

GP1S32

Subminiature Photointerrupter

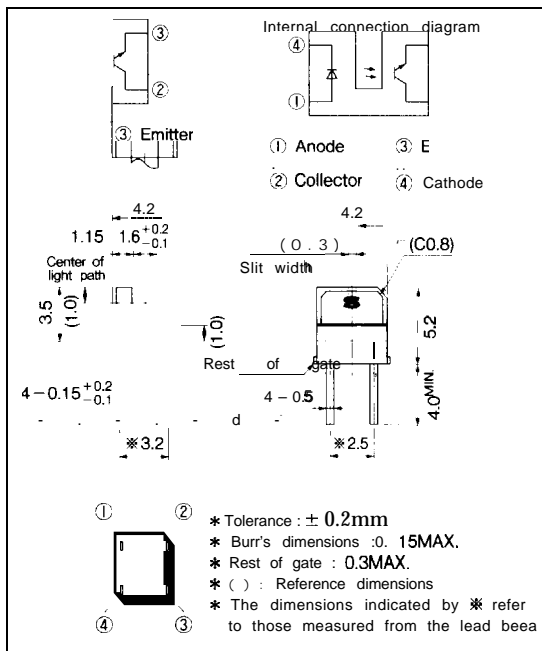
Features

1. Ultra-compact package
2. PWB mounting type
3. High sensing accuracy (Slit width: 0.3mm)
4. High speed response
(Response time τ : 25 μ s)

Applications

1. Floppy disk drives

Outline Dimensions (Unit : mm)



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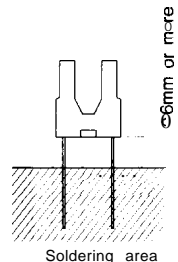


Absolute Maximum Ratings

(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_{str}	-40 to + 100	°C	
* 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	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_{CDO}	$V_{CE} = 20\text{V}$	—	—	100	nA	
Transfer characteristics	Collector current	I_C	$V_{CE} = 5\text{V}, I_F = 5\text{mA}$	50	—	300	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	$V_{CE} = 5\text{V}, I_C = 100\ \mu\text{A}$	—	35	100	μs
		Fall time	t_f	$R_L = 1\ 000\ \Omega$	—	35	100	μs

