

GP1S561

Compact and Thin Photointerrupter

■ Features

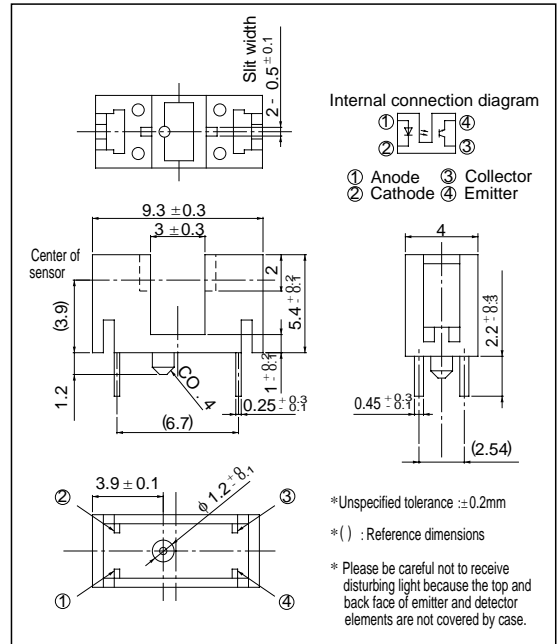
1. Compact and thin package
(Thickness of case: 4mm)
2. With a positioning pin

■ Applications

1. Floppy disk Ratings drivers
2. VCRs

■ Outline Dimensions

(Unit : mm)



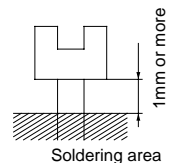
■ Absolute Maximum Ratings

(Ta = 25°C)

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	50	mA
	*1 Peak forward current	I_{FM}	1	A
	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
Operating temperature		T_{opr}	- 25 to + 85	°C
Storage temperature		T_{stg}	- 40 to + 100	°C
*2 Soldering temperature		T_{sol}	260	°C

*1 Pulse width $\leq 100\mu\text{s}$, Duty ratio: 0.01

*2 For 3 seconds



Electro-optical characteristics

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

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit	
Input	Forward voltage	V_F	$I_F = 20\text{mA}$	-	1.25	1.4	V	
	Peak forward voltage	V_{FM}	$I_{FM} = 0.5\text{A}$	-	3	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	100	nA	
Transfer characteristics	Collector current	I_C	$V_{CE} = 10\text{V}, I_F = 9\text{mA}$	0.3	-	6	mA	
	Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_F = 40\text{mA}, I_C = 0.1\text{mA}$	-	-	0.4	V	
	Response time	Rise time	t_r	$V_{CE} = 2\text{V}, I_C = 1\text{mA}$	-	3	15	μs
		Fall time	t_f	$R_L = 100\Omega$	-	4	20	μs

