

GP1S093HCZ

Subminiature, Low Profile, Transmissive Type Photointerrupter

■ Features

1. General purpose
2. Low profile(Height:2.9mm)
3. Wide gap(Gap width:2.0mm)
4. Slit width(Detector side):0.3mm

■ Applications

1. Cameras
2. CD-ROM drives
3. VCR

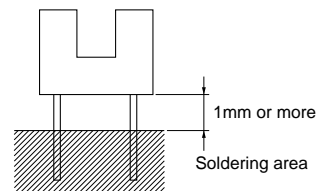
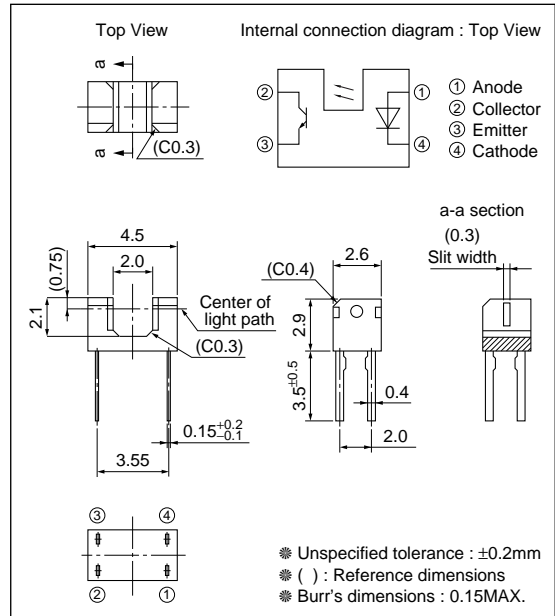
■ Absolute Maximum Ratings (Ta=25°C)

	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_{stg}	-40 to +100	°C
	*1 Soldering temperature	T_{sol}	260	°C

