GP1S72P/GP1SQ72P Compact Photointerrupter with Connector

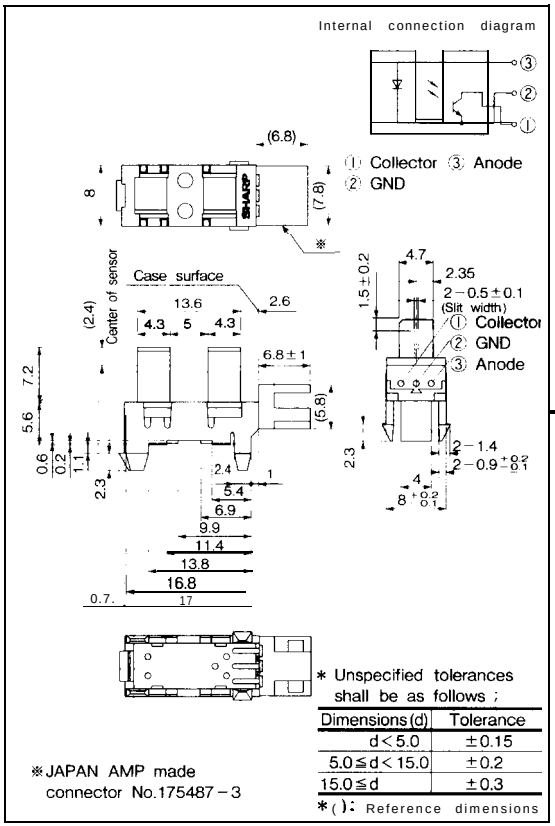
■ Features

1. Compact package
2. Snap-in mounting type
3. Can be mounted on 3 different thickness boards (1.0mm, 1.2mm, 1.6mm)

■ Applications

1. Copiers
2. Laser beam printers
3. Facsimiles

■ Outline Dimensions (Unit : mm)



■ Absolute Maximum Ratings (Ta = 25℃)

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	50	mA
	*1 Peak forward current	V_{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	GP1S72P	T_{opr}	− 25 to + 75	℃
	GP1SQ72P		− 25 to + 85	
Storage temperature		T_{stg}	− 40 to + 85	℃

*1 Pulse width ≦ 1 0(1 μs, Duty ratio 0.01

■ Electro-optical Characteristics (Ta = 25℃)

Parameter			Symbol	Condition	MIN.	TYP.	MAX	Unit
Input	Forward voltage		VF	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			- 1 o	μA
output	Collector dark current		I_{CEO}	V_{CE} = 20V		1	100	nA
Transfer characteristics	Collector current		I_C	V_{CE} = 5V, I_F = 20mA	0.5	—	15	mA
	Collector emitter saturation voltage		$V_{CE(sat)}$	I_F = 40mA, I_C = 0.5mA	·	—	0.5	V
	Response time	Rise time	t_r	V_{CE} = 2V, I_C = 2mA		3	15	μs
		Fall time	t_f	R_L = 100Ω	·	4	20	μs

Fig. 1 Forward Current vs. Ambient Temperature

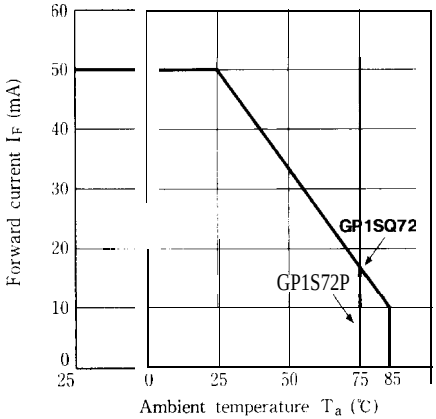


Fig. 2-a Collector Power Dissipation vs. Ambient Temperature (GP1 S72P)

