

GP1S32

Subminiature Photointerrupter

■ Features

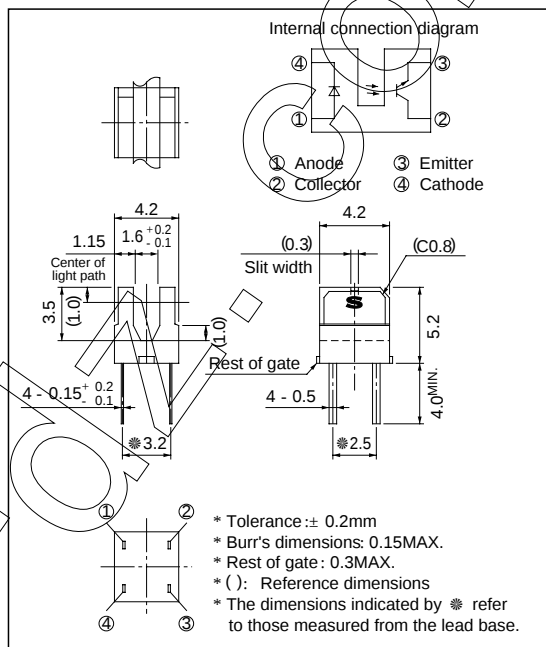
1. Ultra-compact package
2. PWB mounting type
3. High sensing accuracy (Slit width : 0.3mm)
4. High speed response

■ Applications

1. Floppy disk drives

■ Outline Dimensions

(Unit : mm)

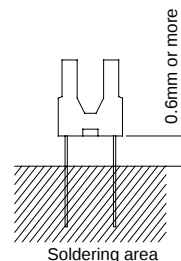


■ Absolute Maximum Ratings

(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

(Ta = 25°C)

Parameter		Symbol	Condition	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	VF	IF = 20mA	-	1.2	1.4	V
	Reverse current	IR	VR = 3V	-	-	10	μA
Output	Collector dark current	ICEO	VCE = 20V	-	-	100	nA
Transfer characteristics	Collector current	IC	VCE = 5V, IF = 5mA	50	-	300	μA
	Collector-emitter saturation voltage		IF = 10mA, IC = 50 μA	-	-	0.4	V
	Response time	Rise time	VCE = 5V, IC = 100 μA	-	35	100	μs
		Fall time	RL = 1 000 Ω	-	35	100	μs

