

SG - 107F4

The SG – 107F4 reflective sensor combines a GaAs IRED with a high - sensitivity phototransistor in a super - mini package, reducing installation space.

FEATURES

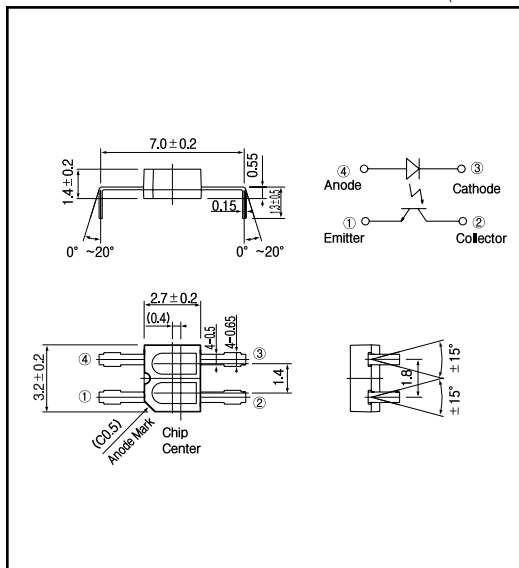
- PWB direct mount type
- The most suitable detection distance : 0.8mm
- Visible light cut off type
- Low profile

APPLICATIONS

- Cassette mecha
- Cameras
- Mini printers
- VTR

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	I _{FP}	-	A
Output	Collector power dissipation	P _C	50	mW
	Collector current	I _C	20	mA
	C - E voltage	V _{CEO}	30	V
	E - C voltage	V _{ECO}	5	V
	Operating temp. ^{*1}	T _{opr.}	- 20 ~ +85	
	Storage temp. ^{*1}	T _{stg.}	- 30 ~ +100	
	Soldering temp. ^{*2}	T _{sol.}	240	

*1. No icebound dew

*2. For MAX. 5 second at the position of 1mm from the package

ELECTRO-OPTICAL CHARACTERISTICS

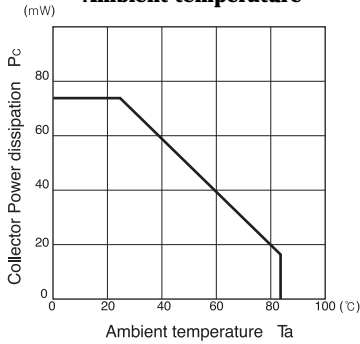
(Ta=25)

	Item	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Input	Forward voltage	V _F	I _F = 10mA			1.3	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			0.2	μA
	Light current	I _C	I _F = 4mA, V _E = 5V	35		200	μA
Transmission	Leakage current	I _{CEO0}	I _F = 10mA, V _E = 5V			0.2	μA
	Rise time	t _r	V _{CC} = 2V, I _C = 0.1mA, R = 1k		30		μsec.
	Fall time	t _f			25		μsec.

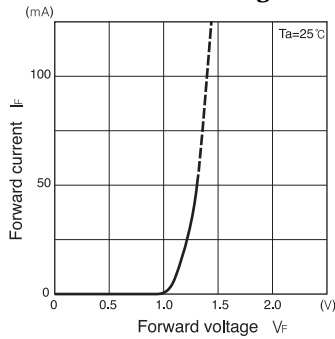
Photo interrupters(Reflective)

SG - 107F4

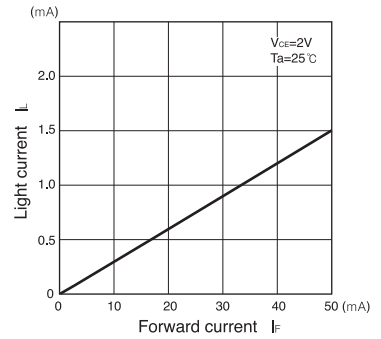
Collector power dissipation Vs. Ambient temperature



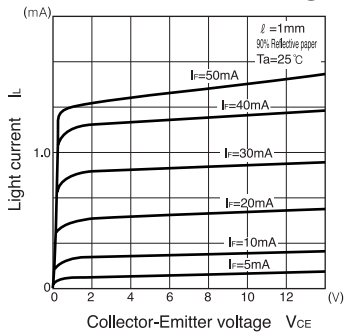
Forward current Vs. Forward voltage



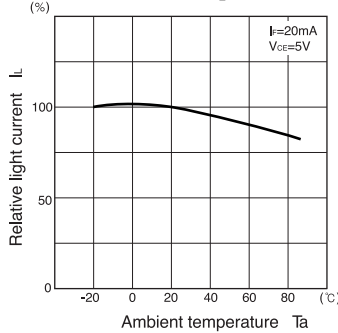
Light current Vs. Forward current



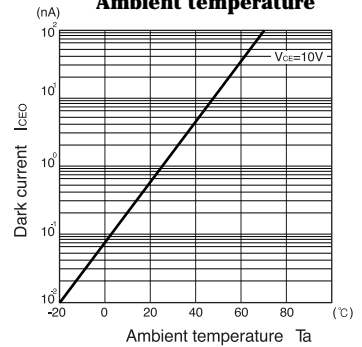
Light current Vs. Collector-Emitter voltage



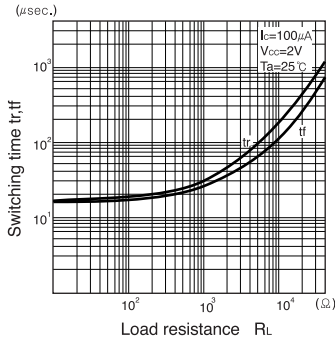
Relative light current Vs. Ambient temperature



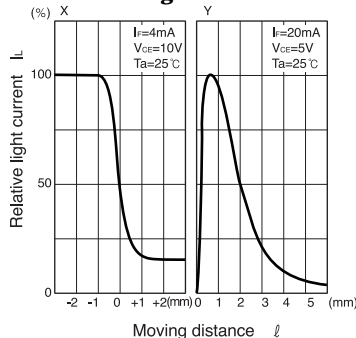
Dark current Vs. Ambient temperature



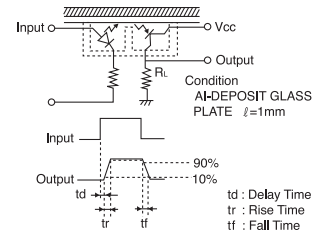
Switching time Vs. Load resistance



Relative light current Vs. Moving distance



Switching time measurement circuit



Method of measuring position detection characteristic

