GP1 S56T

Compact, High Sensing Accuracy Type Photointerrupter with Positioning Pin

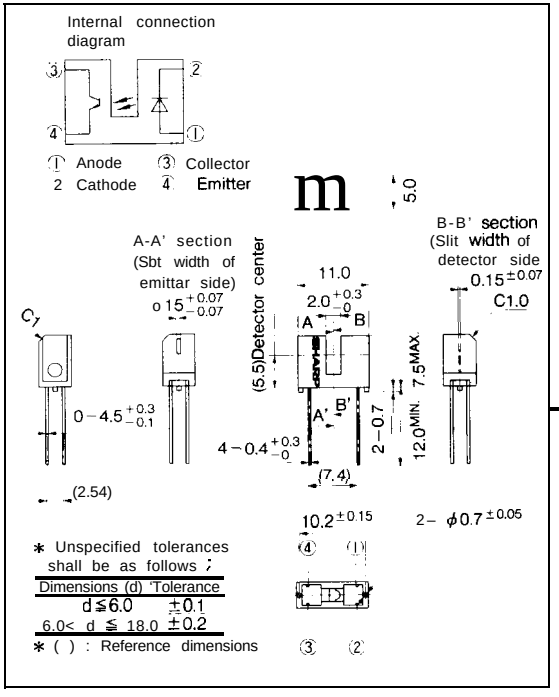
■ Features

1. High sensing accuracy (Slit width : 0.15mm)
2. Compact (Case height : 7.5mm)
3. With positioning pin
4. PWB direct mounting type

■ Applications

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

, Outline Dimensions (Unit : mm)



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■ Absolute Maximum Ratings (Ta=25℃)

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	℃
Storage temperature		T_{stg}	−40 to +100	℃
*2 Soldering temperature		T_{sol}	260	℃

*1 Pulse width ≦ 100 μS, Duty ratio= 0.01
*2 For 5 seconds

■ Electro-optical Characteristics

(Ta=25℃)

Parameter			Symbol	Conditions	MIN.	TYP.	MAX	Unit
Input	Forward voltage		V_F	I_F=20mA		1.2	1.4	V
	Peak forward voltage		V_{FM}	I_{FM}=0.5A	·	3	4	V
	Reverse current		I_R	V_R = 3V		—	10	μA
output	Collector dark current		I_{CEO}	V_{CE}=20V	—	1	100	nA
Transfer charac. teristics	Current transfer ratio		CTR	V_{CE}=5V, I_F= 20mA	2	—	—	%
	Collector -emitter saturation voltage		$V_{CE(sat)}$	IF= 40mA Ic = 0.25mA			0.4	v
	Response time	Rise time	t_r	V_{CE}=2V, I_C=0.5mA	—	38	90	μs
		Fall time	t_r	R_L=1KΩ		48	110	μs

