

GP1 S560

Compact, **High Sensing Accuracy Type**
Photointerrupter

■ Features

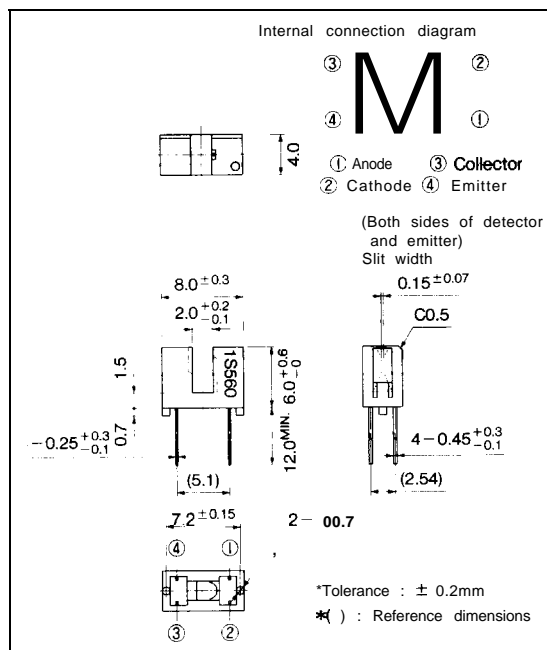
1. High sensing accuracy (Slit width : 0.15mm)
2. Compact (Case height : 6mm)
3. With positioning pin
4. PWB direct mounting type

■ Applications

1. Floppy disk drives
2. VCRs, cassette decks
3. Optoelectronic switches

■ 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 ≤100 μs, 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	$I_F = 20\text{mA}$		1.2	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}	$V_{CE} = 20\text{V}$	—		100	nA
Transfer charac teristics	Current transfer ratio	CTR	$V_{CE} = 5\text{V}$, $I_F = 20\text{mA}$	1	—	—	%
	Collector -emitter saturation voltage	$V_{CE(sat)}$	$I_F = 40\text{mA}$, $I_C = 0.2\text{mA}$			0.4	v
	Response time	Rise time	$V_{CE} = 2\text{V}$, $I_C = 0.5\text{mA}$ $R_L = 1\text{k}\Omega$		38	90	μs
		Fall time		—	48	100	μs

