

SG - 103

The SG - 103 reflective sensor for paper sensing combine high - output GaAs IRED with high sensitivity phototransistor. It is most applicable to paper sensor.

FEATURES

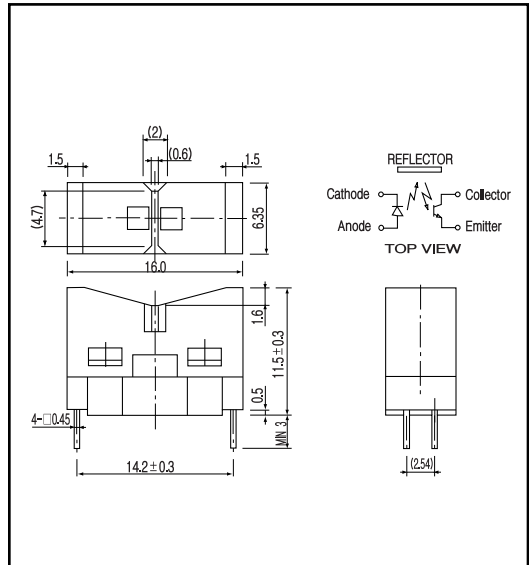
- High performance
- High - speed response
- Dust proof

APPLICATIONS

- Copiers
- Facsimiles
- Edge sensors

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta=25)

	Item	Symbol	Rating	Unit
Input	Power dissipation	P _D	100	mW
	Reverse voltage	V _R	5	V
	Forward current	I _F	60	mA
	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 _{CEO}	30	V
	E - C voltage	V _{ECO}	5	V
	Operating temp.	T _{opr.}	- 20 ~ +85	
	Storage temp.	T _{stg}	- 30 ~ +85	
	Soldering temp. ^{*2}	T _{sol.}	240	

*1. t w 100 μsec.period :T=10msec.

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

ELECTRO-OPTICAL CHARACTERISTICS

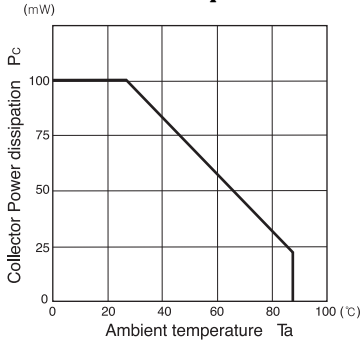
(Ta=25)

	Item	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Input	Forward voltage	V _F	I _F =30mA		1.2	1.5	V
	Reverse current	I _R	V _R =5V			10	μA
	Capacitance	C _t	V=0V, f=1KHz		25		pF
	Peak wavelength	λ			940		nm
Output	Collector dark current	I _{CEO}	V _{CE} =10V			0.1	μA
	Ligh current	I _L	V _{CE} =5V, I _F =20mA	100			μA
	Leakage current	I _{CEO0}	V _{CE} =5V, I _F =20mA			10	μA
Switching speeds	Rise time	t _r	V _{CC} =5V, I _L =100μA		30		μsec.
	Fall time	t _f	R _L =1K		30		μsec.

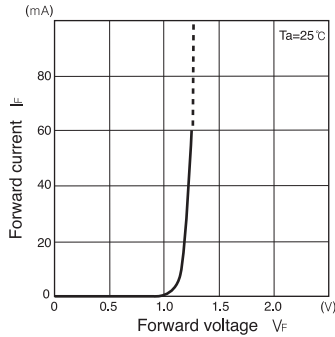
Photointerrupters(Reflective)

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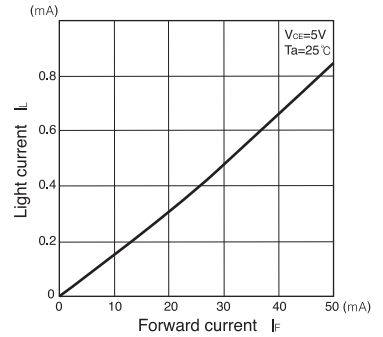
Collector power dissipation Vs. Ambient temperature



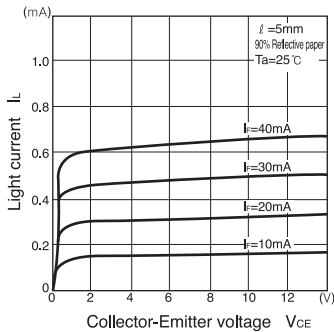
Forward current Vs. Forward voltage



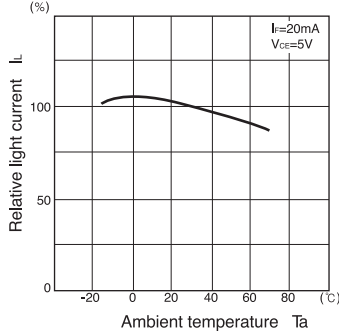
Light current Vs. Forward current



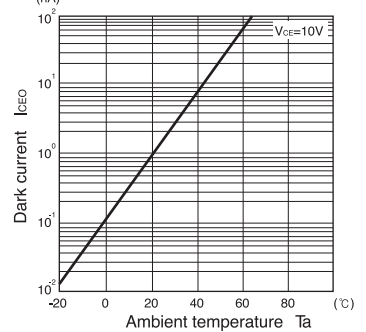
Light current Vs. Collector-Emitter voltage



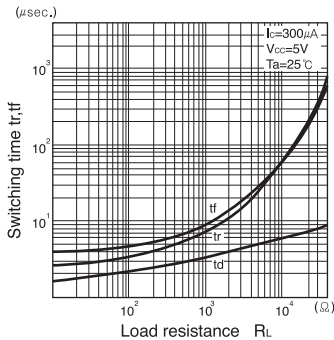
Relative light current Vs. Ambient temperature



Dark current Vs. Ambient temperature



Switching time Vs. Load resistance



Switching time measurement circuit

