

GP1S34

Subminiature, **High Sensing Accuracy** Photointerrupter

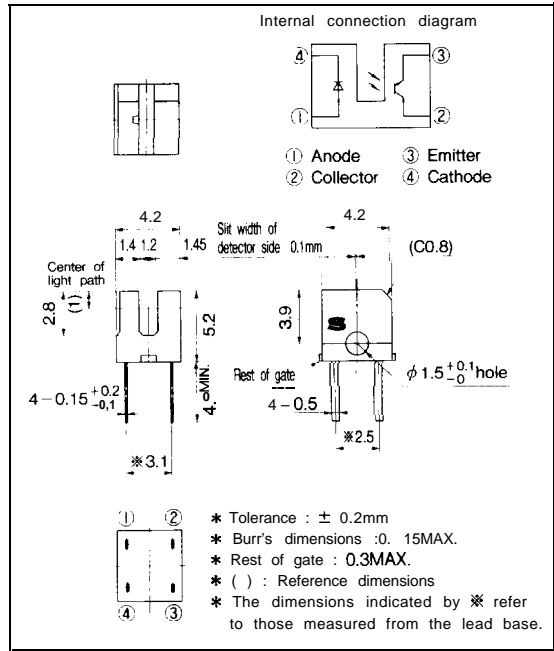
■ Features

1. Ultra-compact package
2. PWB mounting type
3. High sensing accuracy (Slit width : 0.1mm)
... Industry's first
4. With a mounting hole

■ Applications

1. Cameras
2. Floppy disk drives
3. Handy scanners

■ Outline Dimensions (Unit : mm)

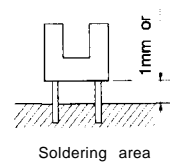


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■ Absolute Maximum Ratings

(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

($T_a = 25^\circ\text{C}$)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V_F	$I_F = 20\text{mA}$		1.2	1.4	V
	Reverse current	I_R	$V_R = 3\text{V}$			10	μA
Output	Collector dark current	I_{CEO}	$V_{CE} = 20\text{V}$		—	100	nA
Transfer characteristics	Collector current	I_C	$V_{CE} = 5\text{V}, I_F = 5\text{mA}$	80		320	μA
	Collector -emitter saturation voltage	$V_{CE(sat)}$	$I_F = 10\text{mA}, I_C = 50\ \mu\text{A}$	—	—	0.4	V
	Response time	Rise time	t_r	$V_{CE} = 5\text{V}, I_C = 100\ \mu\text{A}$	—	50	150
Fall time		t_f	$R_{\text{in}} = 1\ 000\ \Omega$	—	50	150	μs

