GP1S1O

Photointerrupter with Dust Cover

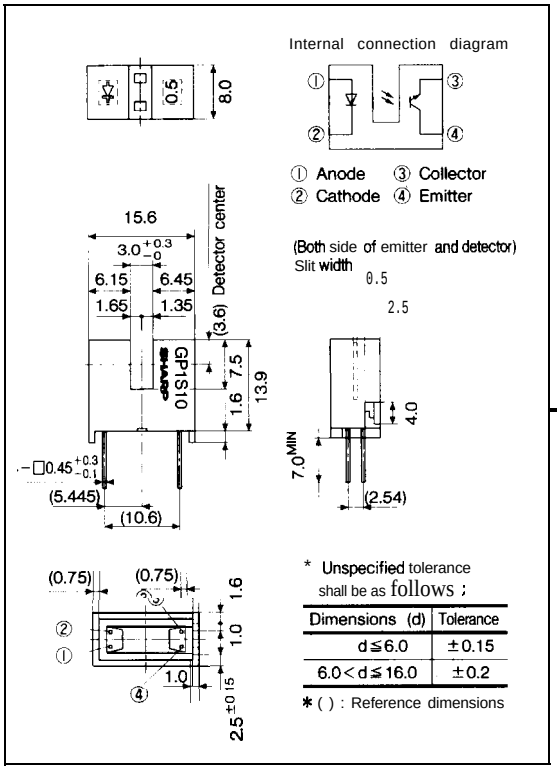
■ Features

1. With dust cover
2. High sensing accuracy (Slit width : 0.5mm)
3. PWB direct mounting type package

■ Applications

1. Copiers, printers, facsimiles
2. Ticket vending machines

■ Outline Dimensions (Unit : mm)



■ Absolute Maximum Ratings (Ta=25℃)

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	50	mA
	*1 Peak forward current	I_{FM}	1	A
	Reverse voltage	V_R	6	V
	Power dissipation	P	75	mW
output	Collector -emitter voltage	V_{CEO}	35	V
	Emitter-collector voltage	V_{ECO}	6	V
	Collector current	I_C	20	mA
	Collector power dissipation	P_C	75	mW
Operating temperature		T_{opr}	−25 to +85	℃
Storage temperature		T_{stg}	−40 to +100	℃
*2 Soldering temperature		T_{sol}	260	℃

*1 Pulse width S 100 μs, Duty ratio =0.01
*2 For 5 seconds

■ Electro-optical Characteristics (Ta = 25℃)

Parameter			Symbol	Conditions	MIN.	TYP.	MAX	Unit
Input	Forward voltage		V_F	I_F = 20mA	—	1.2	1.4	V
	Peak forward voltage		V_{FM}	I_{FM} 0.5A	—	3	4	V
	Reverse Current		I_R	V_R = 3V	—	—	10	μA
output	Collector dark current		ILEO	V_{CE} = 20V		10^{-9}	10^{-7}	A
Transfer charac teristics	Current transfer ratio		CTR	IF= 20mA, V_{CE} = 5V	2	—	75	%
	Collector -emitter saturation voltage		$V_{CE(sat)}$	IF= 40mA, I_C = 0.2mA	—	—	0.4	V
	Response time	Rise time	t_r	V_{CE} = 2V, I_C = 2mA	—	3	15	μs
		Fall time	tf	R_L = 100Ω	—	4	20	μs

