

GP1S37

Subminiature Photointerrupter

Features

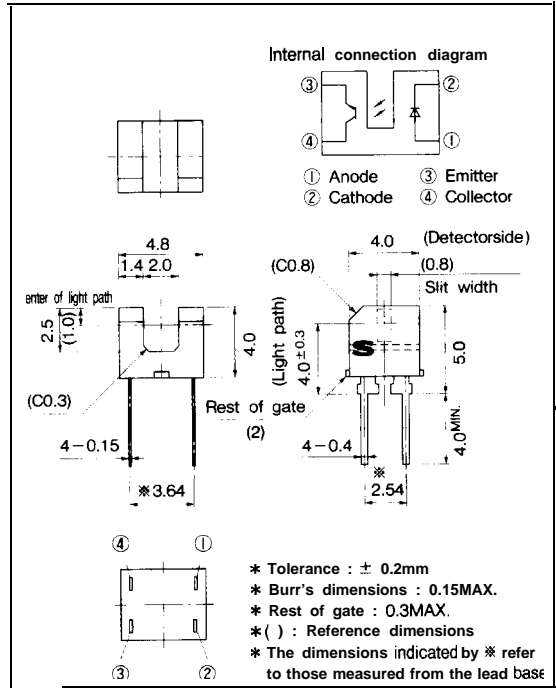
1. Ultra-compact
2. PWB mounting type package

Applications

1. Cameras
2. Auto-focus cameras

Outline Dimensions

(Unit : mm)



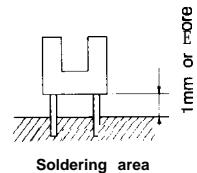
Photointerrupters

8

Absolute Maximum Ratings

(Ta = 25°C)

Parameter		Symbol	Katmg	Unit
Input	Forward current	IF	50	mA
	Reverse voltage	VR	6	v
	Power dissipation	P	75	mW
output	Collector -emitter voltage	VCEO	35	v
	Emitter -collector voltage	VECO	6	v
	Collector current	IC	20	mA
	Collector power dissipation	Pc	75	mW
Total power dissipation		Ptot	100	mW
Operating temperature		Topr	-25 to +85	°c
Storage temperature		Tstg	-40 to +100	°c
*1 Soldering temperature		Tsol	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}	$V_{CE} = 20\text{V}$		—	1×10^{-7}	A
Transfer characteristics	Current transfer ratio	CTR	$V_{CE} = 5\text{V}, I_F = 3\text{mA}$	1		10	%
	Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_F = 6\text{mA}, I_C = 15\mu\text{A}$	—	0.08	0.4	V
	Response time	Rise time	t_r	$R_L = 1\text{k}\Omega$	—	50	150
Fall time		t_f	$V_{CE} = 5\text{V}, I_C = 100\mu\text{A}$		50	150	μs