Fig. 1 Forward Current vs. Ambient Temperature

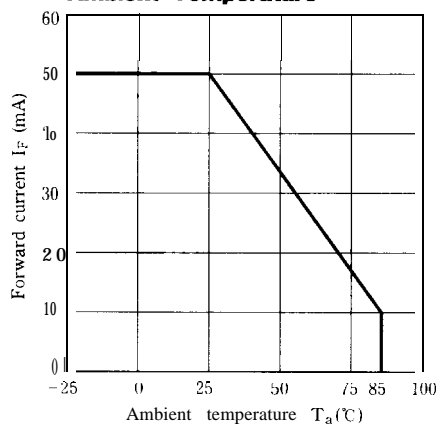


Fig. 2 Collector Power Dissipation vs. Ambient Temperature

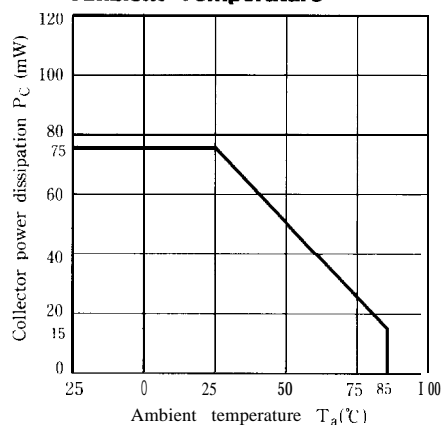


Fig. 3 Peak Forward Current vs. Duty Ratio

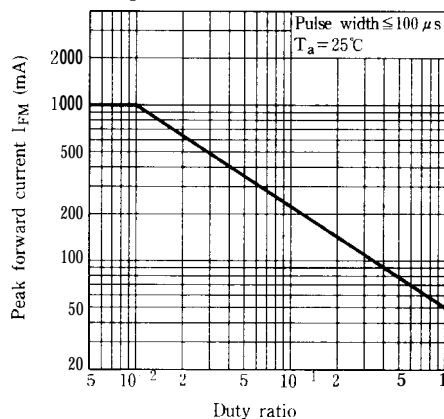


Fig. 4 Forward Current vs. Forward Voltage

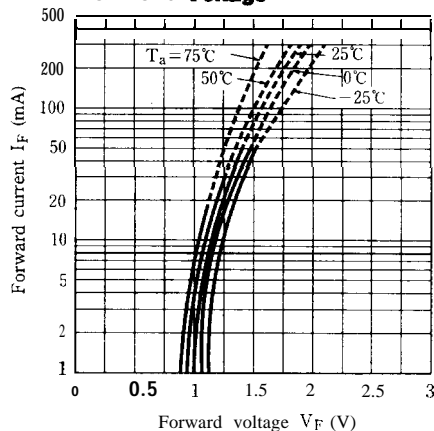


Fig. 5 Collector Current vs. Forward Current

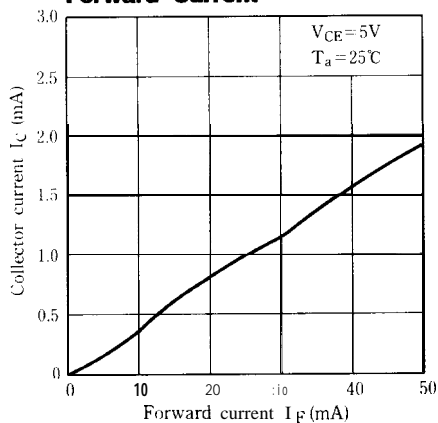


Fig. 7 Collector Current vs. Ambient Temperature

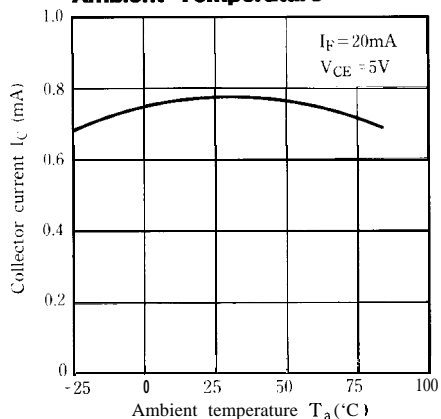


Fig. 9 Response Time vs. Load Resistance

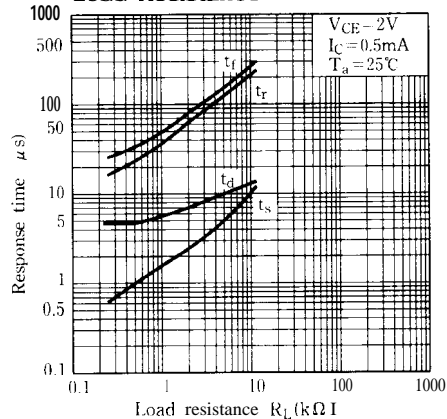


Fig. 6 Collector Current vs. Collector-emitter Voltage

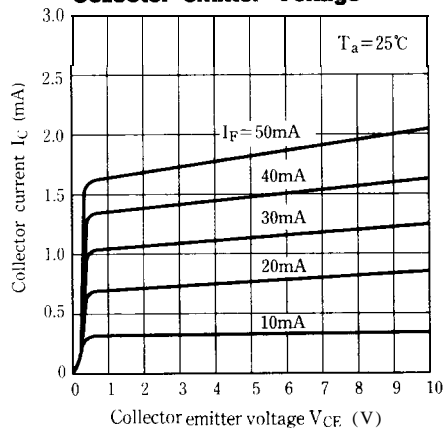
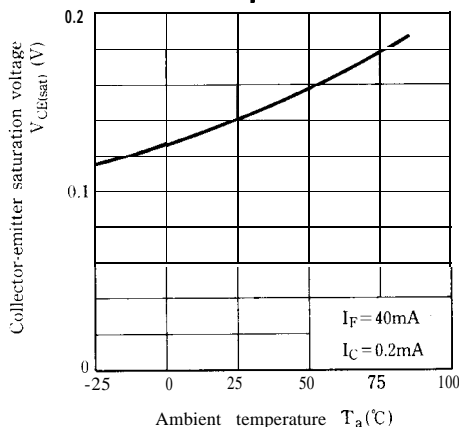


