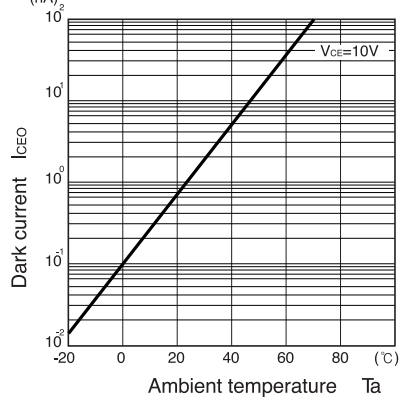
**Light current Vs. Collector-Emitter voltage**



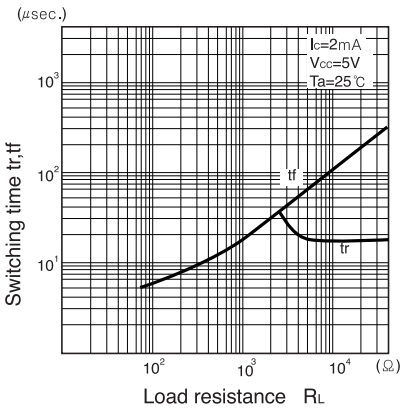
**Relative light current Vs. Ambient temperature**



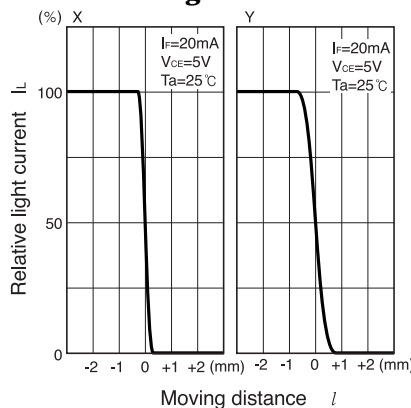
**Dark current Vs. Ambient temperature**



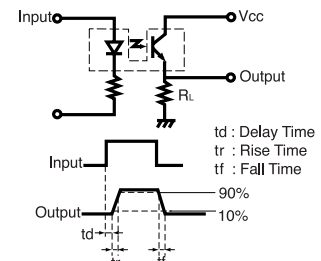
**Switching time Vs. Load resistance**



**Relative light current Vs. Moving distance**



Switching time measurement circuit



Method of measuring position detection characteristic

