

SG - 223

The SG - 223 is a photointerrupter consisting of GaAs IRED and phototransistor.

FEATURES

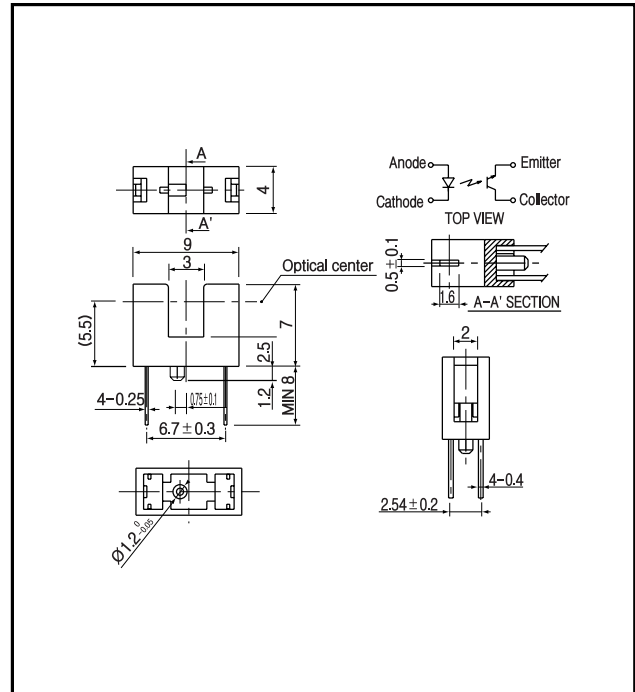
- 0.4mm aperture
- Easy to mount on P.C.B.
- Very compact

APPLICATIONS

- Floppy disk drives
- Camera

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta=25)

Item		Symbol	Rating	Unit
Input	Power dissipation	P _D	75	mW
	Reverse voltage	V _R	5	V
	Forward current	I _F	50	mA
	Pulse forward current ^{*1}	I _{FP}	1	A
Output	Collector power dissipation	P _C	75	mW
	Collector current	I _C	20	mA
	C - E voltage	V _{CEO}	30	V
	E - C voltage	V _{ECO}	5	V
Operating temp.		Topr.	- 25 ~ + 85	
Storage temp.		Tstg.	- 30 ~ + 85	
Soldering temp. ^{*2}		Tsol.	260	

*1. t w 100 µsec.period :T=10msec.

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

ELECTRO-OPTICAL CHARACTERISTICS

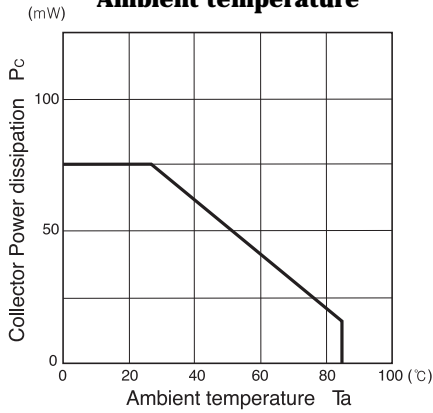
(Ta=25)

Item		Symbol	Conditions	Min.	Typ.	Max.	Unit.
Input	Forward voltage	V _F	I _F =20mA		1.2	1.4	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	0.7		14	mA
C - E saturation voltage		V _{CE(sat)}	I _F =20mA, I _C =0.1mA		0.15	0.4	V
Switching speeds	Rise time	t _r	V _{CC} =5V, I _C =0.5mA		10		µsec.
	Fall time	t _f	R _L =100		10		µsec.

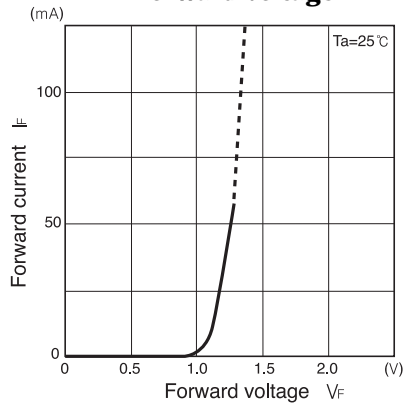
Photo interrupters(Transmissive)

