

GP1S97

Subminiature, Transmissive Type Photointerrupter

■ Features

1. Compact package (5.0 × 3.4 × 5.2mm)
2. With mounting hole
3. Gap width : 2.2mm
4. Slit width (detector side) : 0.3mm

■ Applications

1. DVD players
2. CD-ROM drives
3. Floppy disk drives

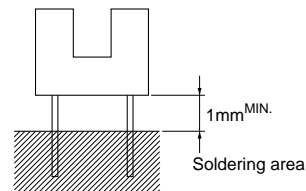
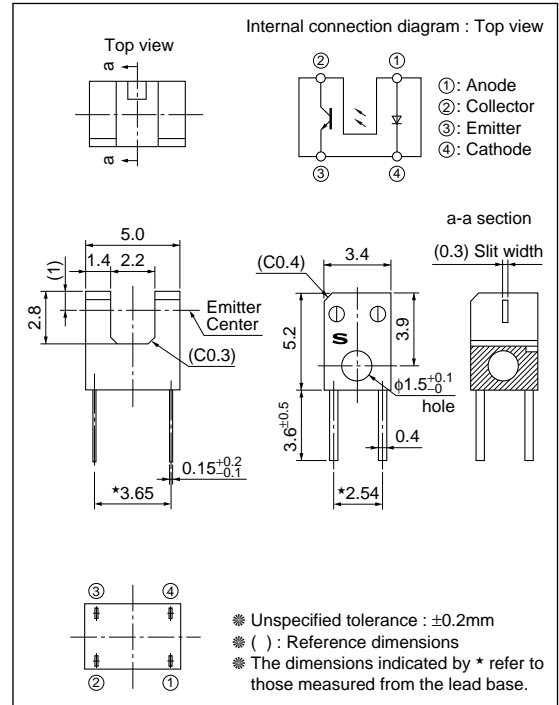
■ Absolute Maximum Ratings (Ta=25°C)

	Parameter	Symbol	Rating	Unit
Input	Forward current	I _F	50	mA
	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
	Total power dissipation	P _{tot}	100	mW
	Operating temperature	T _{opr}	-25 to +85	°C
	Storage temperature	T _{sig}	-40 to +100	°C
	*1 Soldering temperature	T _{sol}	260	°C

*1 For 5s or less

■ Outline Dimensions

(Unit : mm)



■ 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
	Reverse current	I_R	$V_R=3\text{V}$	—	—	10	μA
Output	Collector dark current	I_{CE0}	$V_{CE}=20\text{V}$	—	—	100	nA
Transfer characteristics	Collector current	I_C	$V_{CE}=5\text{V}, I_F=5\text{mA}$	80	—	400	μA
	Response time	Rise time	t_r	—	50	150	μs
		Fall time	t_f				
				$V_{CE}=5\text{V}, I_C=100\mu\text{A}$ $R_L=1\ 000\Omega$			
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_F=10\text{mA}, I_C=40\mu\text{A}$	—	—	0.4	V

