

SG - 209

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

FEATURES

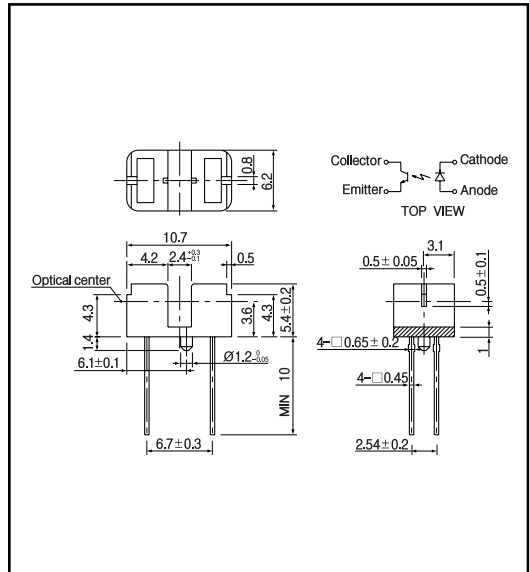
- 0.5mm aperture
- High - speed response
- Easy to mount on P.C.B.
- Widely applicable

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_{CE0}	30	V
	E - C voltage	V_{ECO}	5	V
	Operating temp.	$T_{opr.}$	- 20 ~ +85	
	Storage temp.	$T_{stg.}$	- 30 ~ +85	
	Soldering temp. ^{*2}	$T_{sol.}$	240	

*1. t w 100 μ sec.period :T=10msec.

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

ELECTRO-OPTICAL CHARACTERISTICS

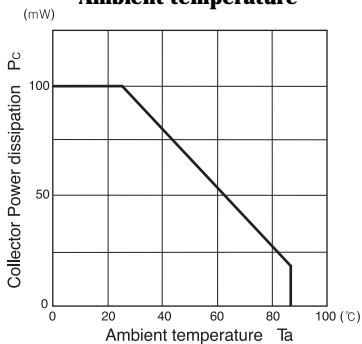
(Ta=25)

	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			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	$V_{CC}=5V, I_C=2mA$		5		μ sec.
	Fall time	t_f	$R_L=100$		5		μ sec.

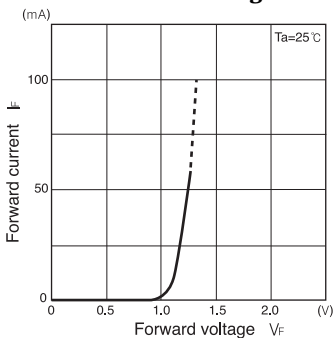
Photo interrupters(Transmissive)

SG - 209

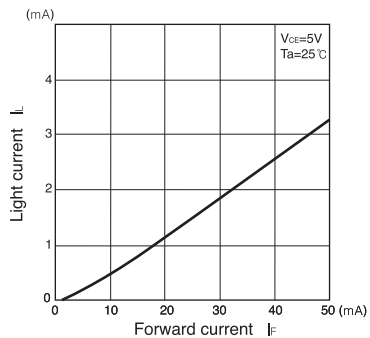
Collector power dissipation Vs. Ambient temperature



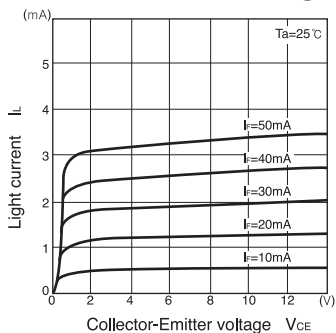
Forward current Vs. Forward voltage



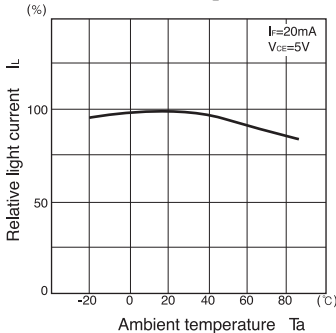
Light current Vs. Forward current



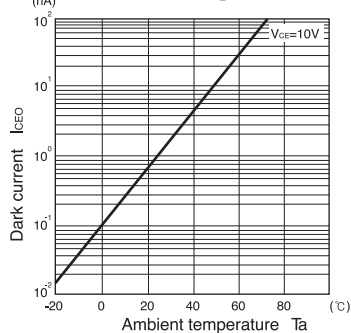
Light current Vs. Collector-Emitter voltage



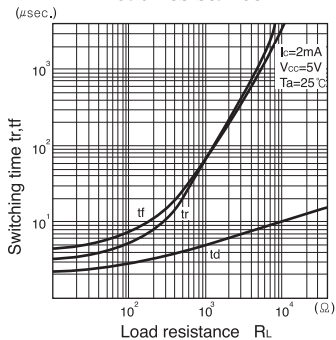
Relative light current Vs. Ambient temperature



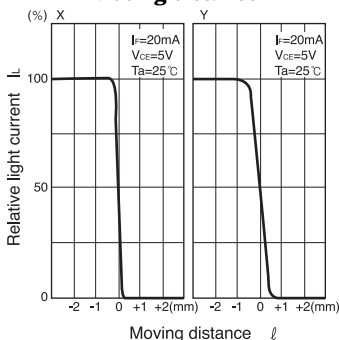
Dark current Vs. Ambient temperature



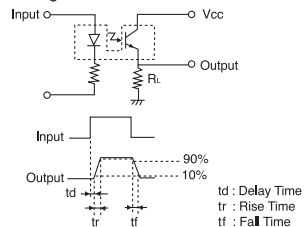
Switching time Vs. Load resistance



Relative light current Vs. Moving distance



Switching time measurement circuit



Method of measuring position characteristic

