

SG - 243

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

**FEATURES**

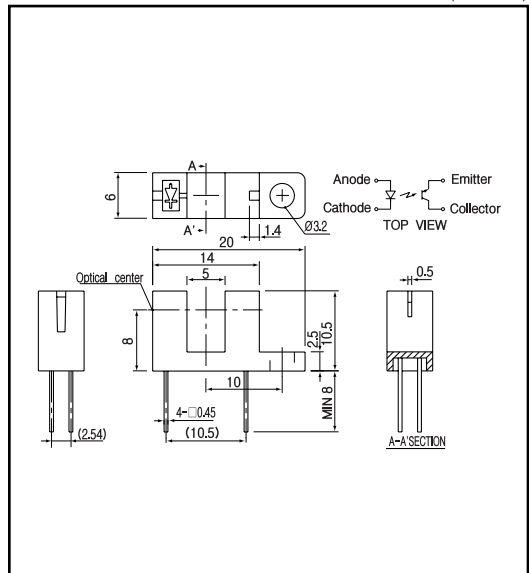
- PWB direct mount type
- GAP : 5.0mm
- Single-sided screw-mount
- Easy to mount

**APPLICATIONS**

- Printers
- Scanners
- Plotters
- Auto stampers

**DIMENSIONS**

(Unit : mm)



**MAXIMUM RATINGS**

(Ta=25 )

	Item	Symbol	Rating	Unit
Input	Power dissipation	$P_D$	100	mW
	Forward current	$I_F$	60	mA
	Reverse voltage	$V_R$	5	V
	Pulse forward current <sup>*1</sup>	$I_{FP}$	1	A
Output	Collector power dissipation	$P_C$	100	mW
	Collector current	$I_C$	40	mA
	C - E voltage	$V_{CE0}$	30	V
	E - C voltage	$V_{ECO}$	5	V
	Operating temp. <sup>*2</sup>	$T_{opr}$	- 20 ~ +85	
	Storage temp. <sup>*2</sup>	$T_{stg}$	- 30 ~ +85	
	Soldering temp. <sup>*3</sup>	$T_{sol}$	260	

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

\*2. No icebound or dew

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

**ELECTRO-OPTICAL CHARACTERISTICS**

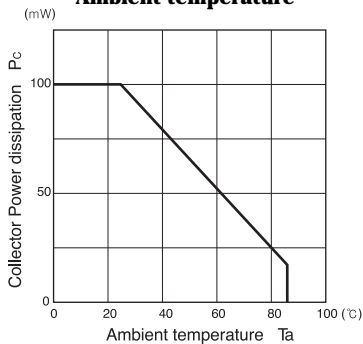
(Ta=25 )

	Item	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Input	Forward voltage	$V_F$	$I_F=20mA$		1.2	1.4	V
	Reverse current	$I_R$	$V_R=5V$			10	$\mu A$
	Peak wavelength	$\lambda_p$	$I_F=20mA$		940		nm
Output	Collector dark current	$I_{CEO}$	$V_{CE}=10V$		1	100	nA
	Light current	$I_C$	$I_F=20mA, V_{ES}=5V, \text{Non-shading}$	0.4		4	mA
Transmissi	leakage current	$I_{CEO}$	$I_F=20mA, V_{ES}=5V(\text{shading})$		0.5	10	$\mu A$
	C - E saturation voltage	$V_{CE(sat)}$	$I_F=20mA, I_C=0.2mA$		0.15	0.4	V
	Rise time	$t_r$	$V_{CC}=5V, I_C=2mA, R=100$		4		$\mu$ sec.
Fall time	$t_f$			5		$\mu$ sec.	

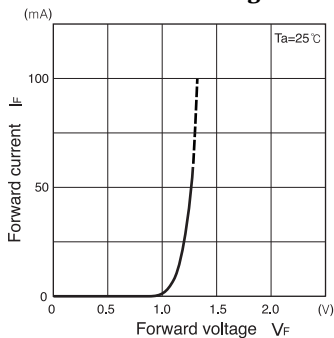
Photo interrupters(Transmissive)

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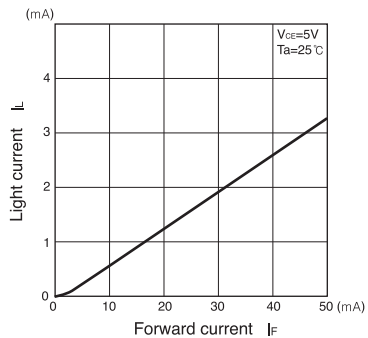
**Collector power dissipation Vs. Ambient temperature**



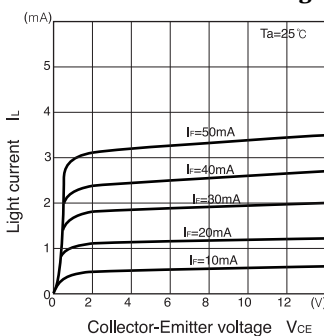
**Forward current Vs. Forward voltage**



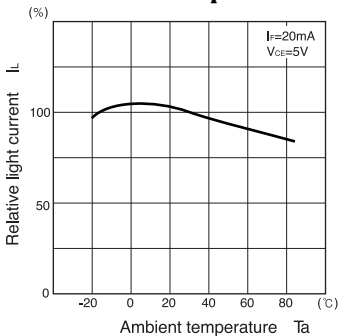
**Light current Vs. Forward current**



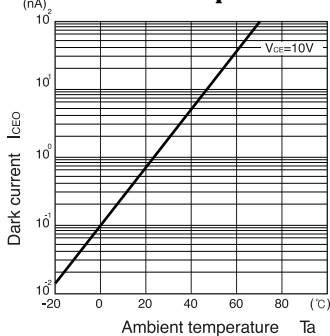
**Light current Vs. Collector-Emitter voltage**



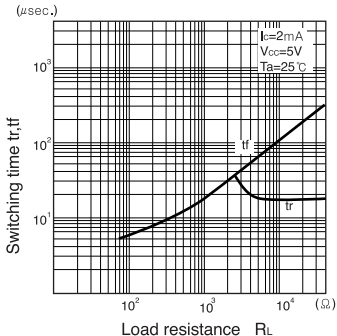
**Relative light current Vs. Ambient temperature**



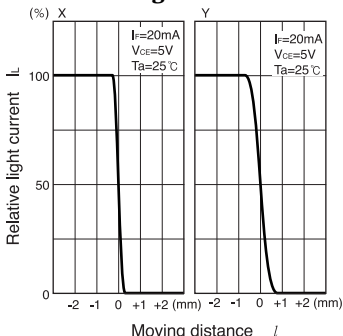
**Dark current Vs. Ambient temperature**



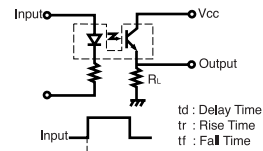
**Switching time Vs. Load resistance**



**Relative light current Vs. Moving distance**



Switching time measurement circuit



Method of measuring position detection characteristic

