

GP1S28

Subminiature Photointerrupter

■ Features

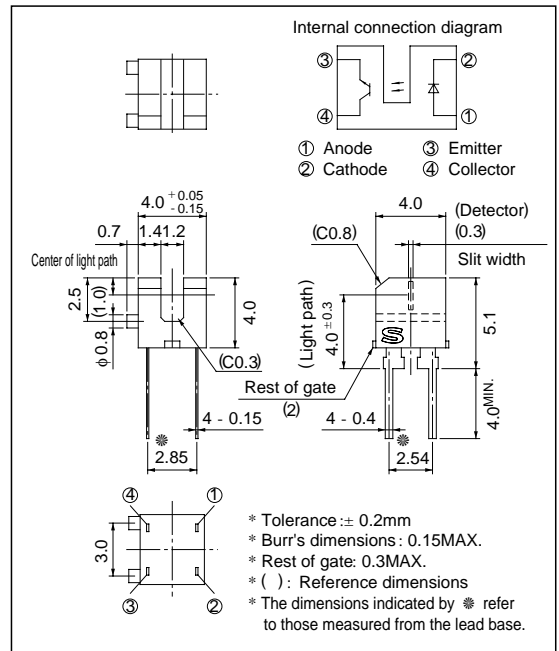
1. Ultra-compact
2. PWB mounting type package
3. High sensing accuracy (Slit width 0.3mm)
4. With mounting boss

■ Applications

1. Cameras
2. Floppy disk drives

■ Outline Dimensions

(Unit : mm)

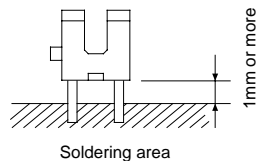


■ Absolute Maximum Ratings

(Ta = 25°C)

Parameter	Symbol	Rating	Unit	
Input	Forward current	I _F	50	mA
	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
Total power dissipation	P _{tot}	100	mW	
Operating temperature	T _{opr}	- 25 to + 85	°C	
Storage temperature	T _{stg}	- 40 to + 100	°C	
*1 Soldering temperature	T _{sol}	260	°C	

*1 For 5 seconds



■ Electro-optical Characteristics

(T_a = 25°C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit	
Input	Forward voltage	V _F	I _F = 20mA	-	1.2	1.4	V	
	Reverse current	I _R	V _R = 3V	-	-	10	μA	
Output	Collector dark current	I _{CEO}	V _{CE} = 20V	-	-	1 x 10 ⁻⁷	A	
Transfer characteristics	Collector Current	I _c	V _{CE} = 5V, I _F = 5mA	100	-	1300	μA	
	Collector-emitter saturation voltage	V _{CE(sat)}	I _F = 10mA, I _C = 50 μA	-	-	0.4	V	
	Response time	Rise time	t _r	V _{CE} =5V, R _L =1kΩ	-	50	150	μs
		Fall time	t _f	I _C =100 μA	-	50	150	μs