Fig. 8 Collector-emitter Saturation Voltage vs. Ambient Temperature



Test Circuit for Response Time

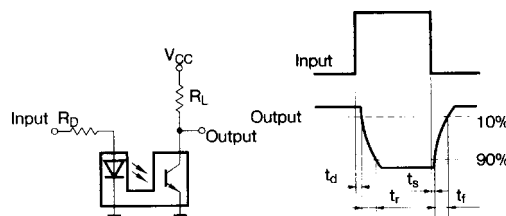
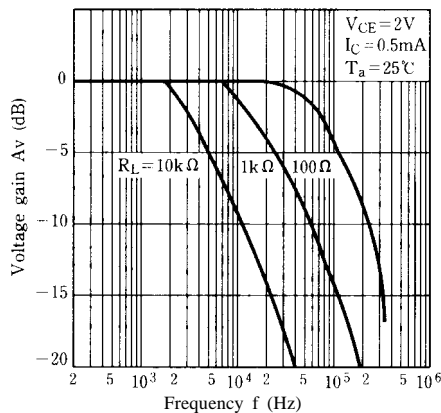
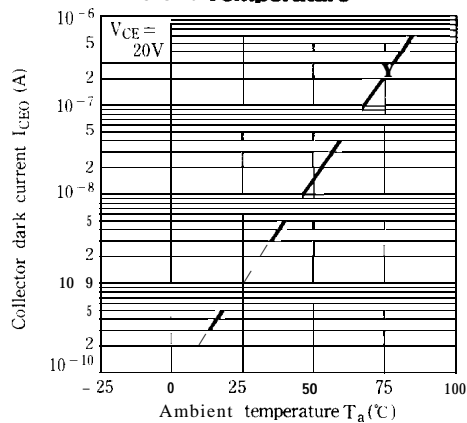
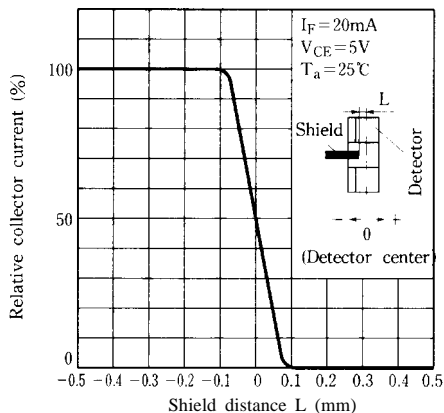
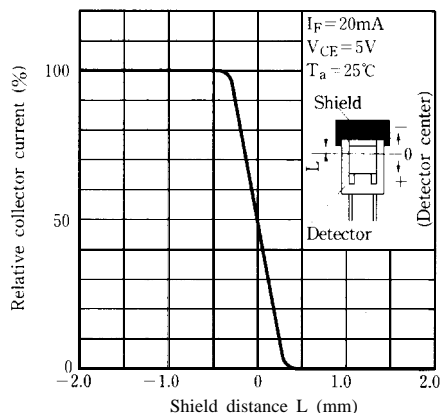


Fig.10 Frequency Response**Fig.11 Collector Dark Current vs. Ambient Temperature****Fig.12 Relative Collector Current vs. Shield Distance (1)****Fig.13 Relative Collector Current vs. shield Distance (2)**

■ Precautions for Use

(1) In case of cleaning, use only the following type of cleaning solvent.

Ethyl alcohol, methyl alcohol, isopropyl alcohol

(2) As for other general cautions, refer to the chapter "Precautions for Use" (Page 78 to 93).