

Photointerrupters(Transmissive)

KODENSHI

SG - 209

The SG - 209 photointerrupter high - performance standard type, combines high - output GaAs IRED with high sensitive phototransistor.

FEATURES

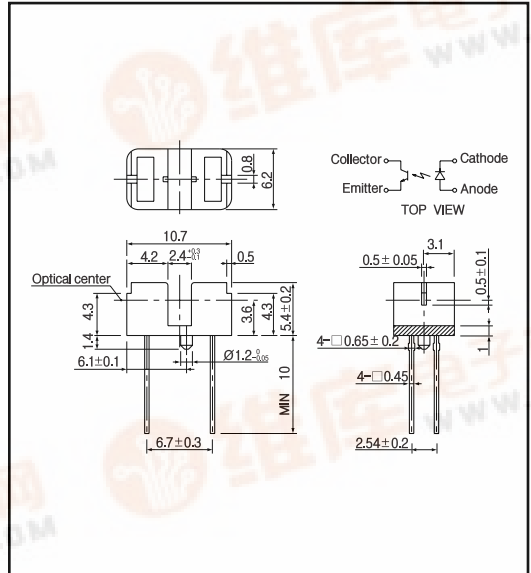
- 0.5mm aperture
- High - speed response
- Easy to mount on P.C.B.
- Widely applicable

APPLICATIONS

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

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta=25)

Item	Symbol	Rating	Unit
Input	Power dissipation	P _D	100 mW
	Reverse voltage	V _R	5 V
	Forward current	I _F	60 mA
	Pulse forward current ¹	I _{FP}	1 A
Output	Collector power dissipation	P _C	100 mW
	Collector current	I _C	40 mA
	C - E voltage	V _{CEO}	30 V
	E - C voltage	V _{ECCO}	5 V
Operating temp.	Topr.	- 20 ~ +85	
Storage temp.	Tstg.	- 30 ~ +85	
Soldering temp. ²	Tsol.	240	

¹1. t w 100 μsec.period :T=10msec.

²2. For MAX. 5 seconds at the position of 2mm from the package

ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Input	Forward voltage	V _F I _F =30mA		1.2	1.5	V
	Reverse current	I _R V _R =5V			10	μA
	Capacitance	C _t V=0, f=1KHz		25		pF
	Peak wavelength	λ _p		940		nm
Output	Collector dark current	I _{CEO} V _{CE} =10V			0.1	μA
Light current	I _L	V _{CE} =5V, I _F =20mA	0.5			mA
C-E saturation voltage	V _{CE(sat)}	I _F =30mA, I _C =0.1mA			0.4	V
Switching speeds	Rise time	t _r V _{CC} =5V, I _F =2mA		5		μsec.
	Fall time	t _f R _L =100		5		μsec.

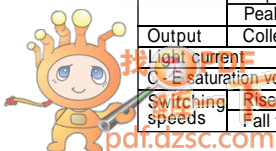
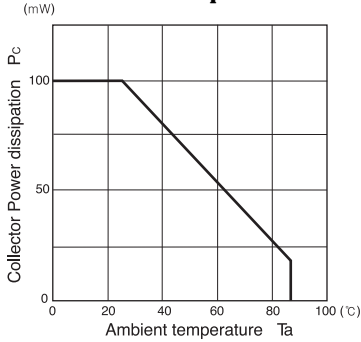


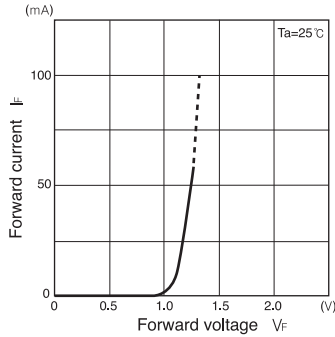
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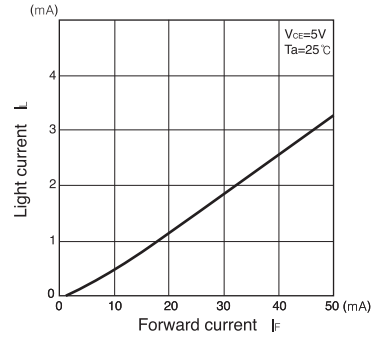
Collector power dissipation Vs. Ambient temperature



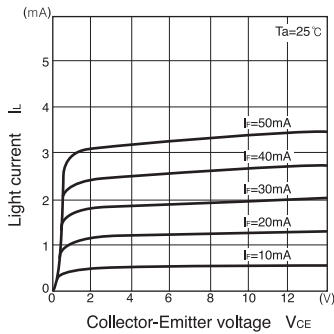
Forward current Vs. Forward voltage



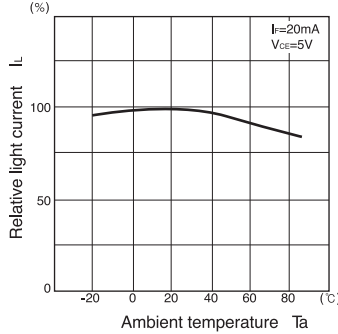
Light current Vs. Forward current



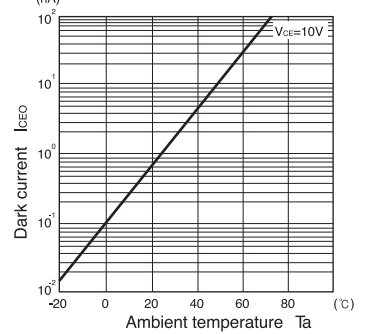
Light current Vs. Collector-Emitter voltage



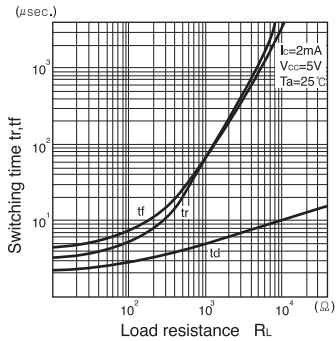
Relative light current Vs. Ambient temperature



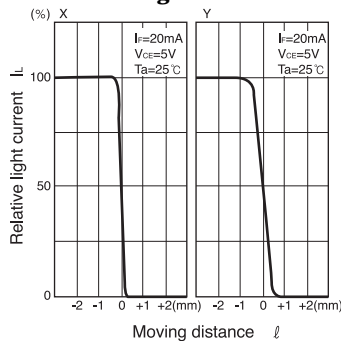
Dark current Vs. Ambient temperature



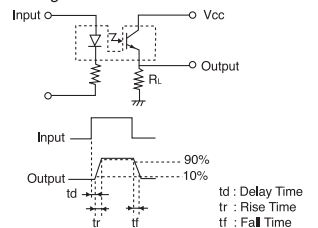
Switching time Vs. Load resistance



Relative light current Vs. Moving distance



Switching time measurement circuit



Method of measuring position characteristic