Fig. 1 Forward Current vs. Ambient Temperature

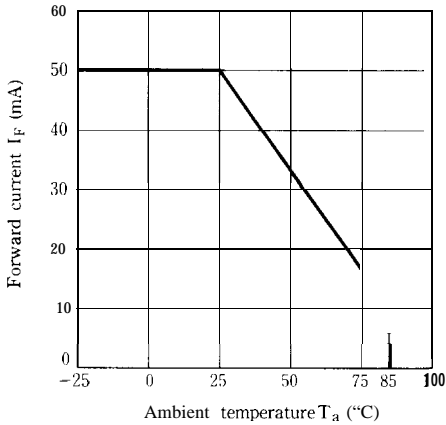


Fig. 2 Power Dissipation vs. Ambient Temperature

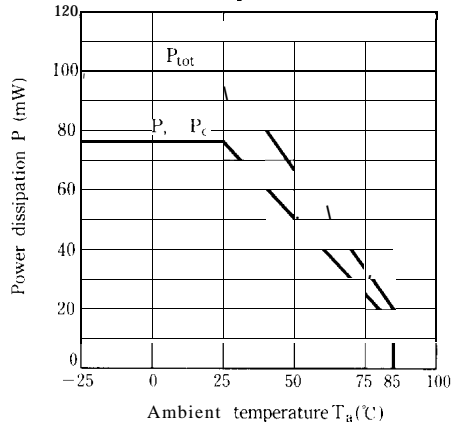


Fig. 3 Forward Current vs. Forward Voltage

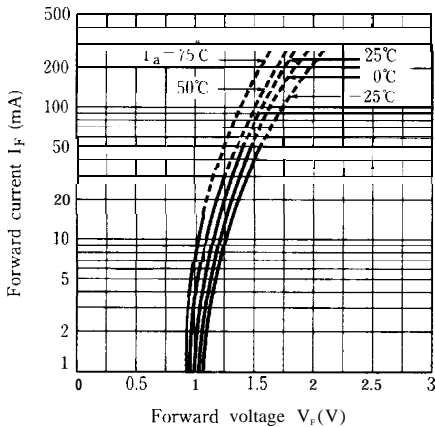


Fig. 4 Collector current vs. Forward Current

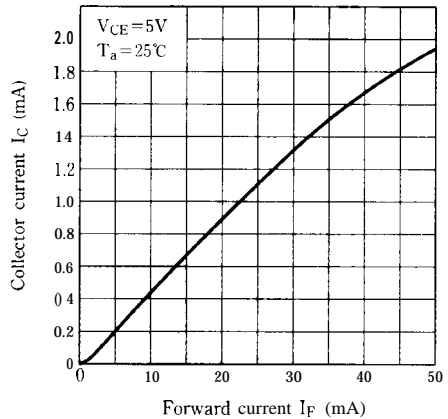


Fig. 5 Collector Current vs. Collector-emitter voltage

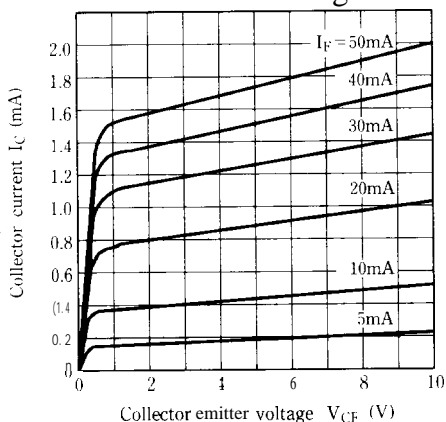


Fig. 7 Collector-emitter Saturation voltage vs. Ambient Temperature

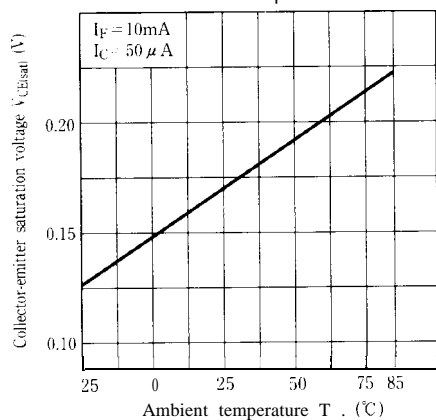


Fig. 9 Response Time vs. Load Resistance

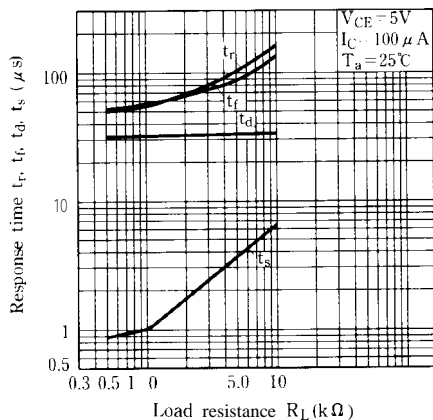


Fig. 6 Collector Current vs. Ambient Temperature

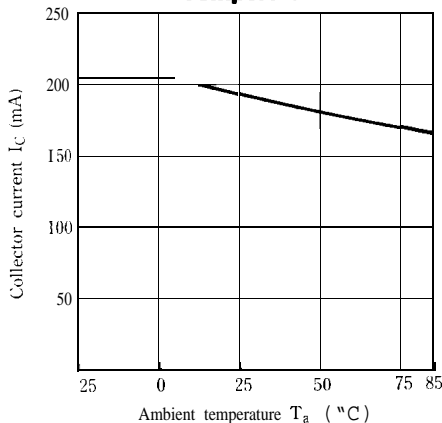
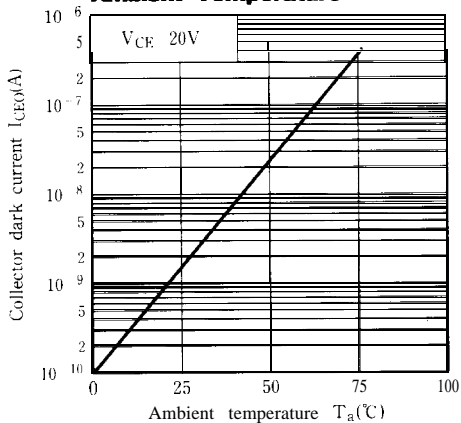


Fig. 8 Collector Dark Current vs. Ambient Temperature



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Test Circuit for Response Time

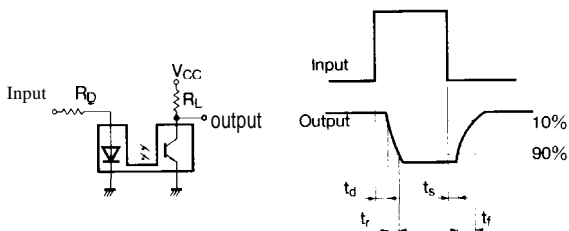


Fig.10 Relative Collector Current vs. Shield Distance (1)

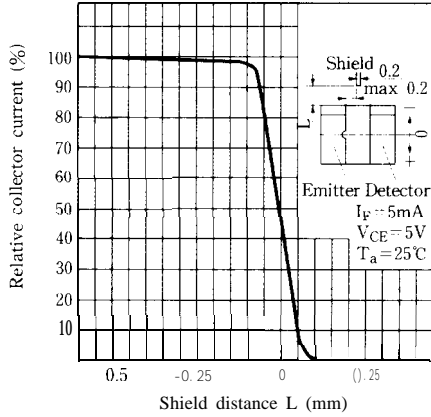
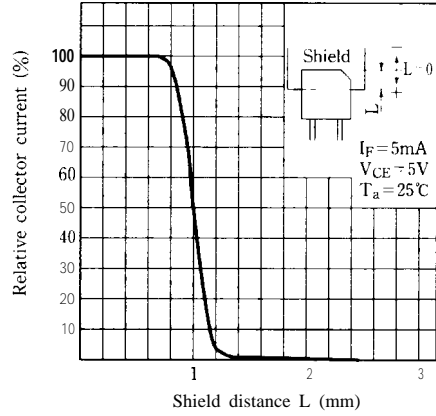


Fig.11 Relative Collector Current vs. Shield Distance (2)



. Please refer to the chapter "Precautions for Use" (Page 78 to 93).