

Photointerrupters(Transmissive)

KODENSHI

SG - 223

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

FEATURES

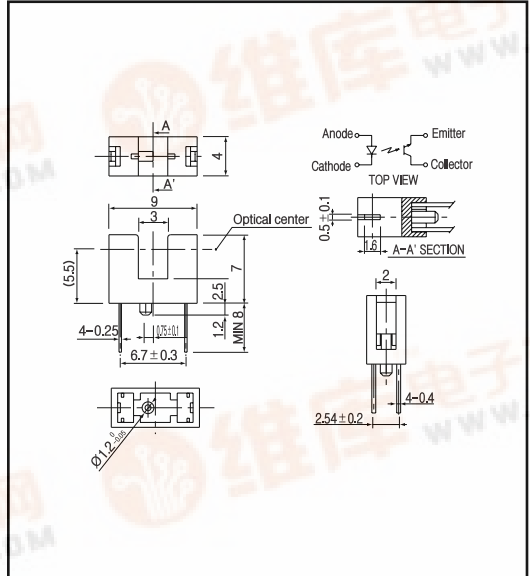
- 0.4mm aperture
- Easy to mount on P.C.B.
- Very compact

APPLICATIONS

- Floppy disk drives
- Camera

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta=25 °C)

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.	$T_{opr.}$	- 25 ~ +85		
Storage temp.	$T_{stg.}$	- 30 ~ +85		
Soldering temp. ²	$T_{sol.}$	260		

¹1. t w 100 μ sec. period : T=10msec.

²2. 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	$I_F = 20mA$		1.2	1.4	V
	Reverse current	$V_R = 5V$			10	μA
	Capacitance	$V = 0, f = 1KHz$		25		pF
	Peak wavelength			940		nm
Output	Collector dark current	$V_{CE} = 10V$			0.1	μA
	Light current	$V_{CE} = 5V, I_F = 20mA$	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	$V_{CC} = 5V, I_C = 0.5mA, R_L = 100$		10		μ sec.
	Rise time			10		μ sec.
	Fall time			10		μ sec.

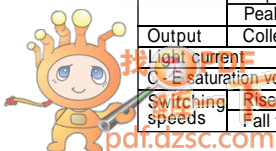
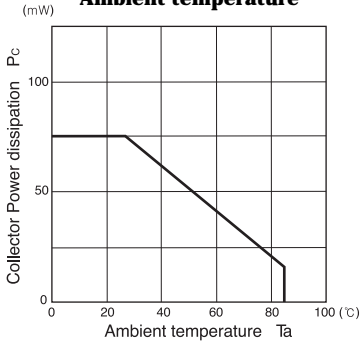


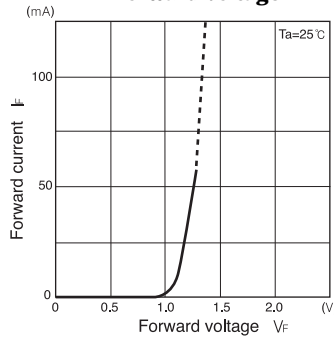
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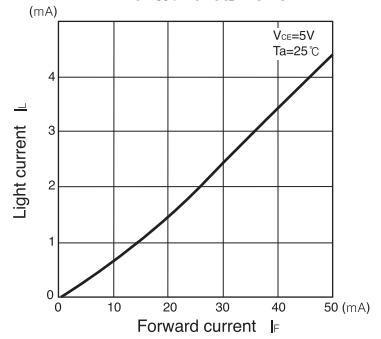
Collector power dissipation Vs. Ambient temperature



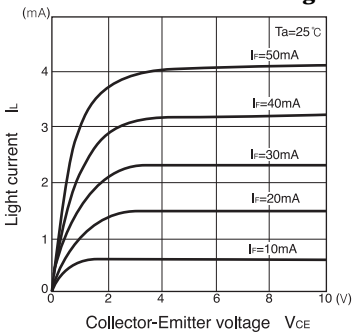
Forward current Vs. Forward voltage



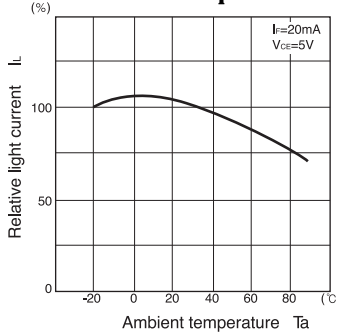
Light current Vs. Forward current



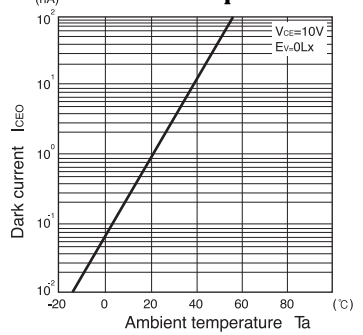
Light current Vs. Collector-Emitter voltage



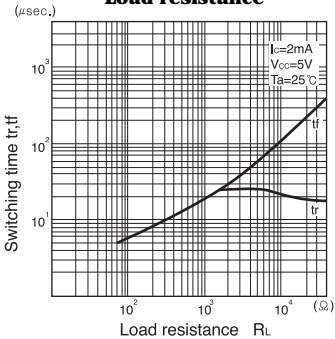
Relative light current Vs. Ambient temperature



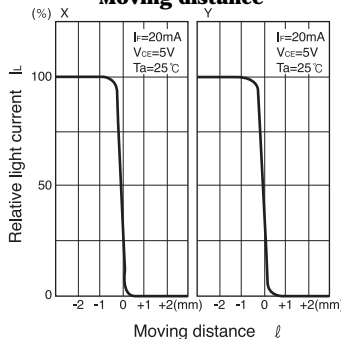
Dark current Vs. Ambient temperature



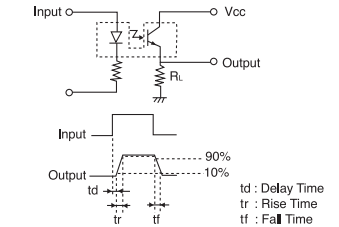
Switching time Vs. Load resistance



Relative light current Vs. Moving distance



Switching time measurement circuit



Method of measuring position characteristic

