

SG - 240

The SG - 240 photointerrupter high - performance standard type, combines high - output GaAs IRED with high sensitive phototransistor.

FEATURES

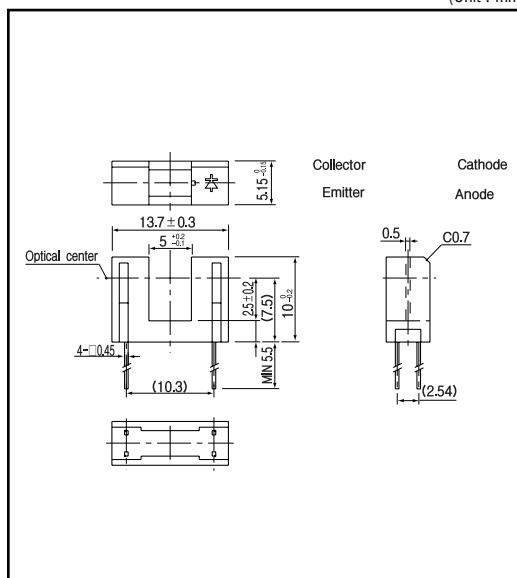
- PWB direct mount type
- GAP : 5.0mm

APPLICATIONS

- CD changers
- Reel rotation detection
- VTR
- Amusement machines

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta = 25°C)

Item	Symbol	Rating	Unit
Input	Power dissipation	P _D	100 mW
	Forward current	I _F	60 mA
	Reverse voltage	V _R	5 V
	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. ^{*2}		T _{opr.}	- 20 ~ + 85 °C
Storage temp. ^{*2}		T _{stg.}	- 30 ~ + 85 °C
Soldering temp. ^{*3}		T _{sol.}	260 °C

*1. pulse width : t_w ≤ 100 μsec, period : T = 10 msec.

*2. No icebound or dew

*3. For MAX. 5 seconds at the position of 1mm from the package

ELECTRO-OPTICAL CHARACTERISTICS

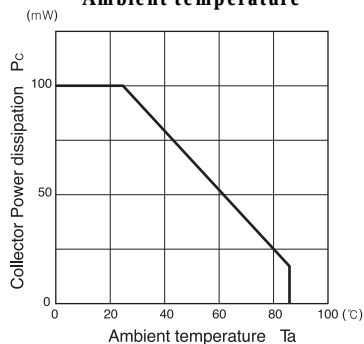
(Ta = 25°C)

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
	Peak wavelength	I _F = 20mA		940		nm
Output	Collector dark current	V _{CE} = 10V		1	100	nA
	Light current	I _F = 20mA, V _E = 5V, Non-shading	0.5		10	mA
Transmissi	leakage current	I _{CE0D}		0.50	10	μA
	C - E saturation voltage	V _{CE(sat)}		0.15	0.4	V
	Rise time	V _{CC} = 5V, I _F = 2mA, R = 100Ω		4		μsec.
	Fall time			5		μsec.

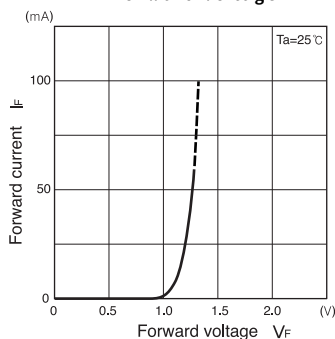
Photo interrupters(Transmissive)

SG - 240

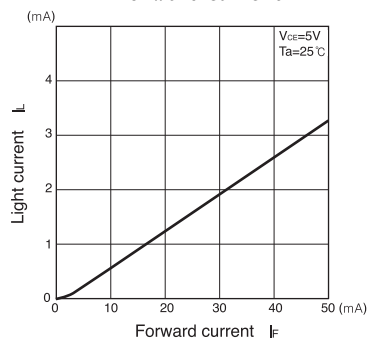
Collector power dissipation Vs. Ambient temperature



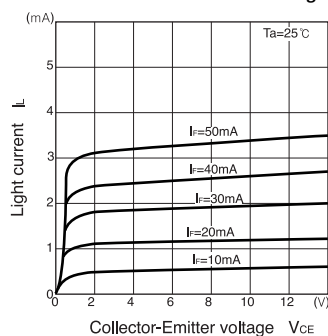
Forward current Vs. Forward voltage



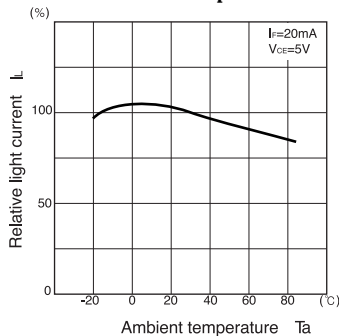
Light current Vs. Forward current



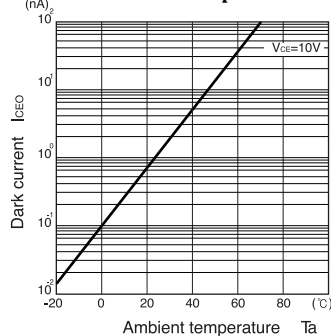
Light current Vs. Collector-Emitter voltage



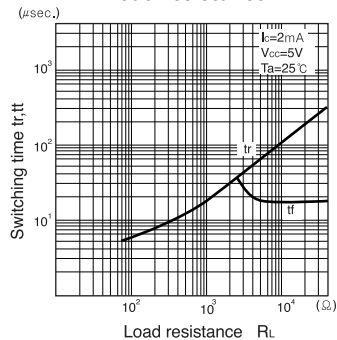
Relative light current Vs. Ambient temperature



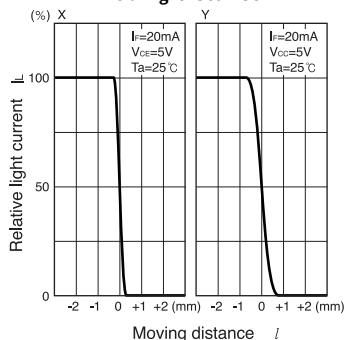
Dark current Vs. Ambient temperature



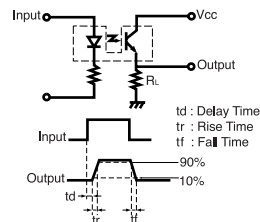
Switching time Vs. Load resistance



Relative light current Vs. Moving distance



Switching time measurement circuit



Method of measuring position detection characteristic