Fig. 1 Forward Current vs. Ambient Temperature

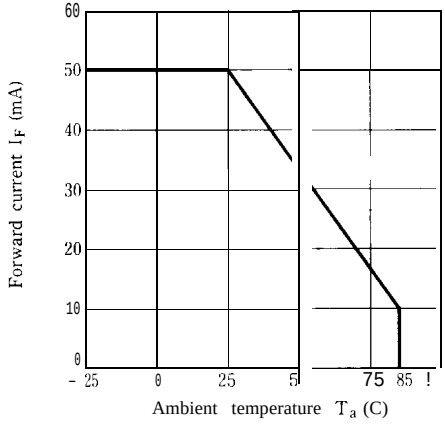


Fig. 2 Collector Power Dissipation vs. Ambient Temperature

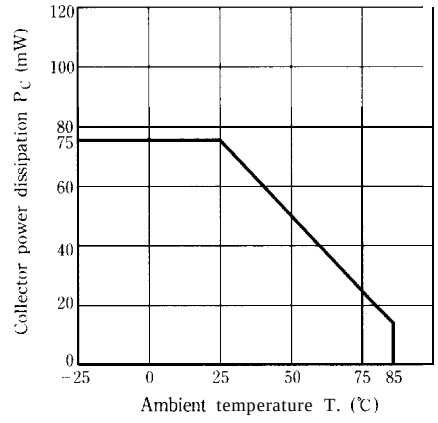


Fig. 3 Paak Forward Current vs. Duty Ratio

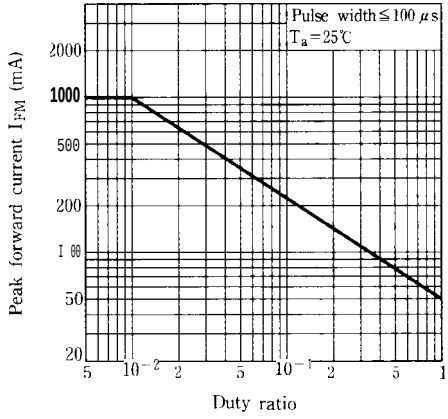


Fig. 4 **Forward Current vs. Forward Voltage**

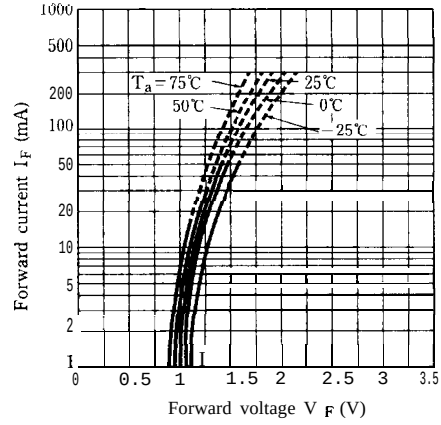


Fig. 5 Collector Current vs. Forward Current

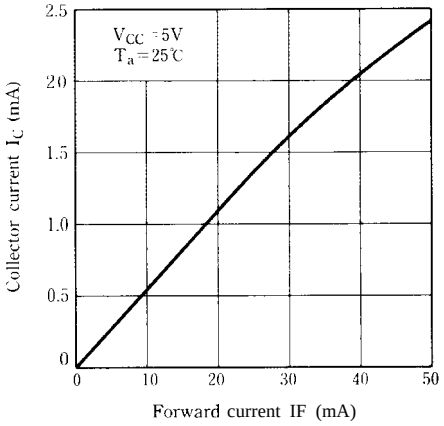


Fig. 6 Collector Current vs. Collector-emitter Voltage

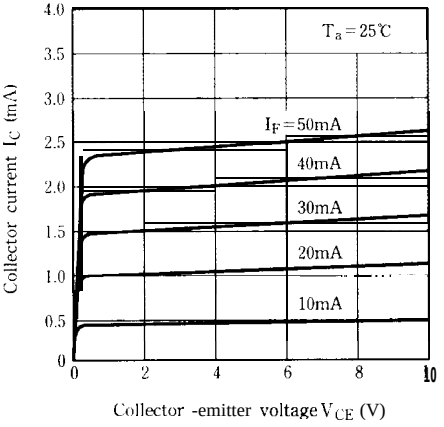


Fig. 7 Collector Current vs. Ambient Temperature

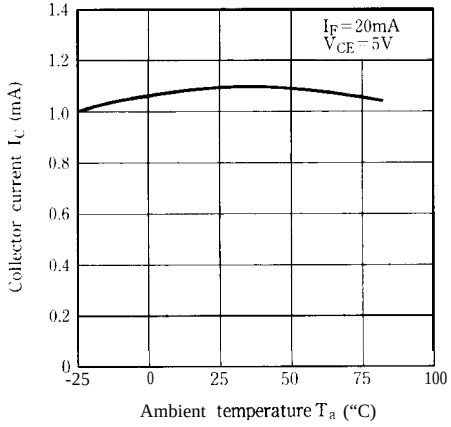


Fig. 8 Collector-emitter Saturation Voltage vs. Ambient Temperature

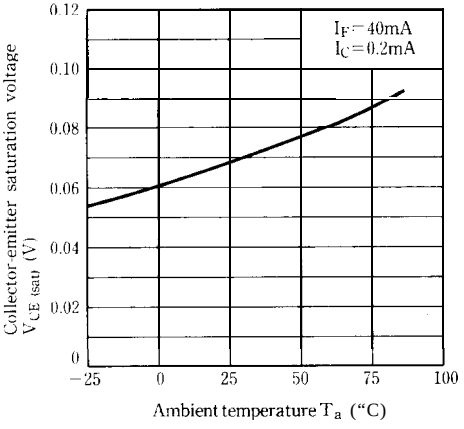
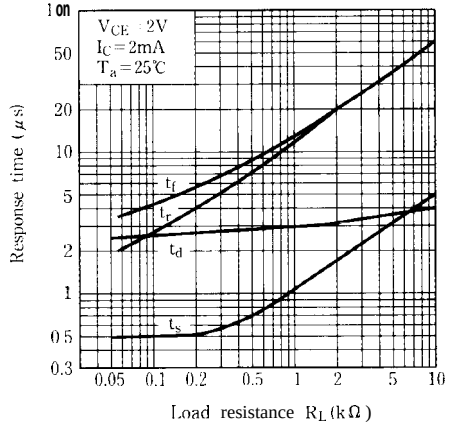