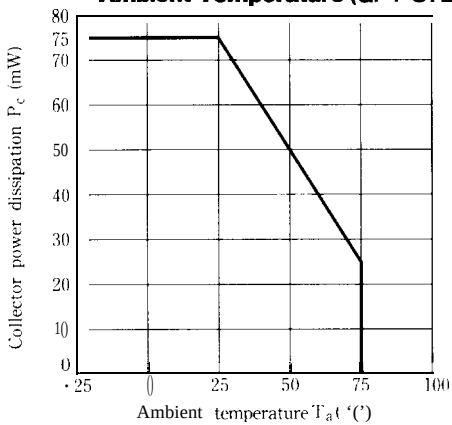


Fig. 2-b **Collector Powsr Dissipation vs. Ambient Temperature (GP1SQ72P)**

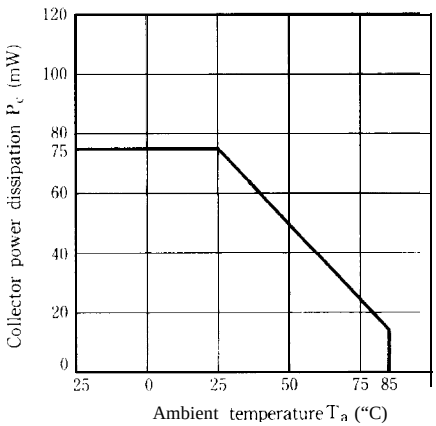


Fig. 3 Paak Forward Current vs. Duty Ratio

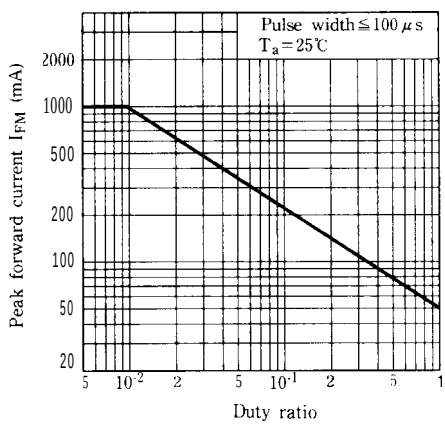


Fig. 4 Forward Current vs. Forward Voltage

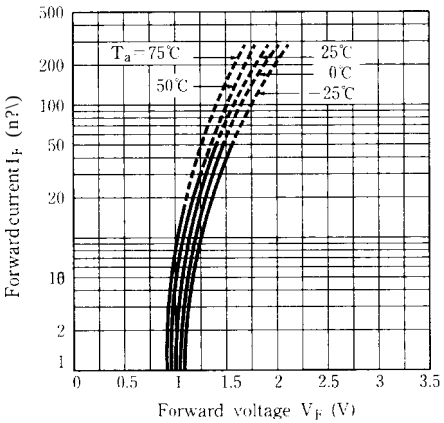


Fig. 5 Collector Current vs. Forward Current

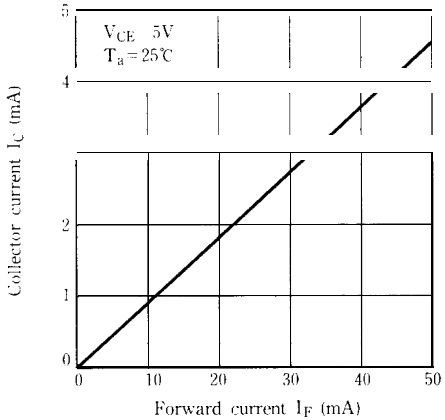


Fig. 6 Collector Current vs. Collector-emitter Voltage

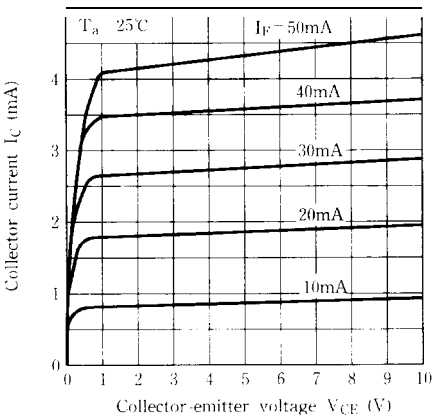


Fig. 7-a Collector Current vs. Ambient Temperature (GP1S72P)