Fig. 1 Forward Current vs. Ambient Temperature

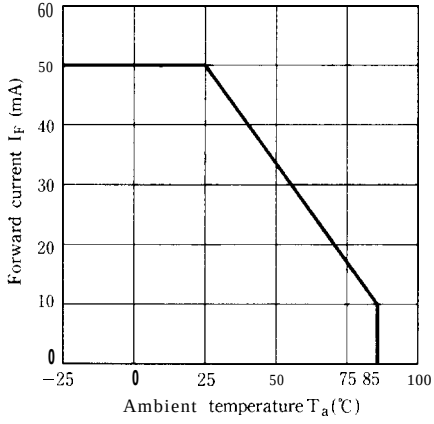


Fig. 2 Collector Power Dissipation vs. Ambient Temperature

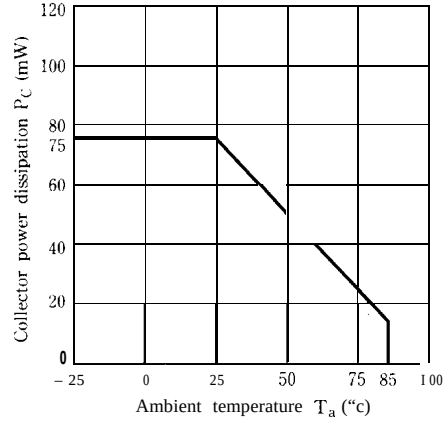


Fig. 3 Paak Forward Current vs. Duty Ratio

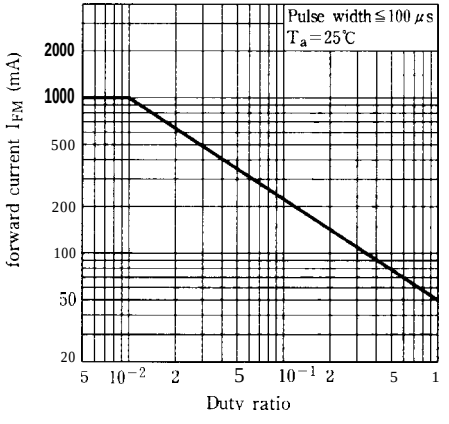


Fig. 4 Forward Currant vs. Forward Voltage

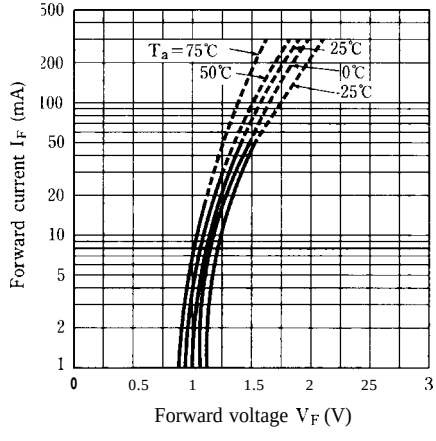


Fig. 5 Collector Current vs. Forward Current

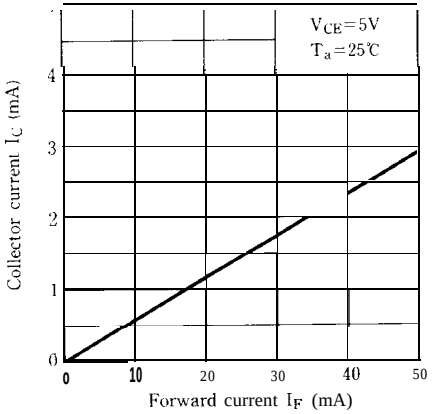


Fig. 6 Collector Current vs. Collector-emitter Voltage

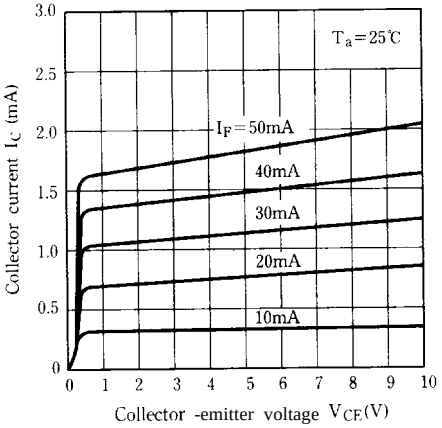


Fig. 7 Collector Current vs. Ambient Temperature

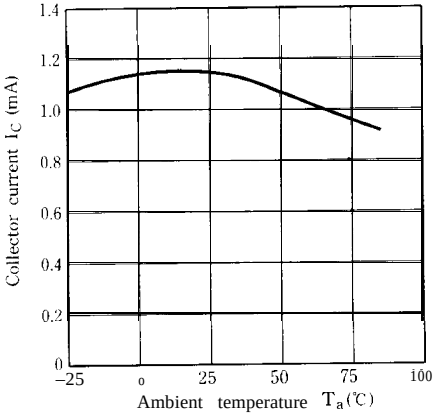