SG - 223

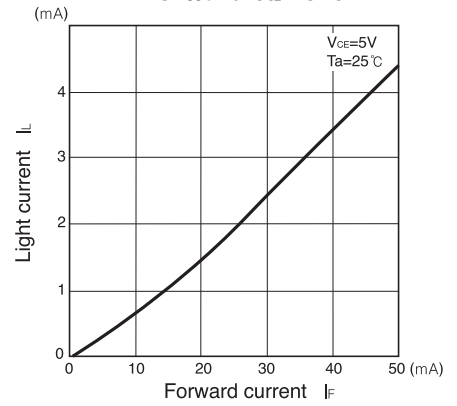
Collector power dissipation Vs. Ambient temperature



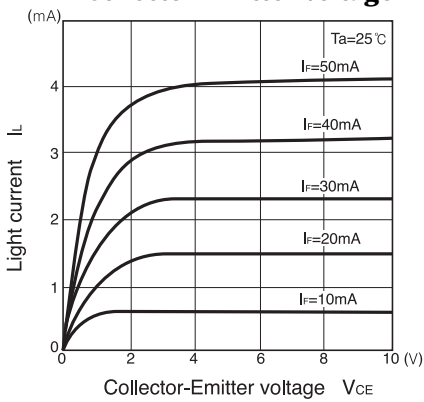
Forward current Vs. Forward voltage



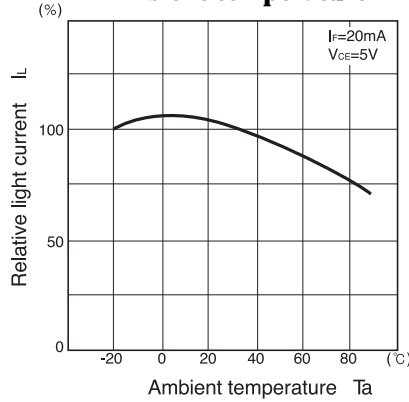
Light current Vs. Forward current



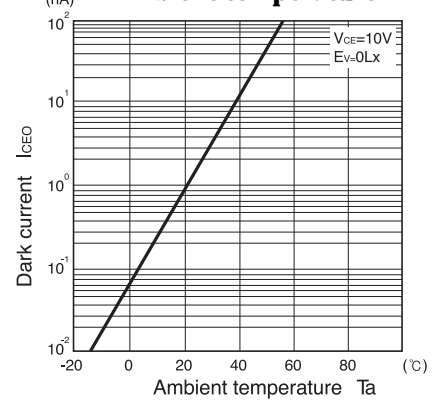
Light current Vs. Collector-Emitter voltage



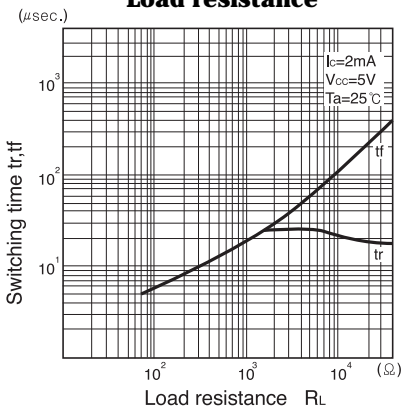
Relative light current Vs. Ambient temperature



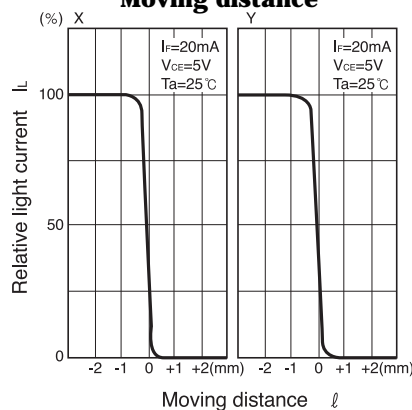
Dark current Vs. Ambient temperature



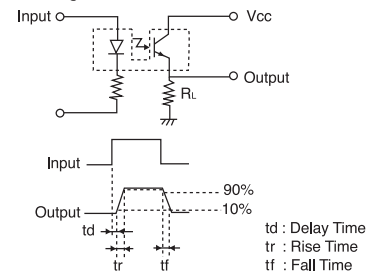
Switching time Vs. Load resistance



Relative light current Vs. Moving distance



Switching time measurement circuit



Method of measuring position characteristic

