

SG - 238V

The SG – 238V photointerrupter high – performance standard type,combines high – output GaAs IRED with high sensitive phototransistor.

FEATURES

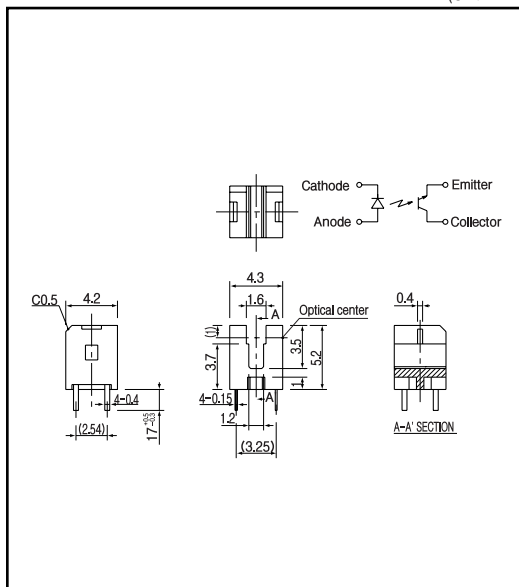
- PWB direct mount type
- GAP : 1.2mm
- Compact

APPLICATIONS

- Cameras
- Video cameras
- Floppy disk drives
- C D – ROM drives

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta=25)

	Item	Symbol	Rating	Unit
Input	Power dissipation	P_D	75	mW
	Forward current	I_F	50	mA
	Reverse voltage	V_R	5	V
	Pulse forward current ^{*1}	I_{FP}	0.5	A
Output	Collector power dissipation	P_C	75	mW
	Collector current	I_C	20	mA
	C - E voltage	V_{CE0}	30	V
	E - C voltage	V_{ECO}	5	V
	Operating temp. ^{*2}	$T_{opr.}$	- 20 ~ +85	
	Storage temp. ^{*2}	$T_{stg.}$	- 30 ~ +100	
	Soldering temp. ^{*3}	$T_{sol.}$	260	

*1. pulse width : t w 100 μ 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

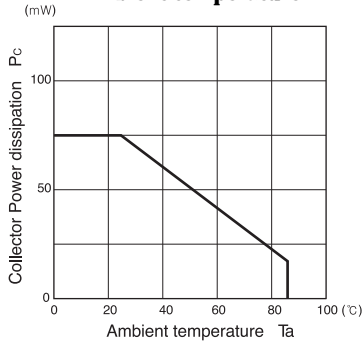
(Ta=25)

	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	μA
	Peak wavelength	λ_p	$I_F=20mA$		940		nm
Output	Collector dark current	I_{CEO}	$V_{CE}=10V$		1	100	nA
	Light current	I_C	$I_F=10mA, V_E=5V, Non-shading$	0.25		2.5	mA
Transmissi	Package current	I_{CEOD}	$I_F=10mA, V_E=5V(shading)$			10	μA
	C - E saturation voltage	$V_{CE(sat)}$	$I_F=10mA, I_C=0.03mA$			0.4	V
	Rise time	T_1	$V_{CC}=4.4V, I_F=15mA, R=100k$			125	$\mu sec.$
Fall time	T_2				1200	$\mu sec.$	

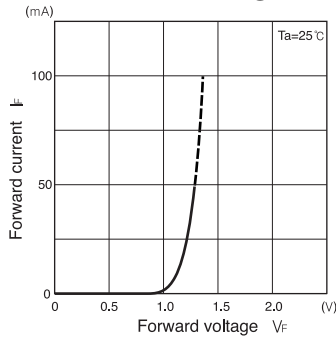
Photo interrupters(Transmissive)

SG - 238V

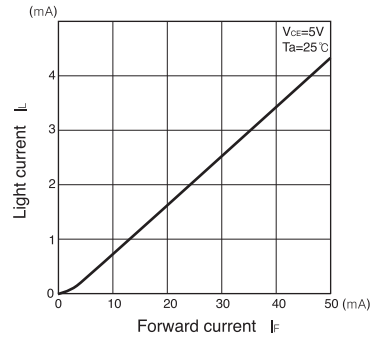
Collector power dissipation Vs. Ambient temperature



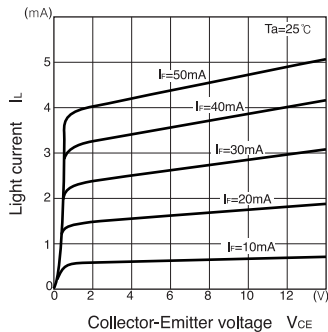
Forward current Vs. Forward voltage



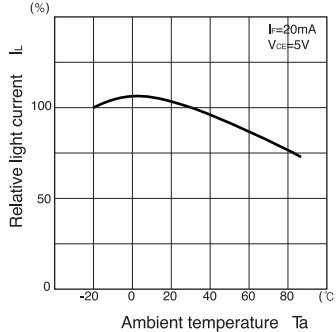
Light current Vs. Forward current



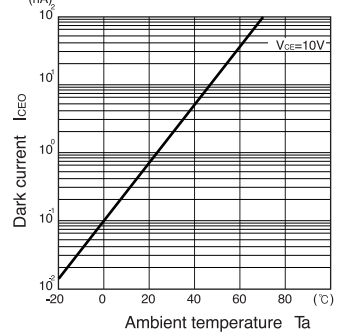
Light current Vs. Collector-Emitter voltage



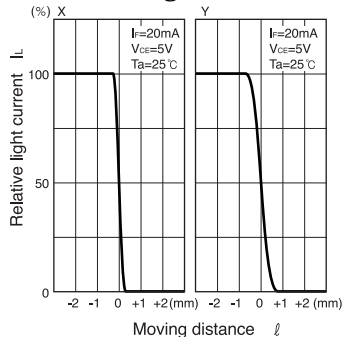
Relative light current Vs. Ambient temperature



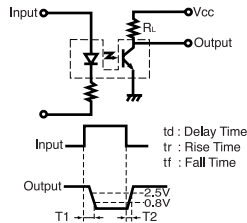
Dark current Vs. Ambient temperature



Relative light current Vs. Moving distance



Switching time measurement circuit



Method of measuring position detection characteristic