Fig. 1 Forward Current vs. Ambient Temperature

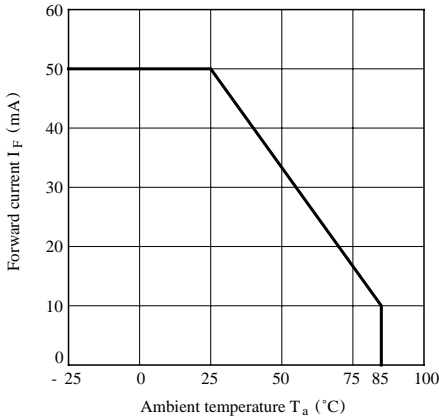


Fig. 2 Power Dissipation vs. Ambient Temperature

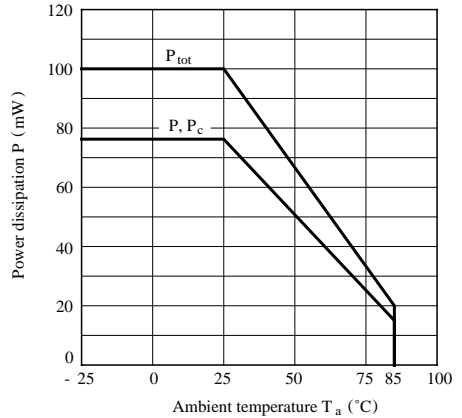


Fig. 3 Forward Current vs. Forward Voltage

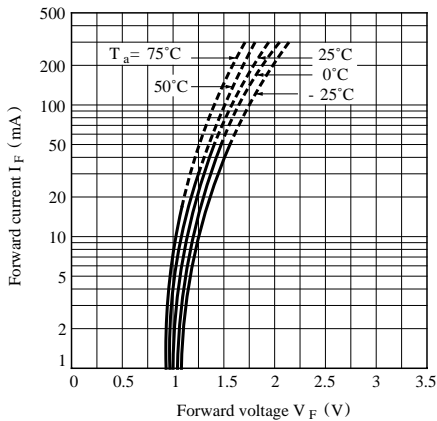


Fig. 4 Collector Current vs. Forward Current

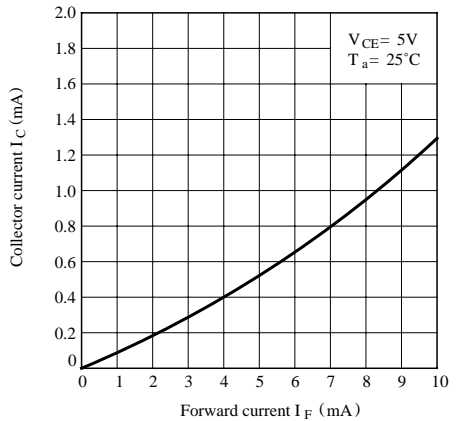


Fig. 5 Collector Current vs. Collector-emitter Voltage

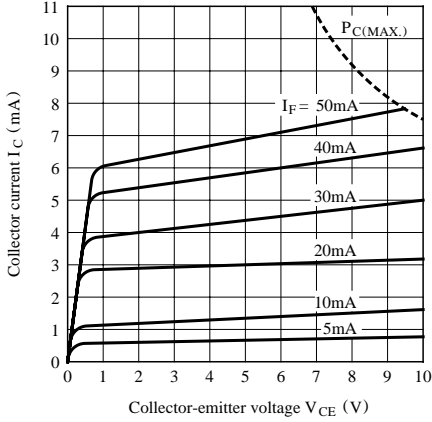


Fig. 6 Collector Current vs. Ambient Temperature

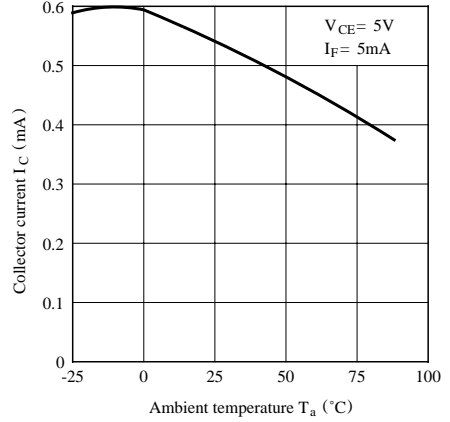


Fig. 7 Collector-emitter Saturation Voltage vs. Ambient Temperature

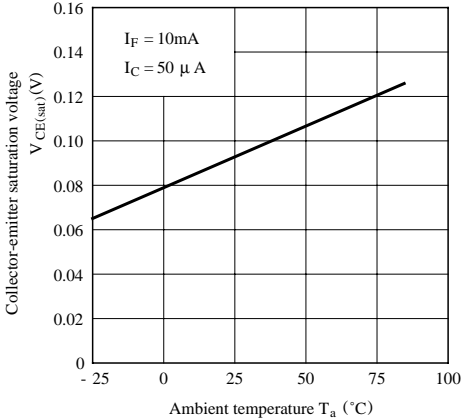


Fig. 8 Response Time vs. Load Resistance

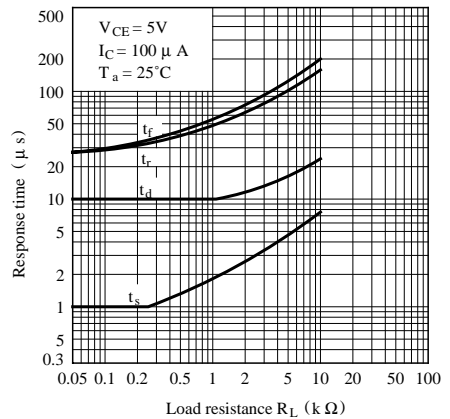
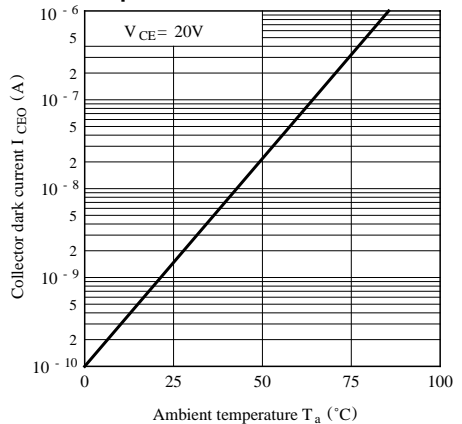


Fig. 9 Collector Dark Current vs. Ambient Temperature



Test Circuit for Response Time

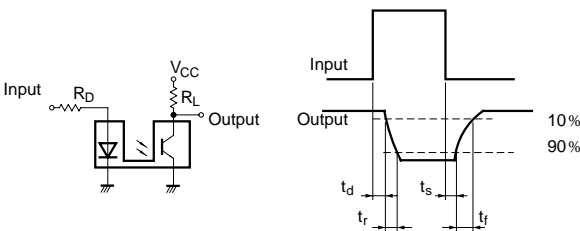


Fig.10 Relative Collector Current vs. Shield Distance (1)

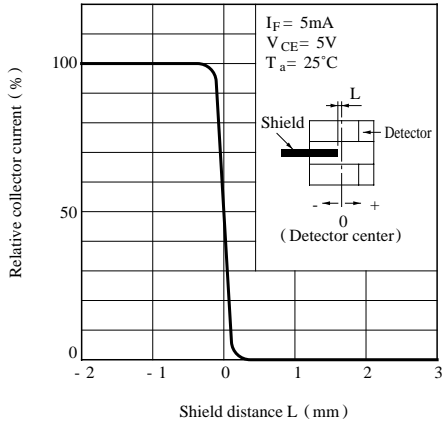
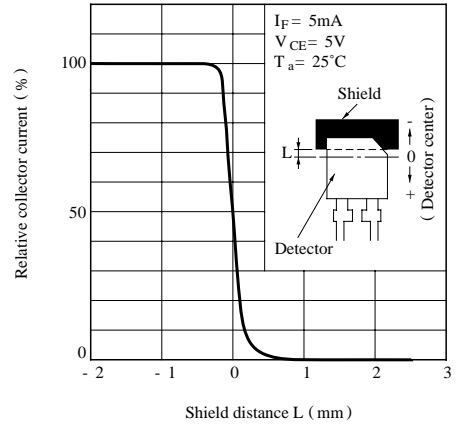


Fig.11 Relative Collector Current vs. Shield Distance (2)



- Please refer to the chapter “Precautions for Use”.

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