

# Photointerrupters(Transmissive)

KODENSHI

SG - 206

The SG - 206 photointerrupter high - performance standard type, combines high - output GaAs IRED with high sensitive phototransistor.

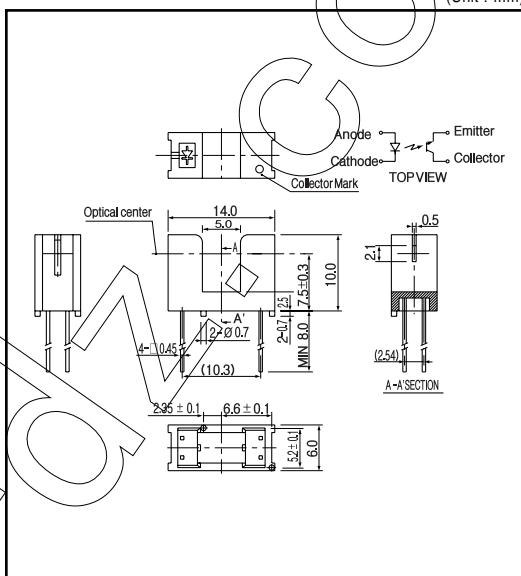
## FEATURES

- High performance
- High - speed response
- 5mm gap.
- Widely applicable

## APPLICATIONS

- Tape - end sensors
- Timing sensors
- Edge sensors
- Copiers

## DIMENSIONS



## MAXIMUM RATINGS

	Item	Symbol	Rating	Unit
Input	Power dissipation	P <sub>D</sub>	100	mW
	Reverse voltage	V <sub>R</sub>	5	V
	Forward current	I <sub>F</sub>	60	mA
	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.	T <sub>opr.</sub>	- 20 ~ + 85	
	Storage temp.	T <sub>stg.</sub>	- 30 ~ + 85	
	Soldering temp. <sup>2)</sup>	T <sub>sol.</sub>	240	

<sup>1)</sup> t w 100  $\mu$ sec. period : T=10msec.

<sup>2)</sup> For MAX. 5 seconds at the position of 2mm from the package

## ELECTRO-OPTICAL CHARACTERISTICS

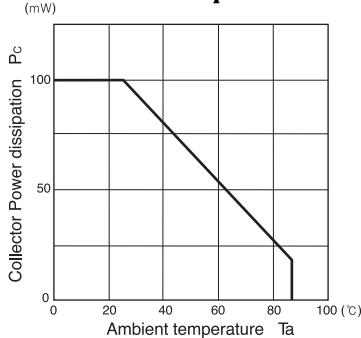
(Ta=25 °C)

	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	$\mu$ A
	Capacitance	C <sub>t</sub>	V=0, f=1KHz		25		pF
	Peak wavelength	$\lambda$			940		nm
Output	Collector-dark current	I <sub>CEO</sub>	V <sub>CE</sub> =10V			0.1	$\mu$ A
	Light current	I <sub>L</sub>	V <sub>CE</sub> =5V, I <sub>F</sub> =20mA	0.5			mA
	C - E saturation voltage	V <sub>CE(sat)</sub>	I <sub>F</sub> =30mA, I <sub>L</sub> =0.1mA			0.4	V
	Switching speeds	tr	V <sub>CC</sub> =5V, I <sub>L</sub> =2mA		5		$\mu$ sec.
		tf	R <sub>L</sub> =100		5		$\mu$ sec.

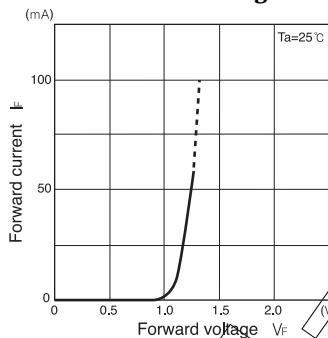
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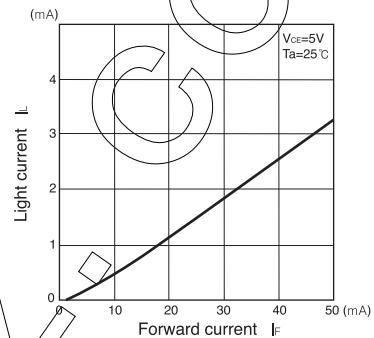
**Collector power dissipation Vs.  
Ambient temperature**



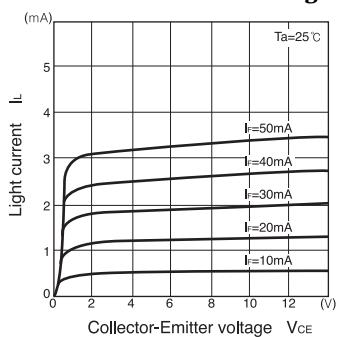
**Forward current Vs.  
Forward voltage**



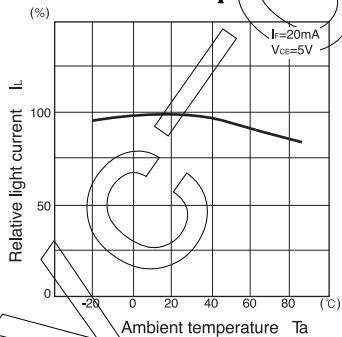
**Light current Vs.  
Forward current**



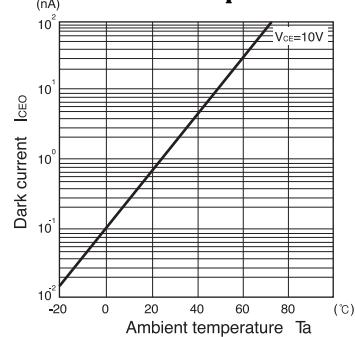
**Light current Vs.  
Collector-Emitter voltage**



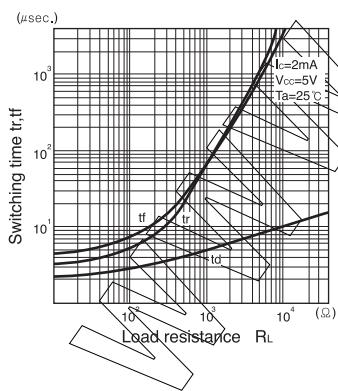
**Relative light current Vs.  
Ambient temperature**



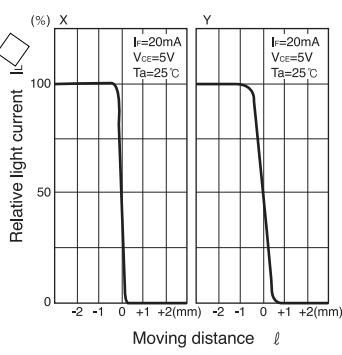
**Dark current Vs.  
Ambient temperature**



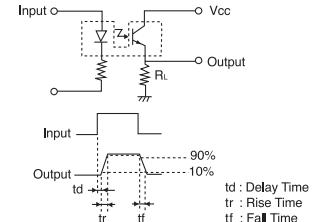
**Switching time Vs.  
Load resistance**



**Relative light current Vs.  
Moving distance**



Switching time measurement circuit



Method of measuring position characteristic

