GP1S28

Subminiature Photointerrupter

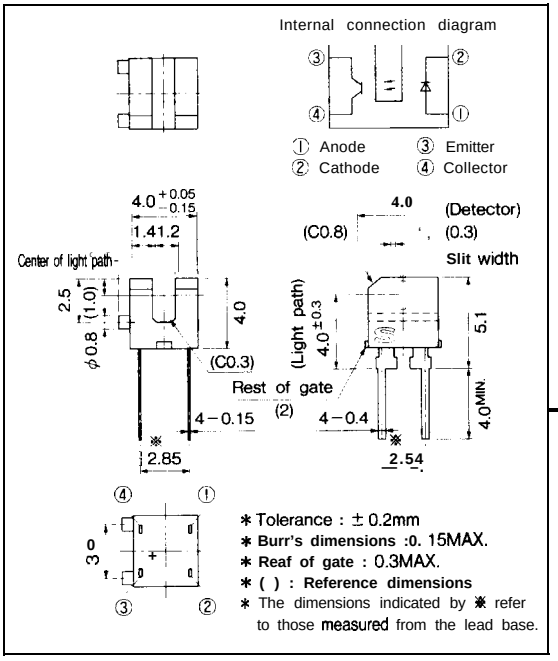
■ Features

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

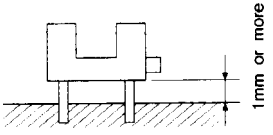
■ Outline Dimensions (Unit : mm)



■ Absolute Maximum Ratings (Ta=25℃)

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	℃
Storage temperature		T_{stg}	−40 to +100	℃
*1 Soldering temperature		T_{sol}	260	℃

*1 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
	Reverse current		I_R	V_R=3V			10	*UA*
output	Collector dark current		I_{CEO}	V_{CE}=20V	—	—	1X1O ^{7}	A
Trans fer charac - teristics	Current transfer ratio		CTR	V_{CE}=5V, I_F=5mA	2.0	—	26	%
	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=1k Ω	—	50	150	μs
		Fall time	t_f	I_C=100 μA	—	50	150	μs