Fig. 8 Collector-emitter Saturation Voltage vs. Ambient Temperature

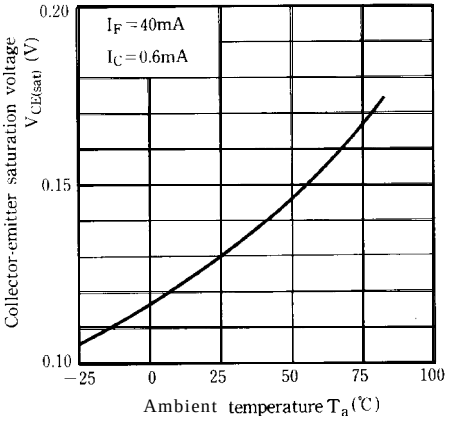
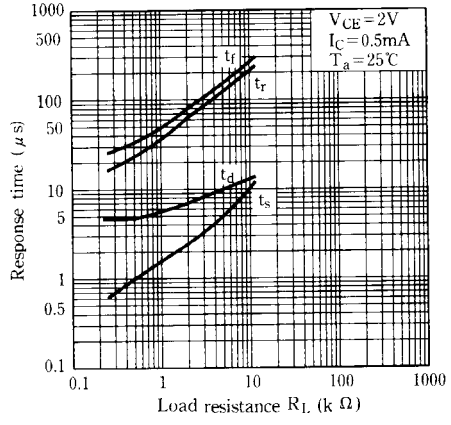


Fig. 9 Response Time vs. Load Resistance



Test Circuit for Response Time

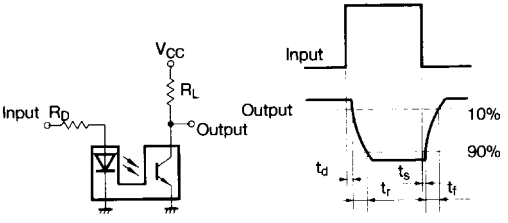


Fig.10 Frequency Response

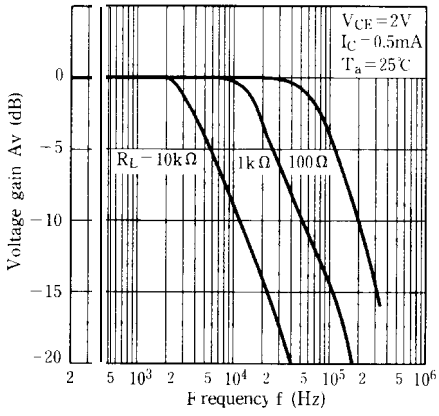


Fig.11 Collector Dark Current vs. Ambient Temperature

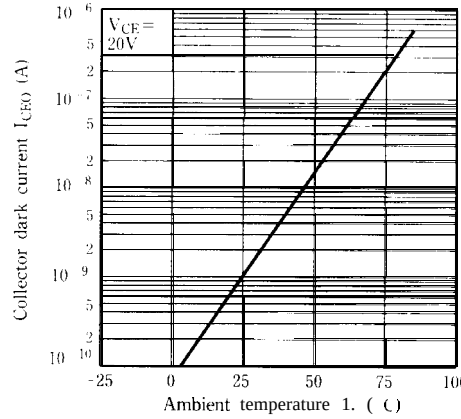


Fig.12 Relative Collector Current vs. Shield Distance (1)

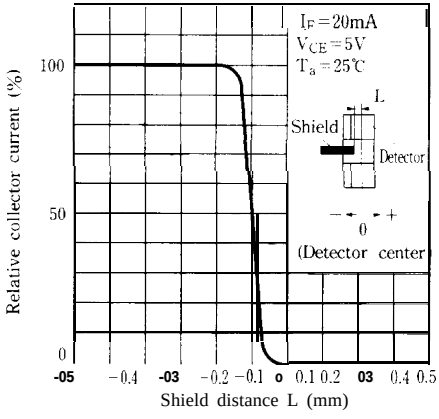
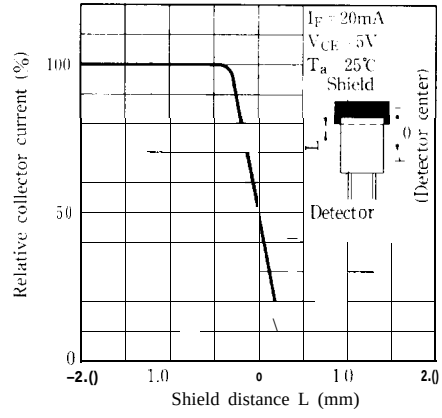


Fig.13 Relative Collector current vs. Shield Distance (2)



■ 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)