Fig.1 Forward Current vs. Ambient Temperature

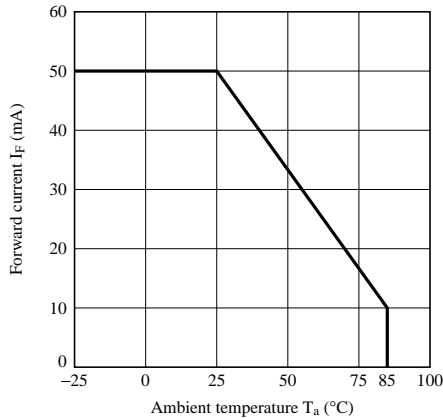


Fig.2 Power Dissipation vs. Ambient Temperature

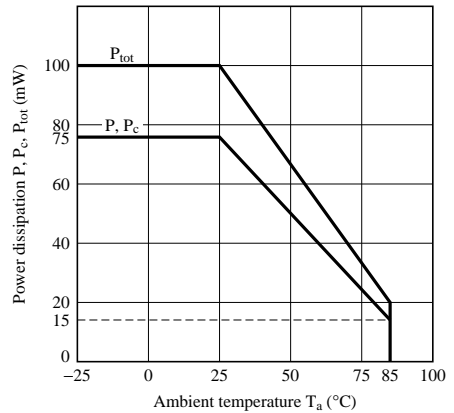


Fig.3 Forward Current vs. Forward Voltage

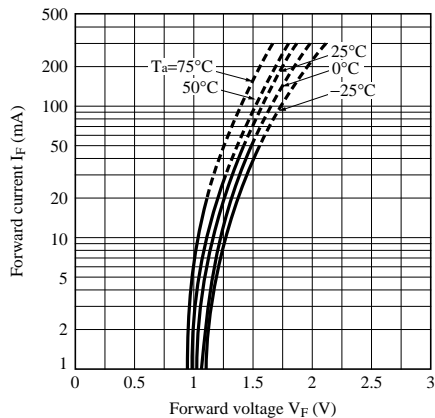


Fig.4 Collector Current vs. Forward Current

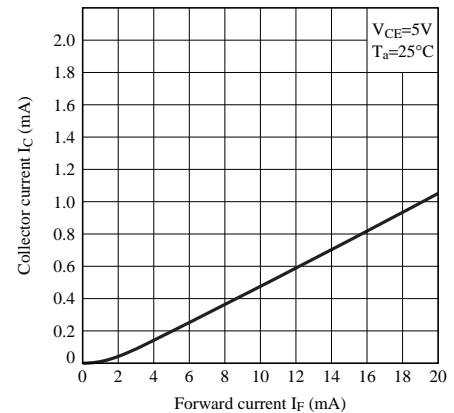


Fig.5 Collector Current vs. Collector-emitter Voltage

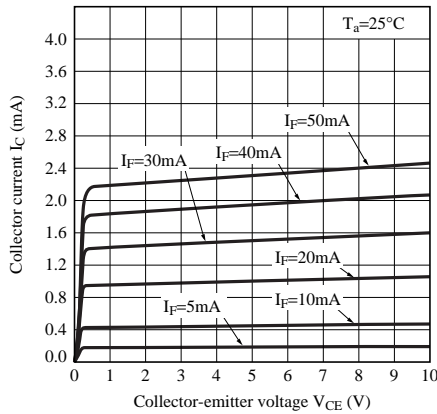


Fig.6 Relative Collector Current vs. Ambient Temperature

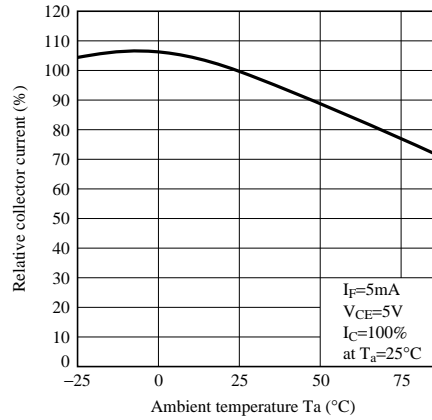


Fig.7 Collector-emitter Saturation Voltage vs. Ambient Temperature

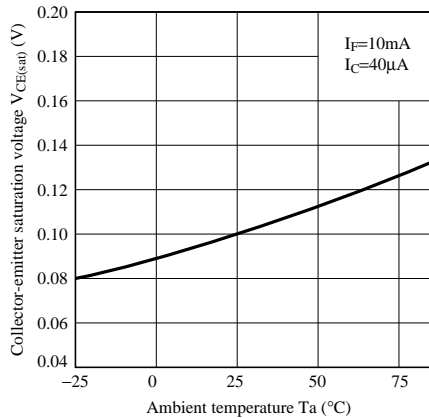


Fig.8 Collector Dark Current vs. Ambient Temperature

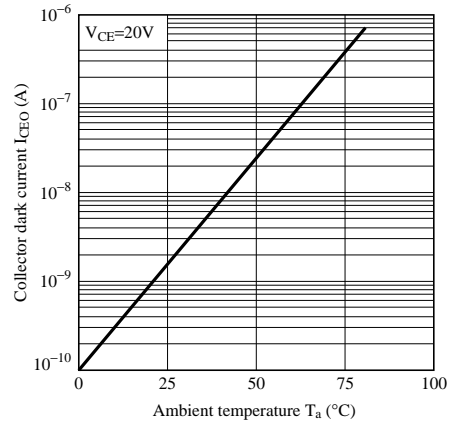


Fig.9 Response Time vs. Load Resistance

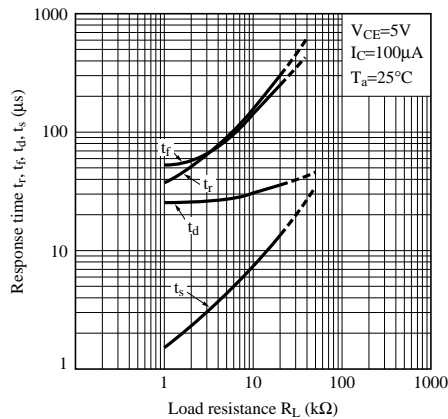


Fig.10 Test Circuit for Response Time

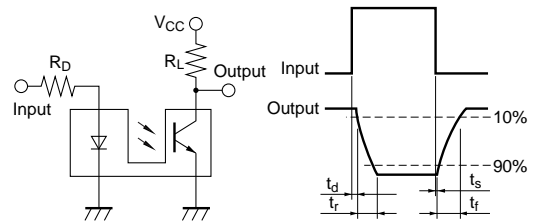


Fig.11 Relative Collector Current vs. Shield Distance (1) (Typical Value)

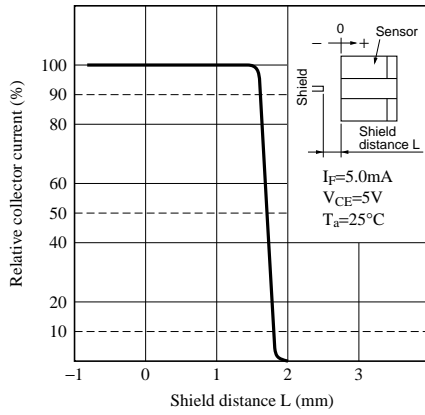
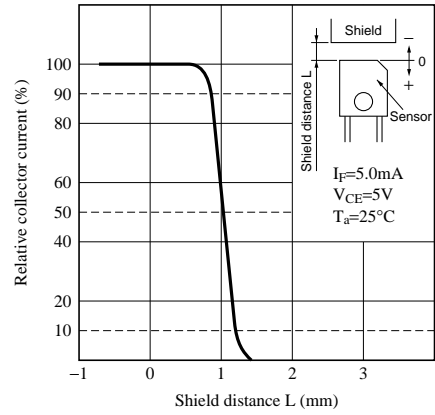


Fig.12 Relative Collector Current vs. Shield Distance (2) (Typical Value)



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