Fig. 1 Forward Current vs. Ambient Temperature

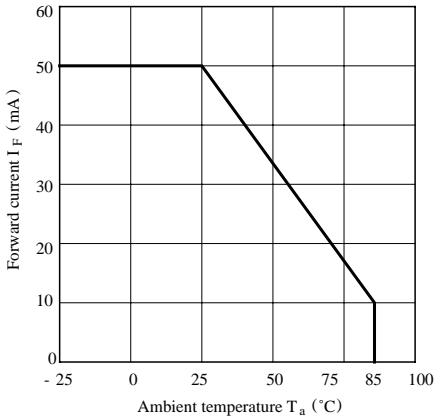


Fig. 2 Collector Power Dissipation vs. Ambient Temperature

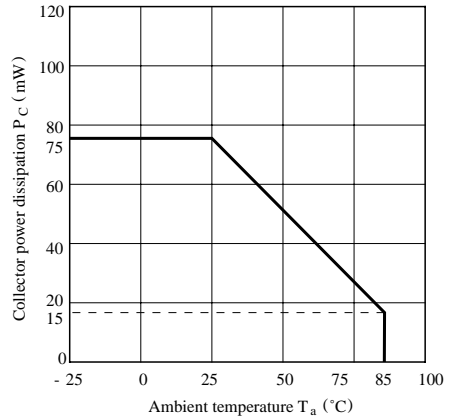


Fig. 3 Peak Forward Current vs. Duty Ratio

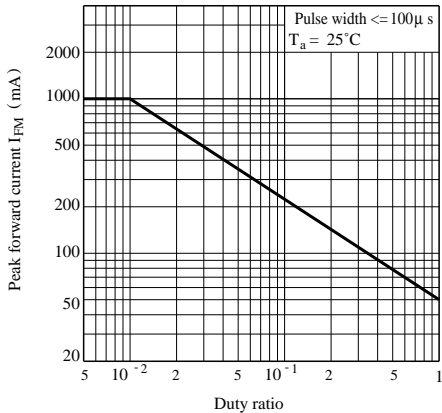


Fig. 4 Forward Current vs. Forward Voltage

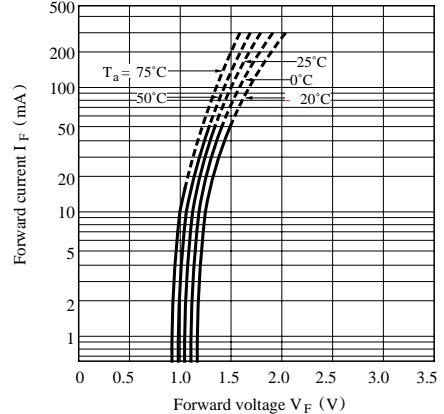


Fig. 5 Collector Current vs. Forward Current

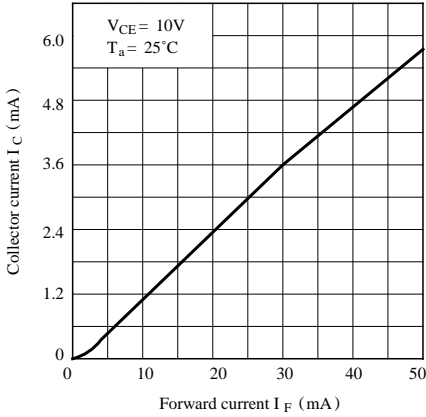


Fig. 6 Collector Current vs. Collector-emitter Voltage

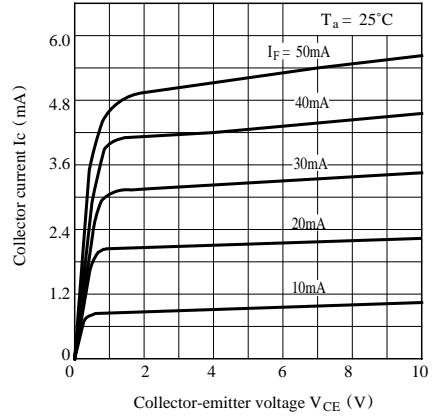


Fig. 7 Collector Current vs. Ambient Temperature

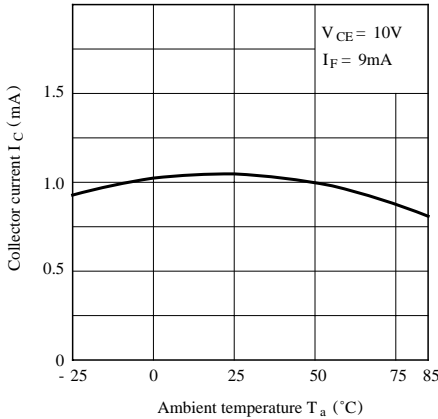


Fig. 8 Collector-emitter Saturation Voltage vs. Ambient Temperature

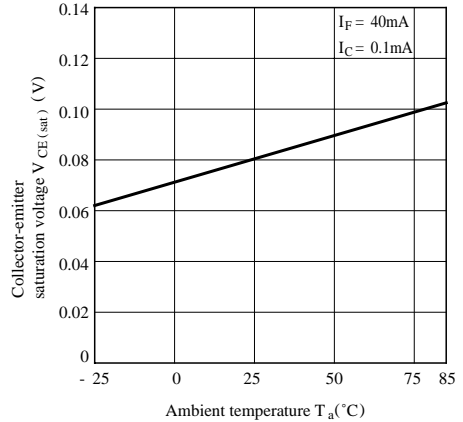
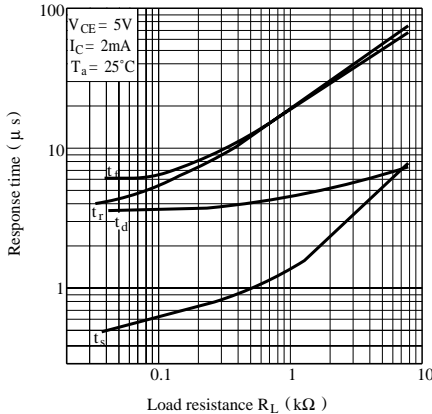


Fig. 9 Response Time vs. Load Resistance



Test Circuit for Response Time

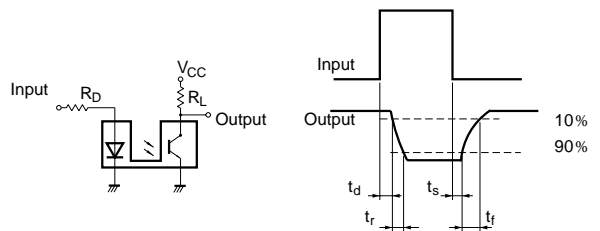


Fig.10 Frequency Response

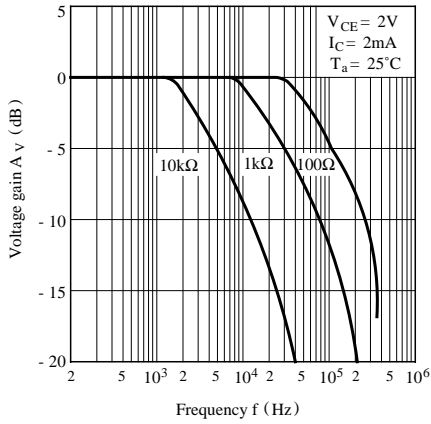
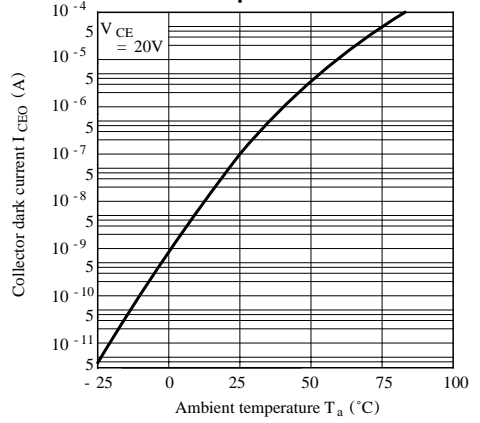


Fig.11 Collector Dark Current vs. Ambient Temperature



- Please refer to the chapter “Precautions for Use”.

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