Fig. 1 Forward Current vs. Ambient Temperature

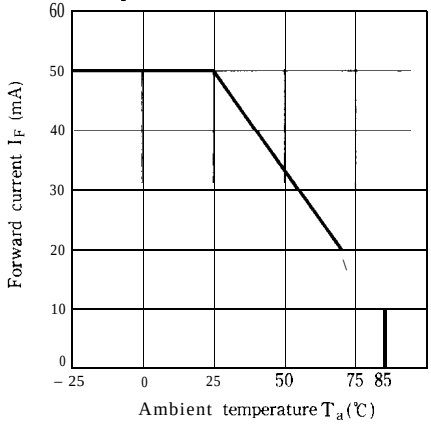


Fig. 2 Power Dissipation vs. Ambient Temperature

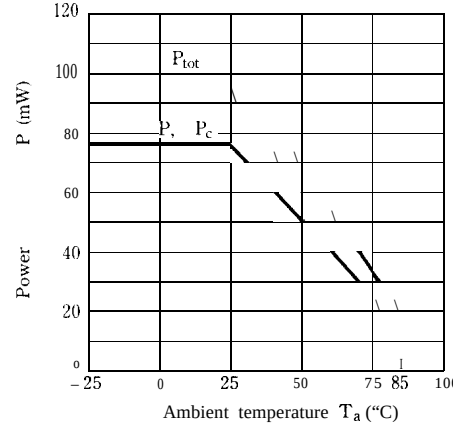


Fig. 3 Forward Current vs. Forward Voltage

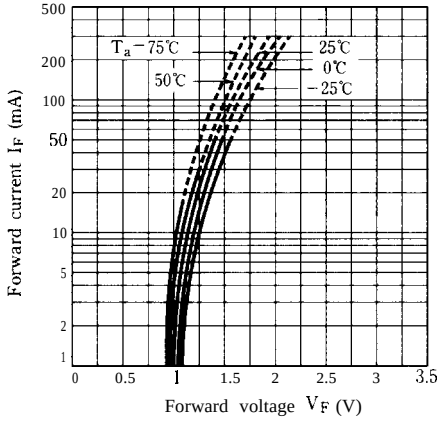


Fig. 4 Collector Current vs. Forward Current

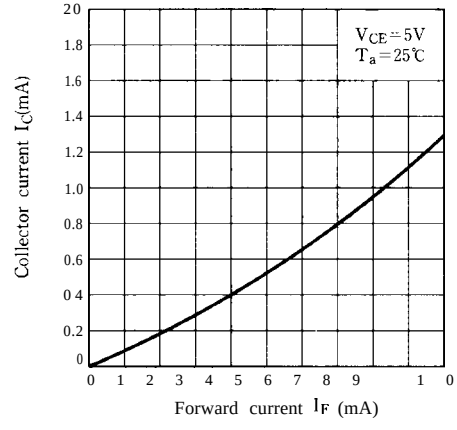


Fig. 5 Collector Current vs. Collector-emitter Voltage

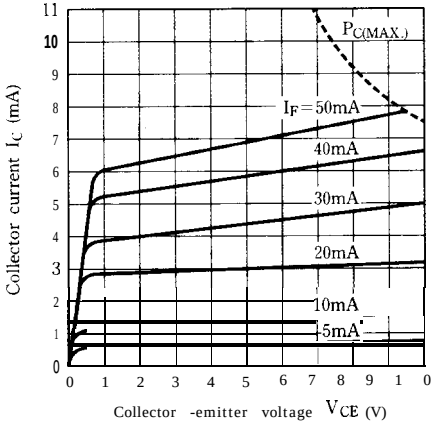


Fig. 6 Collector Current vs. Ambient Temperature

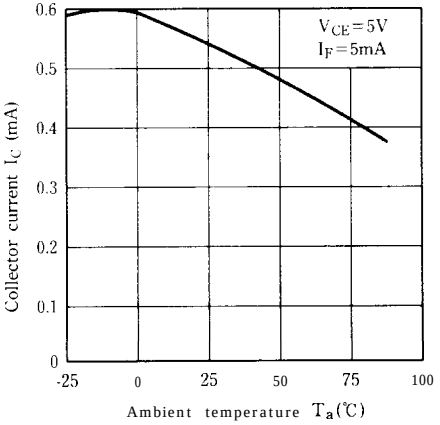


Fig. 7 Collector-emitter Saturation Voltage vs. Ambient Temperature

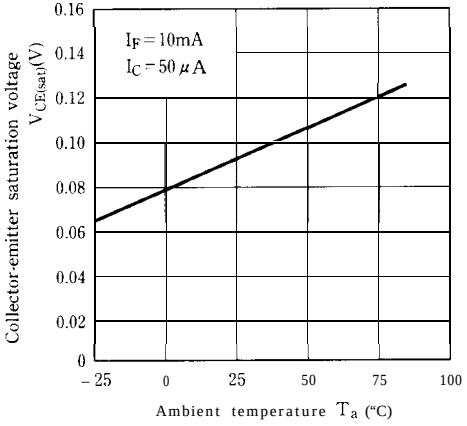
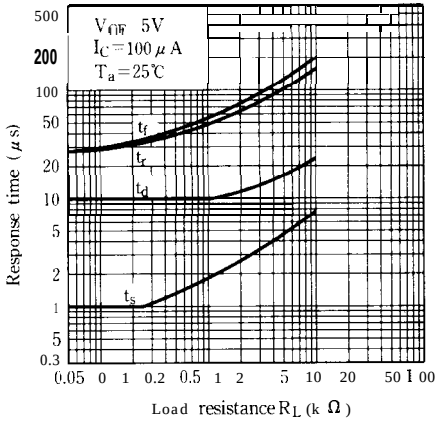


Fig. 8 Response Time vs. Load Resistance



Test Circuit for Response Time

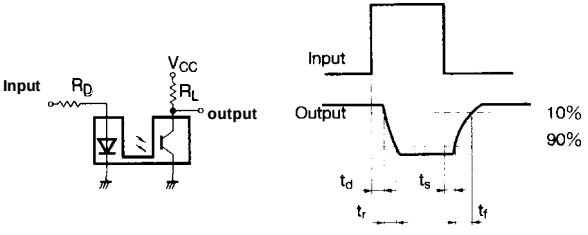


Fig. 9 Collector Dark Current vs. Ambient Temperature

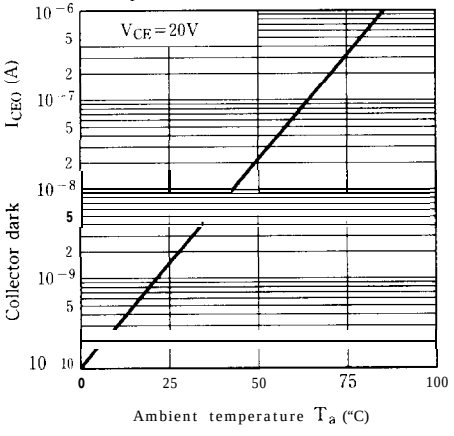
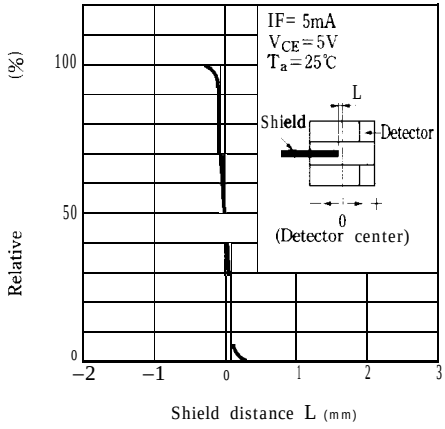
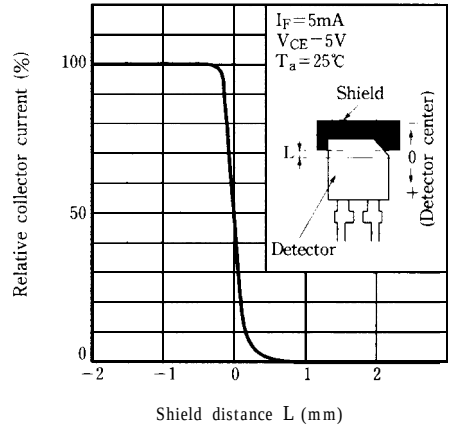


Fig.10 Relative Collector Current vs. Shield Distance (1)



Shield distance L (mm)

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



Shield distance L (mm)

● Please refer to the chapter “Precautions for Use” (Page 78 to 93).