Fig. 9 Response Time vs. Load Resistance



Test Circuit for Response Time

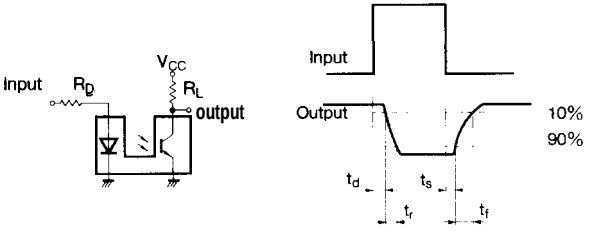


Fig.10 Frequency Response

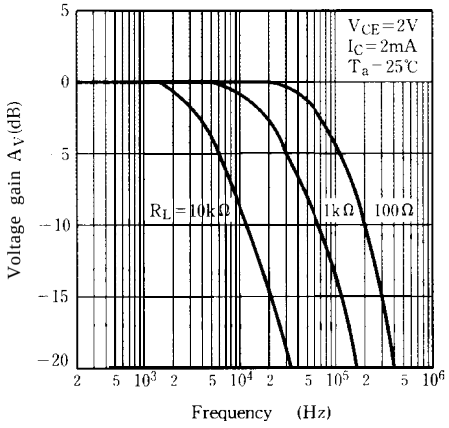


Fig.11 Collector Dark Current vs. Ambient Temperature

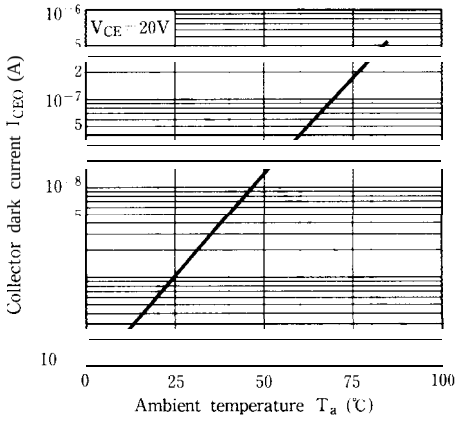


Fig.12 Relative Collector Current vs. Shield Distance (1)

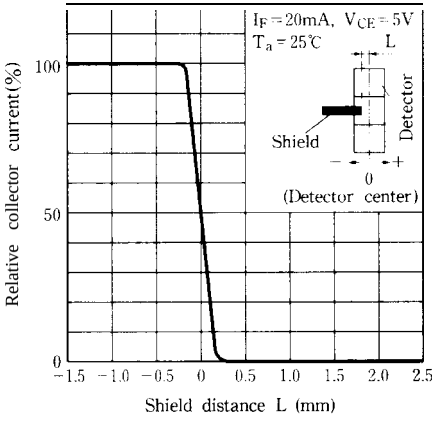
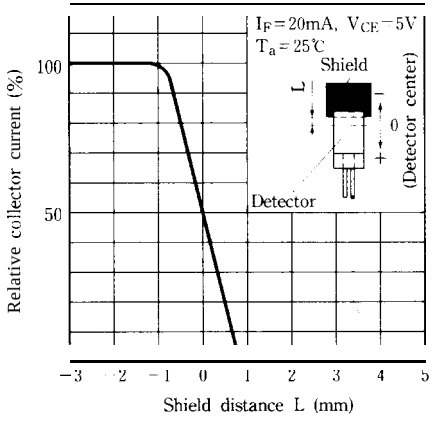


Fig. 13 Relative Collector Current vs. Shield Distance (2)



■ Precautions for Use

(1) In this product, flux in the cleaning solvent may remain inside the slit of holder. It sometimes causes lower output; therefore, cleaning is prohibited.

(2) As for other general cautions, refer to the chapter "Precautions for Use" (Page 78 to 93).