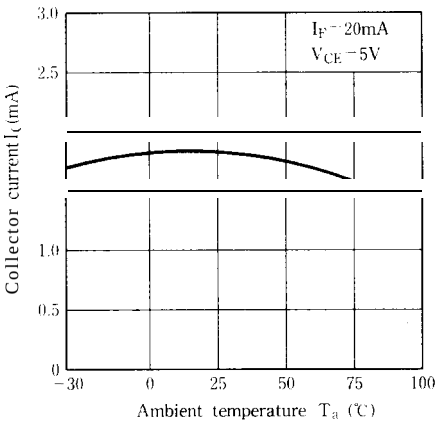


Fig. 7-b Collector Current vs. Ambient Temperature (GP1SQ72P)

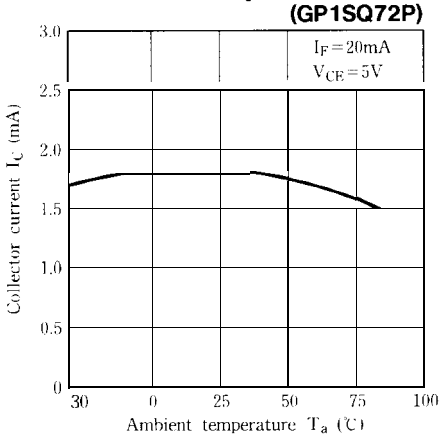


Fig. 8-a Collector-emitter Saturation Voltage vs. Ambient Temperature (GP1S72P)

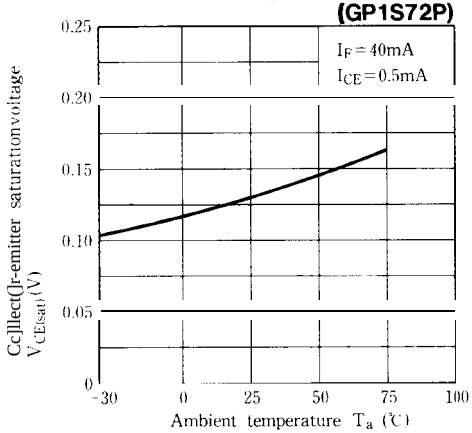


Fig. 8-b Collector-emitter Saturation Voltage vs. Ambient Temperature (GP1SQ72P)

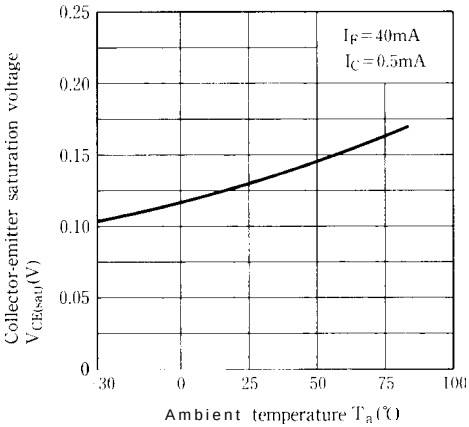


Fig. 9 Response Time vs. Load Resistance

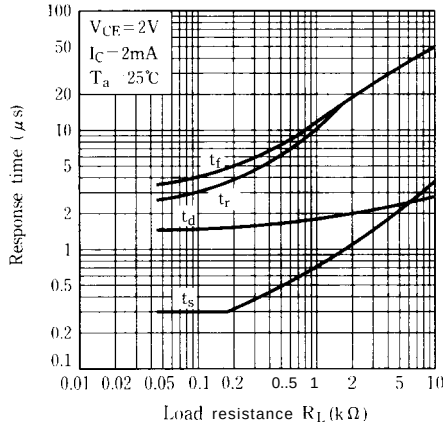
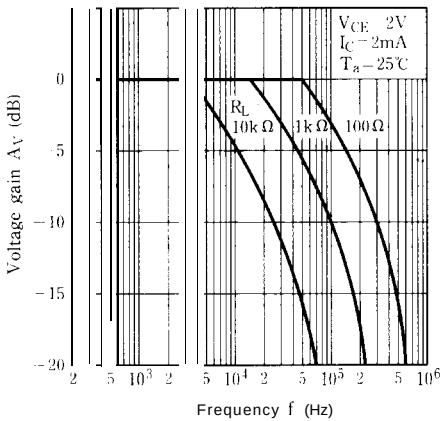