Fig. 1 Forward Current vs. Ambient Temperature

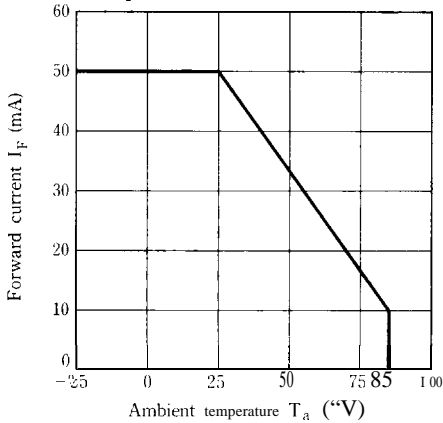


Fig. 2 Power Dissipation vs. Ambient Temperature

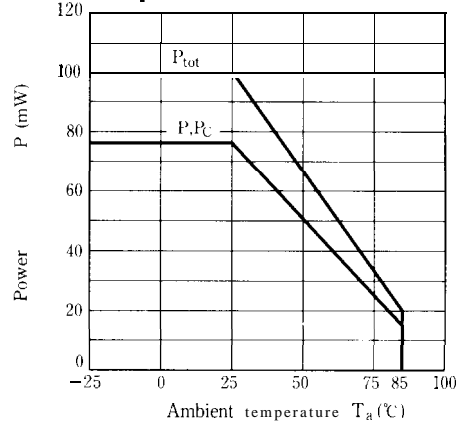


Fig. 3 Forward Current vs. Forward Voltage

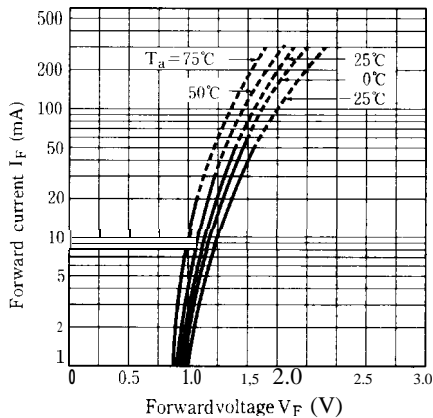


Fig. 4 Collector Current vs. Forward Current

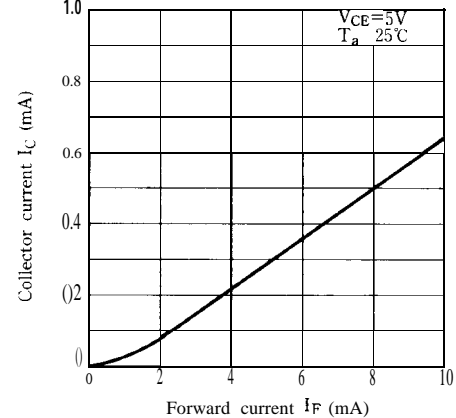


Fig. 5 Collector Current vs. Collector-emitter Voltage

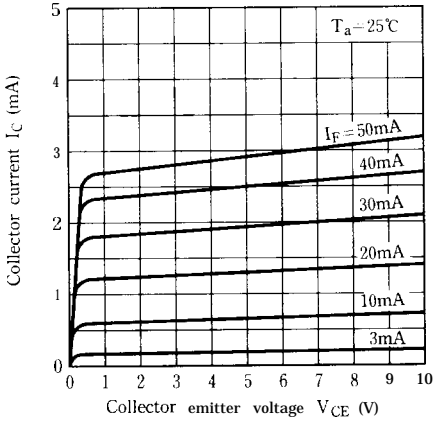


Fig. 6 Collector Current vs. Ambient Temperature

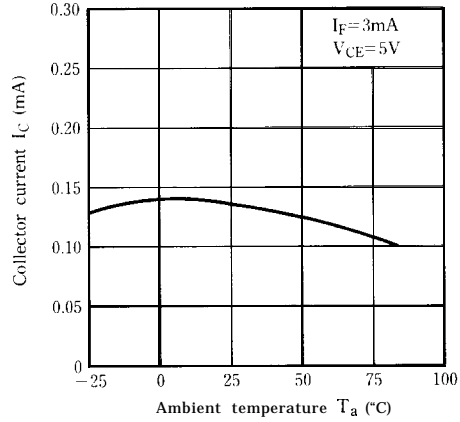


Fig. 7 Collector-emitter Saturation Voltage vs. Ambient Temperature

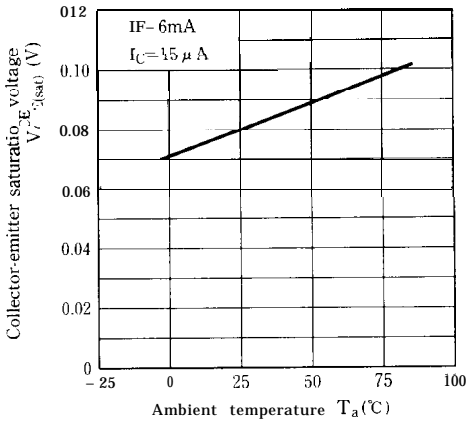


Fig. 8 Collector Dark current vs. Ambient Temperature

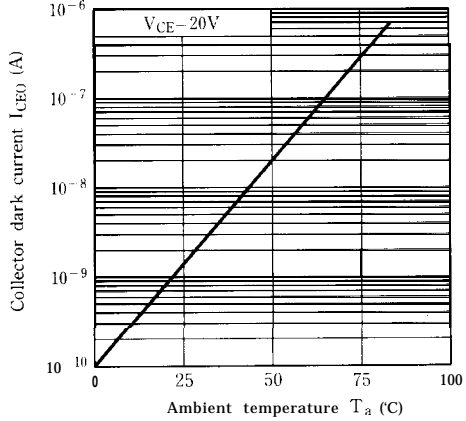
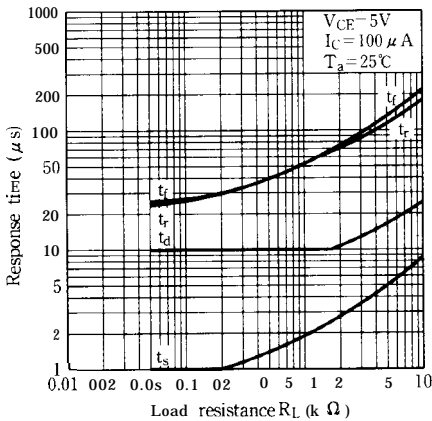


Fig. 9 Time vs. Load Resistance



Test Circuit for Response Time

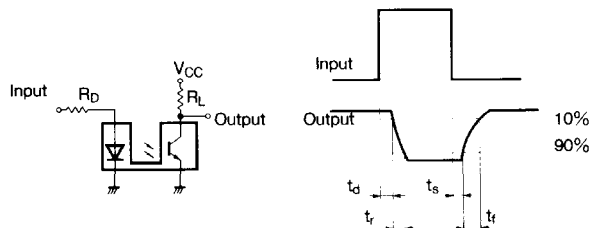


Fig.10 Relative Collector Current vs. Shield Distance (1)

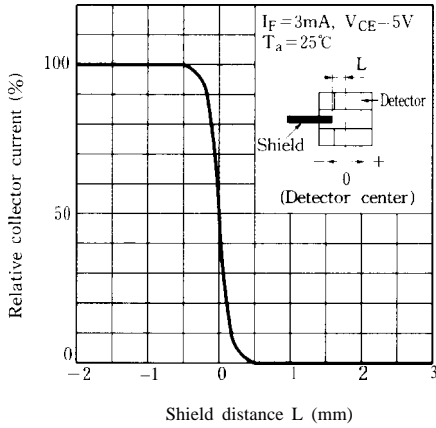
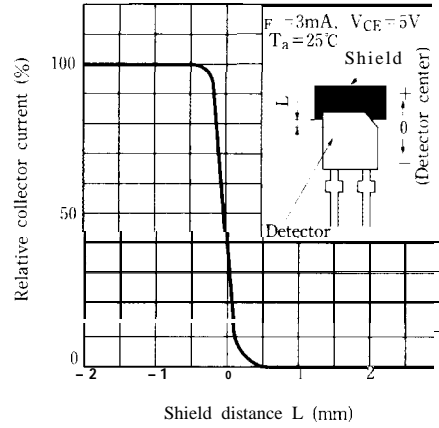


Fig.11 Relative Collector Current vs. Shield Distance (2)



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