Fig. 1 Forward Current vs. Ambient Temperature

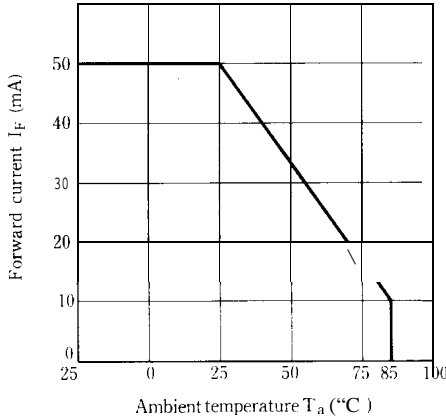


Fig. 2 Power Dissipation vs. Ambient Temperature

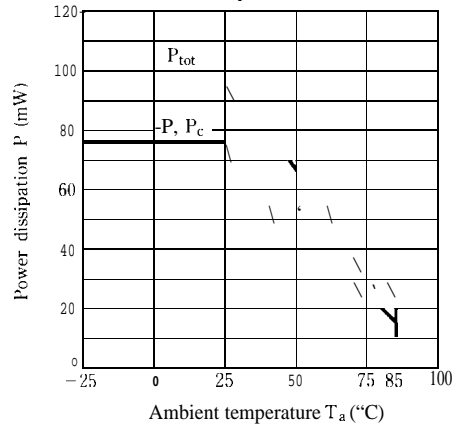


Fig. 3 Forward Current vs. Forward Voltage

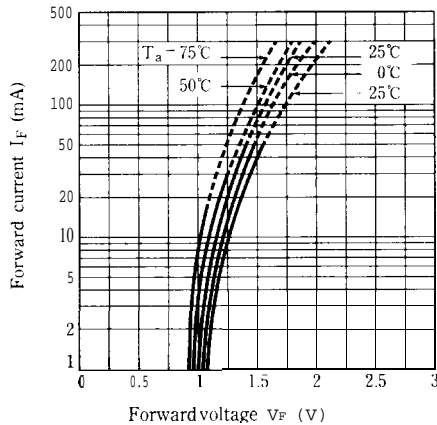


Fig. 4 Collector Current vs. Forward Current

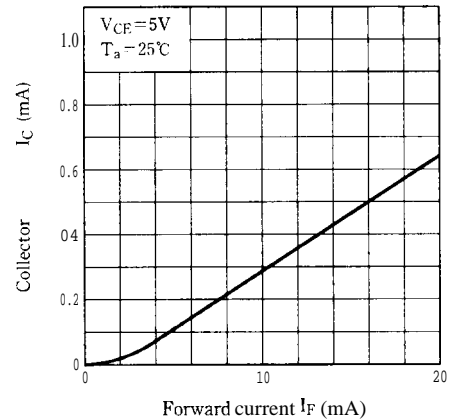


Fig. 5 Collector Current vs. Collector-emitter Voltage

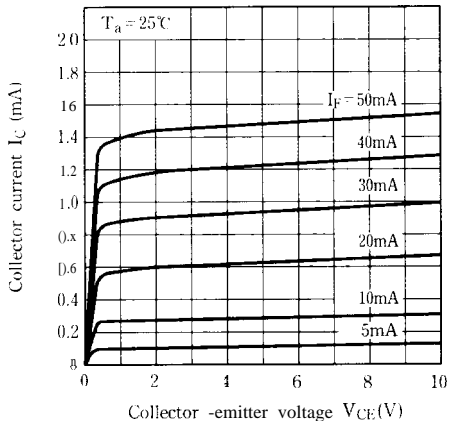


Fig. 6 Collector Current vs. Ambient Temperature

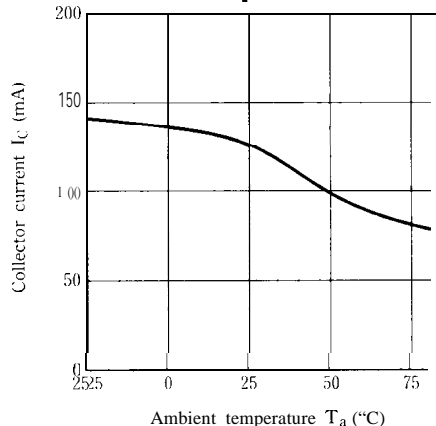


Fig. 7 Collector-emitter Saturation Voltage vs. Ambient Temperature

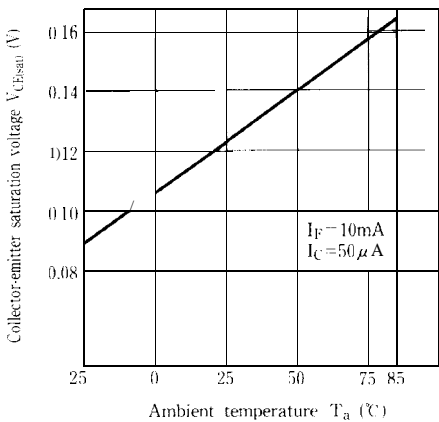


Fig. 8 Collector Dark current vs. Ambient Temperature

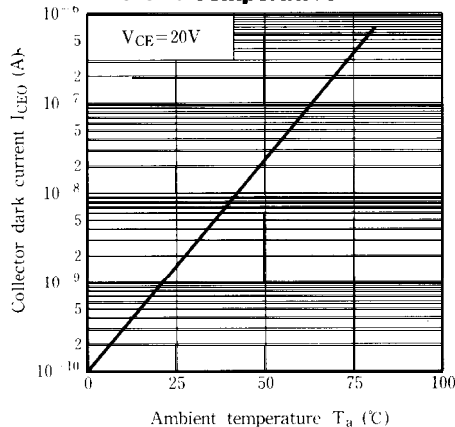
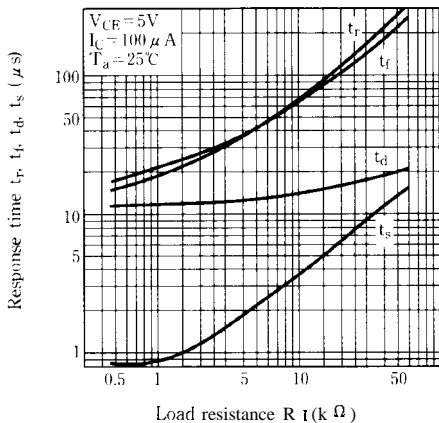
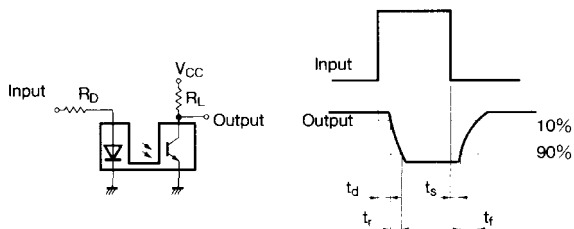


Fig. 9 Response Time vs. Load Resistance



Test Circuit for Response Time



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

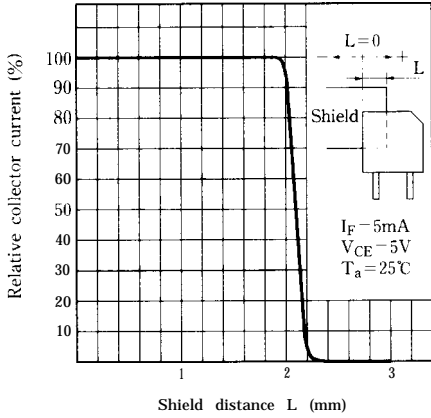
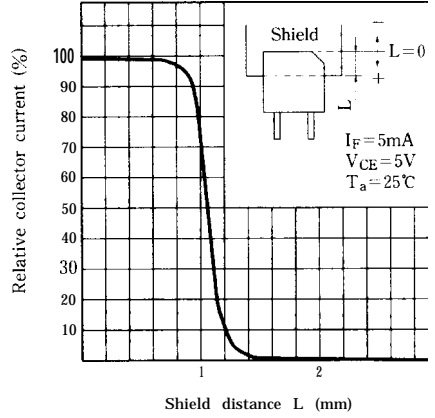


Fig.11 Relative Collector Current vs. Shield Distance (2)



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