Fig.10 Frequency Response



Test Circuit for Response Time

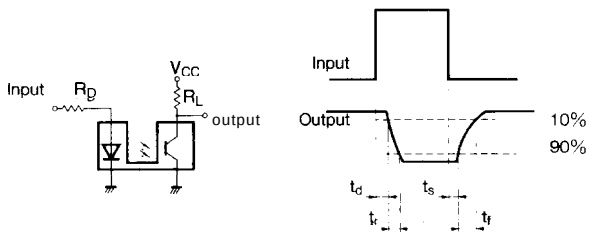


Fig.11-a Collector Dark Currant vs. Ambient Temperature (GP1S72P)

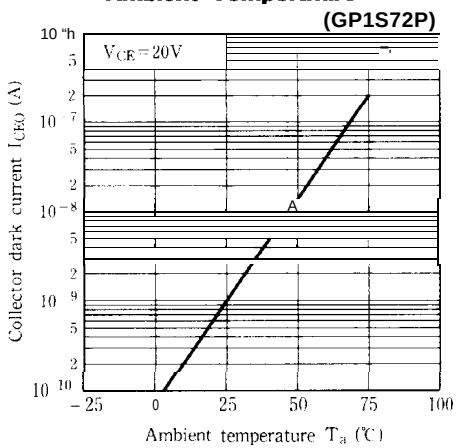


Fig.11-b Collector Dark Current vs. Ambient Temperature (GP1SQ72P)

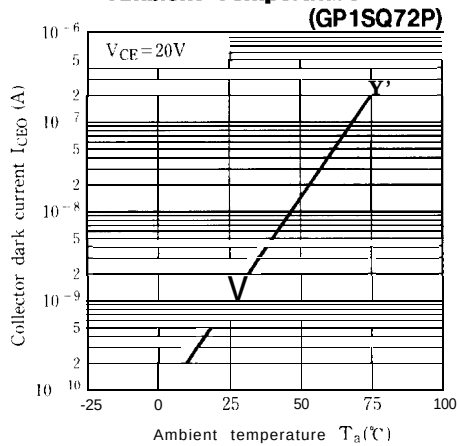


Fig.12 Relative Current vs. **Shield Distance** (1)

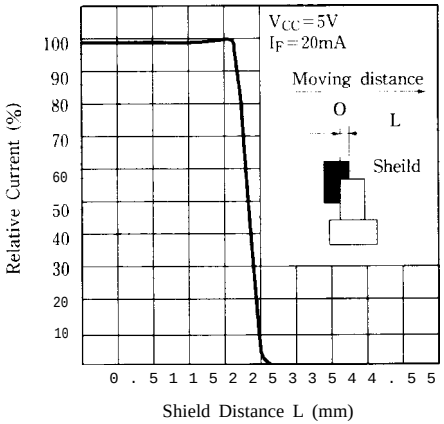
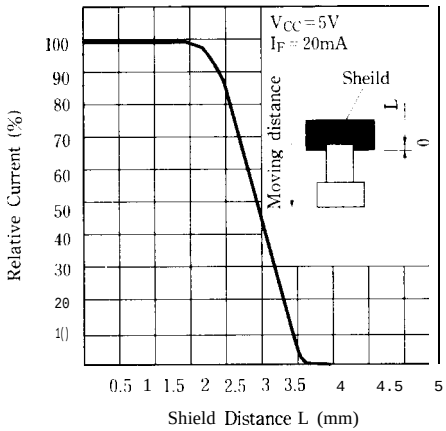


Fig.13 Relative **Current** vs. **Shield Distance** (2)



● Please refer to the chapter "Precautions for Use" (Page 78 to 93)