# **GP1S561**

## ■ Features

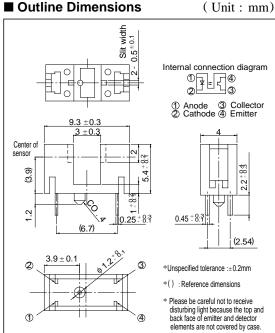
- 1. Compact and thin package (Thickness of case: 4mm)
- 2. With a positioning pin

## ■ Applications

- 1. Floppy disk Ratings drivers
- 2. VCRs

# **Compact and Thin Photointerrupter**

## **■** Outline Dimensions



# **■** Absolute Maximum Ratings

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	Parameter	Symbol	Rating	Unit	
	Forward current	$I_{\mathrm{F}}$	50	mA	
T .	*1Peak forward current	$I_{FM}$	1	A	
Input	Reverse voltage	V <sub>R</sub>	V <sub>R</sub> 6		
	Power dissipation	P	75	mW	
	Collector-emitter voltage	V <sub>CEO</sub>	35	V	
0	Emitter-collector voltage	$V_{ECO}$	6	V	
Output	Collector current	Ic	20	mA	
	Collector power dissipation	Pc	75	mW	
Operating temperature		T <sub>opr</sub>	- 25 to + 85	°C	
Storage temperature		T stg	- 40 to + 100	°C	
	*2Soldering temperature	T sol	260	°C	



<sup>\*1</sup> Pulse width<= 100 \mu s, Duty ratio: 0.01

<sup>\*2</sup> For 3 seconds

## **■** Electro-optical characteristics

 $(Ta = 25^{\circ}C)$ 

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit	
Input	Forward voltage		VF	$I_F = 20mA$	-	1.25	1.4	V
	Peak forward voltage		$V_{\text{FM}}$	$I_{FM} = 0.5A$	-	3	4	V
	Reverse current		$I_R$	$V_R = 3V$	-	-	10	μΑ
Output	Collector dark current		$I_{CEO}$	$V_{\text{CE}} = 20V$	-	1	100	nA
Transfer charact- eristics	Collector current		$I_{\mathrm{C}}$	$V_{CE} = 10V, I_F = 9mA$	0.3	-	6	mA
	Collector-emitter saturation	n voltage	$V_{\text{CE}(\text{sat})}$	$I_F = 40mA, I_C = 0.1mA$	-	-	0.4	V
	Response time	Rise time	$t_{\rm r}$	$V_{CE} = 2V$ , $I_{C} = 1mA$	-	3	15	μs
		Fall time	$t_{\mathrm{f}}$	$R_L = 100 \Omega$	-	4	20	μs

Fig. 1 Forward Current vs.
Ambient Temperature

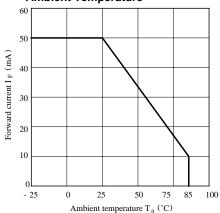


Fig. 3 Peak Forward Current vs. Duty Ratio

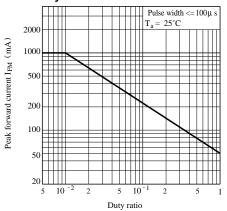


Fig. 2 Collector Power Dissipation vs.
Ambient Temperature

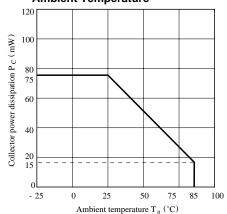


Fig. 4 Forward Current vs.

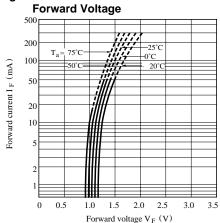


Fig. 5 Collector Current vs. Forward Current

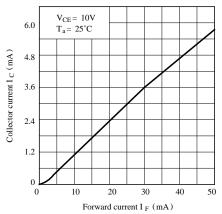


Fig. 7 Collector Current vs.

Ambient Temperature

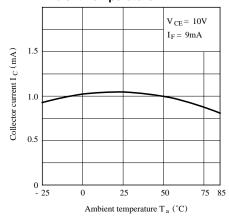


Fig. 9 Response Time vs. Load Resistance

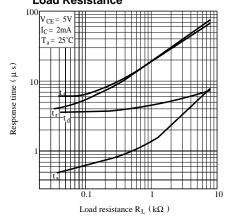


Fig. 6 Collector Current vs.
Collector-emitter Voltage

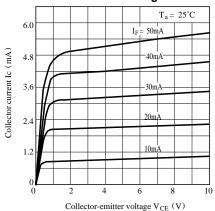
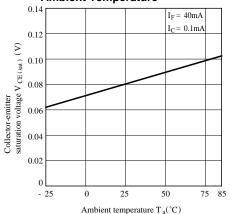


Fig. 8 Collector-emitter Saturation Voltage vs. Ambient Temperature



## **Test Circuit for Response Time**

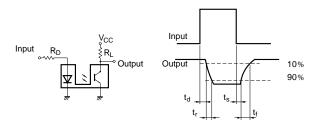


Fig.10 Frequency Response

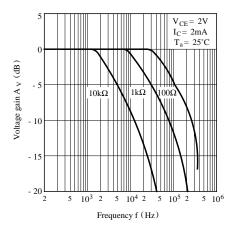
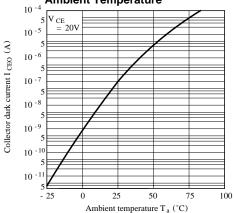


Fig.11 Collector Dark Current vs.
Ambient Temperature



• Please refer to the chapter "Precautions for Use".

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  - Alarm equipment
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