Fig. 1 Forward Current vs. Ambient Temperature

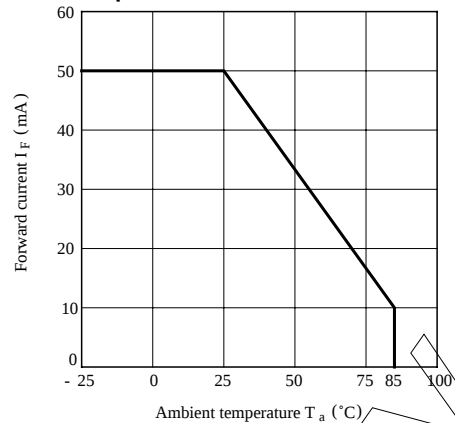


Fig. 2 Power Dissipation vs. Ambient Temperature

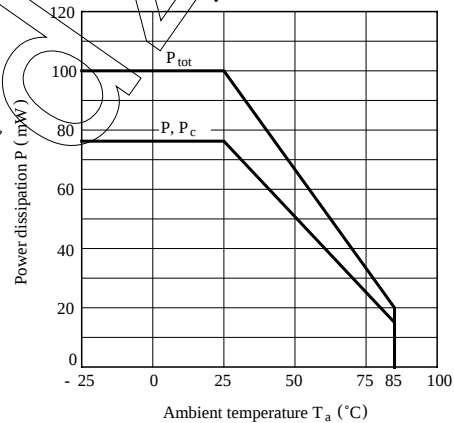


Fig. 3 Forward Current vs. Forward Voltage

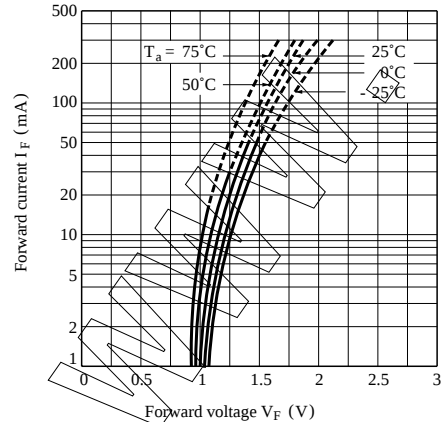


Fig. 4 Collector Current vs. Forward Current

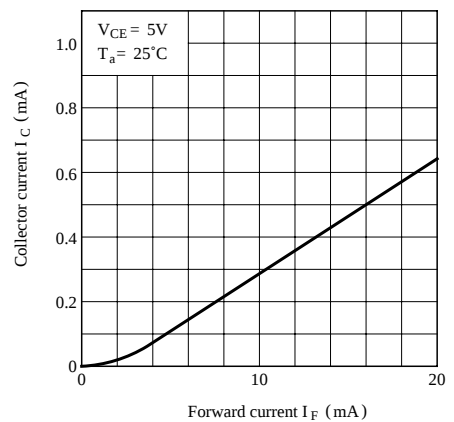


Fig. 5 Collector Current vs. Collector-emitter Voltage

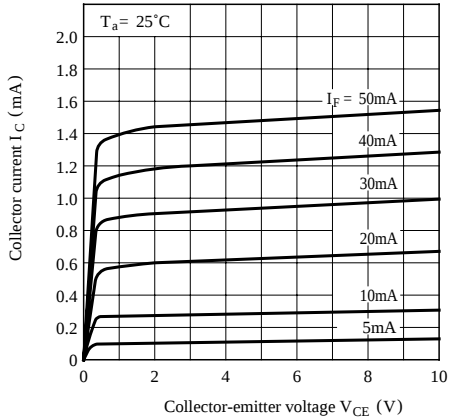


Fig. 6 Collector Current vs. Ambient Temperature

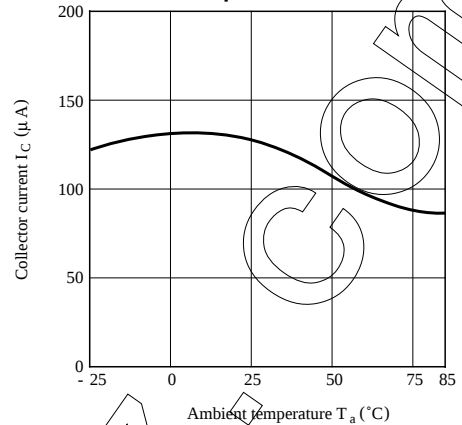


Fig. 7 Collector-emitter Saturation Voltage vs. Ambient Temperature

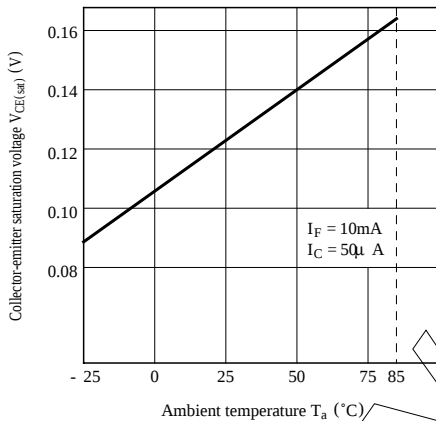


Fig. 8 Collector Dark Current vs. Ambient Temperature

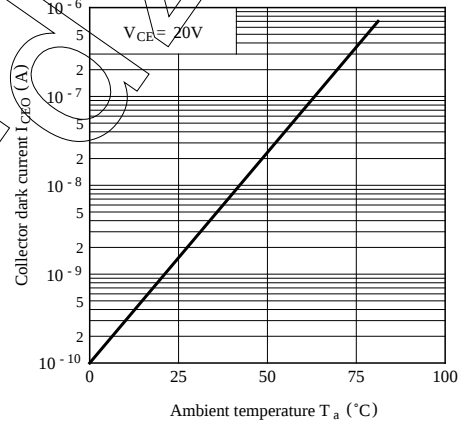
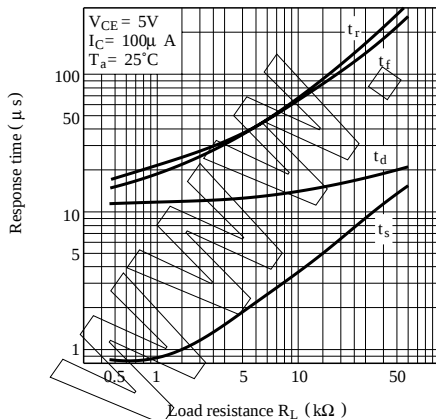


Fig. 9 Response Time vs. Load Resistance



Test Circuit for Response Time

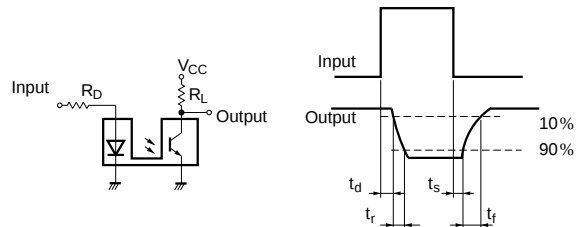


Fig.10 Relative Collector Current vs. Shield Distance (1)

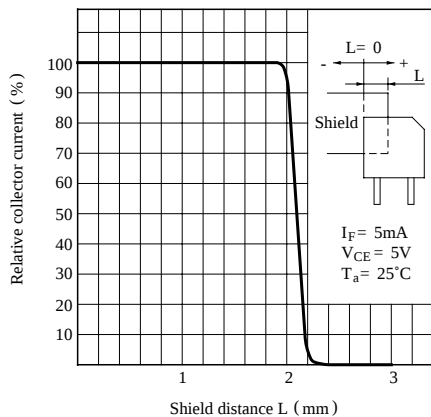
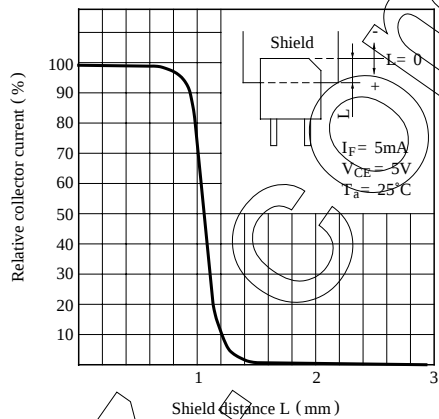


Fig.11 Relative Collector Current vs. Shield Distance (2)



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