*1 For MAX. 5s

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

Fig.1 Forward Current vs. Ambient Temperature

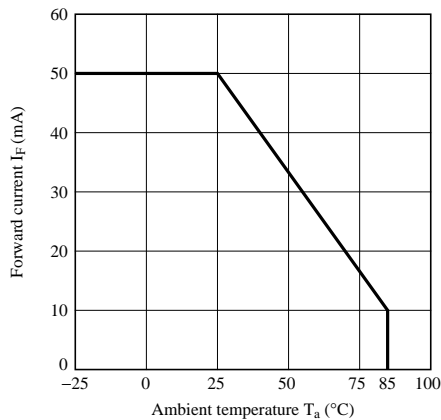


Fig.2 Power Dissipation vs. Ambient Temperature

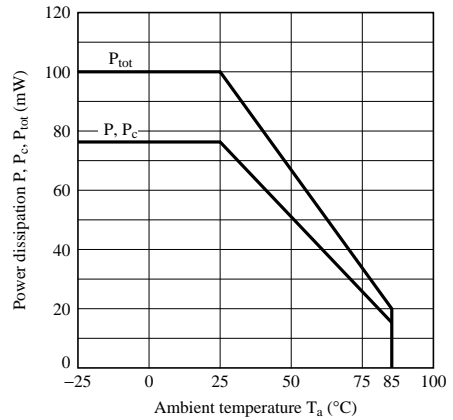


Fig.3 Forward Current vs. Forward Voltage

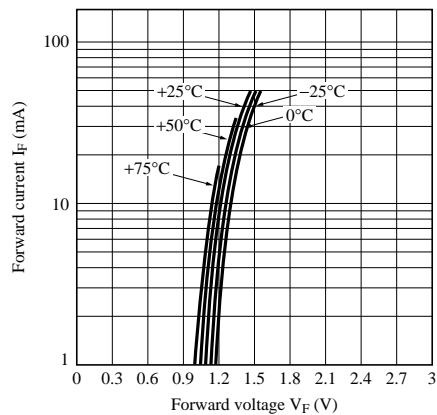


Fig.4 Collector Current vs. Forward Current

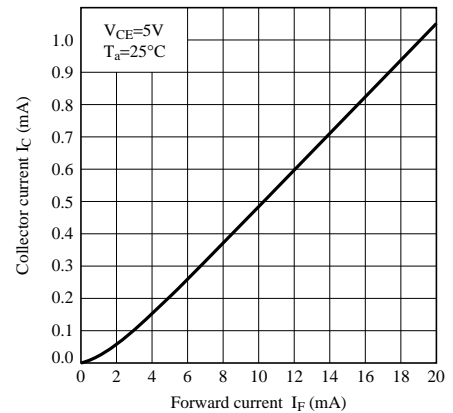


Fig.5 Collector Current vs. Collector-emitter Voltage

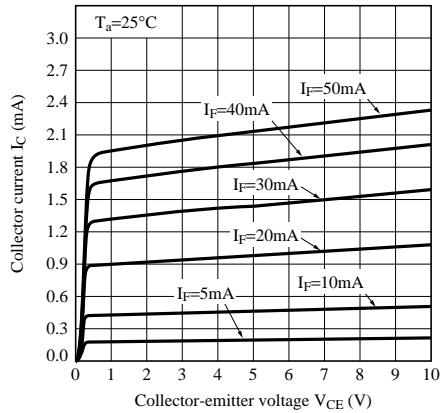


Fig.6 Relative Collector Current vs. Ambient Temperature

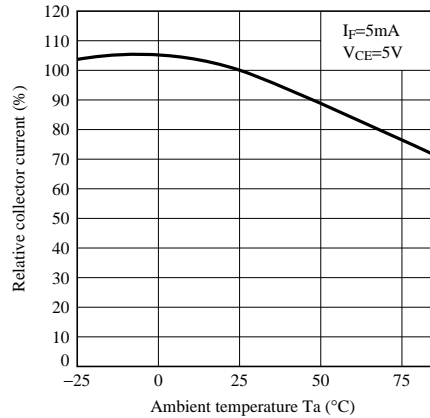


Fig.7 Collector - emitter Saturation Voltage vs. Ambient Temperature

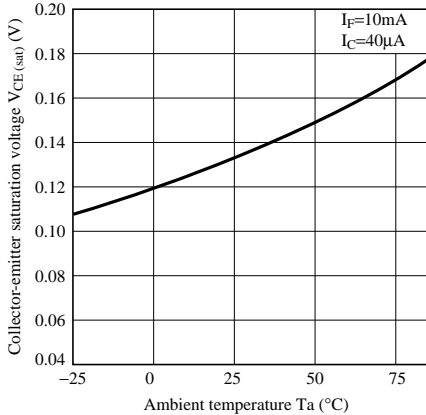


Fig.8 Collector Dark Current vs. Ambient Temperature

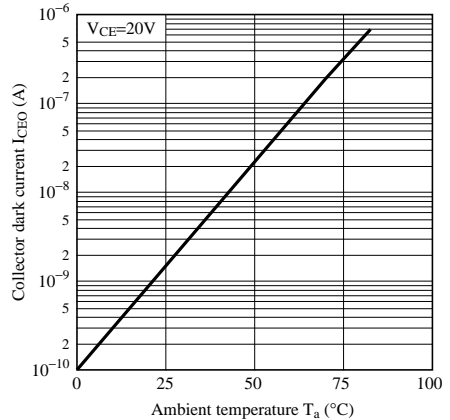


Fig.9 Response Time vs. Load Resistance

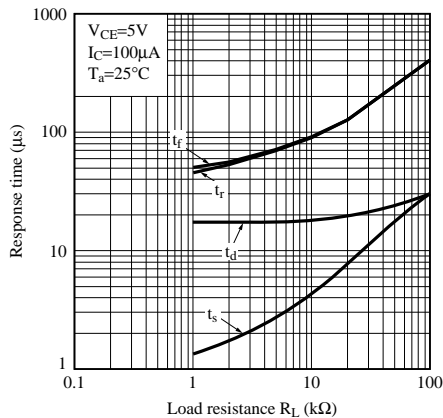


Fig.10 Test Circuit for Response Time

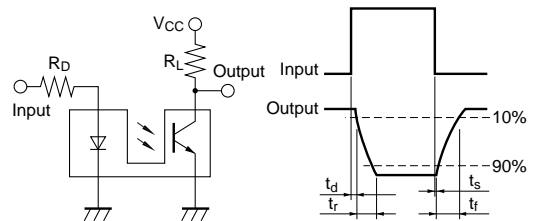


Fig.11 Relative Collector Current vs. Shield Distance (1)

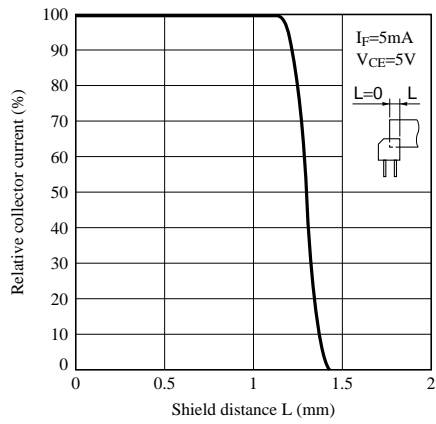
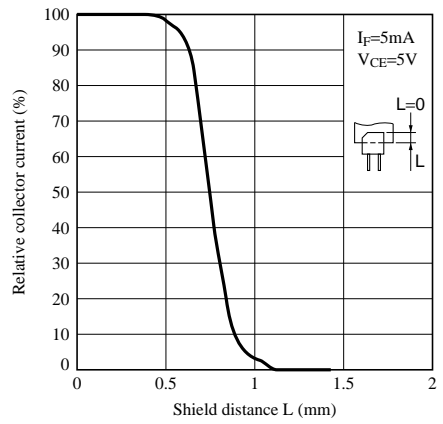


Fig.12 Relative Collector Current vs. Shield Distance (2)



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