

GP1S94

Subminiature Wide-gap Type Photointerrupter

■ Features

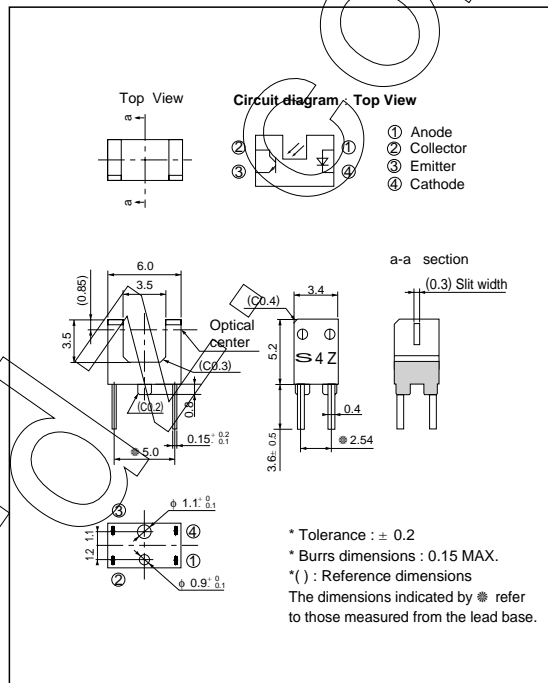
1. Subminiature wide-gap type
2. Emitter-detector gap width : 3.5 mm
3. Slit : (0.3) mm
4. With positioning boss

■ Applications

1. FDDs
2. Laser disc players
3. VCRs

■ Outline Dimensions

(Unit : mm)

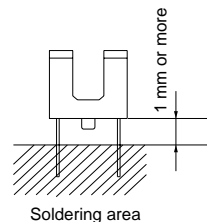


■ Absolute Maximum Ratings

(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
Soldering temperature		T_{sol}	260	°C

*1 For MAX. 5 seconds



Electro-optical Characteristics

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

Fig. 1 Forward Current vs. Ambient Temperature

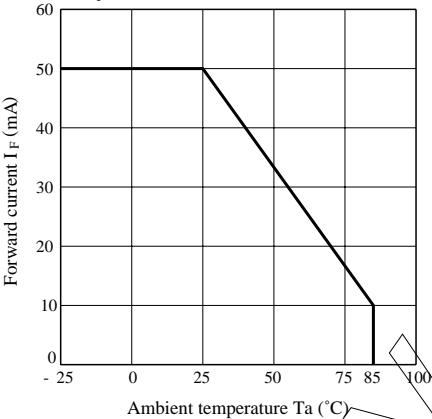


Fig. 2 Power Dissipation vs. Ambient Temperature

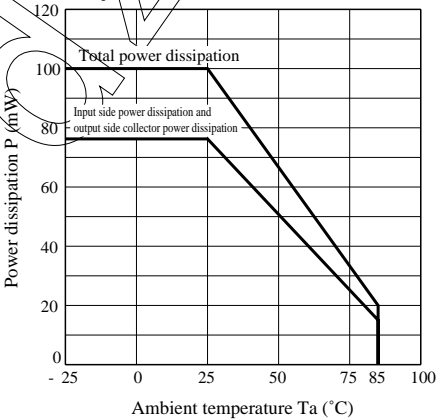


Fig. 3 Forward Current vs. Forward Voltage

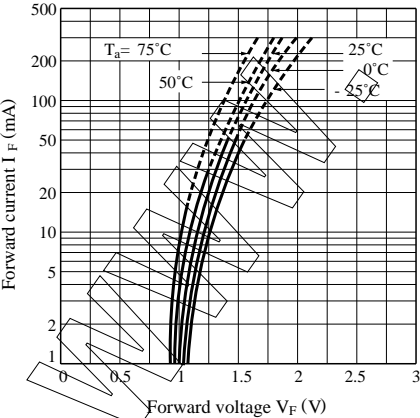


Fig. 4 Collector Current vs. Forward Current

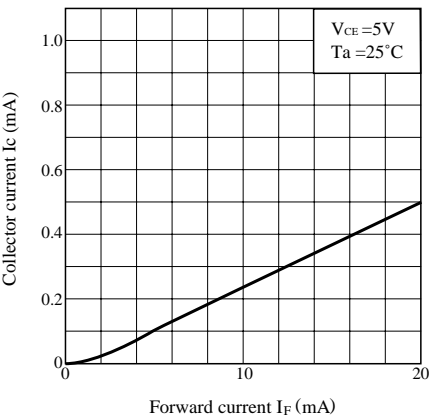


Fig. 5 Collector Current vs. Collector-emitter Voltage

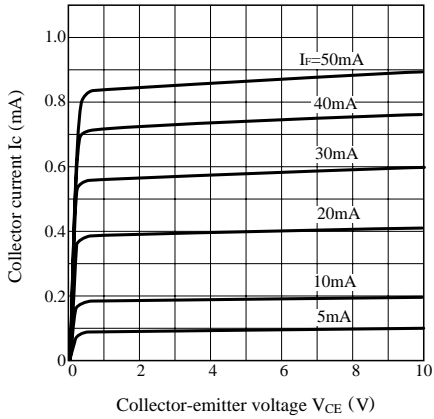


Fig. 7 Collector-emitter Saturation Voltage vs. Ambient Temperature

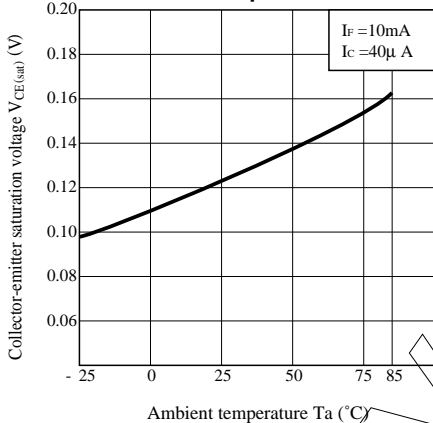


Fig. 9 Response Time vs. Load Resistance

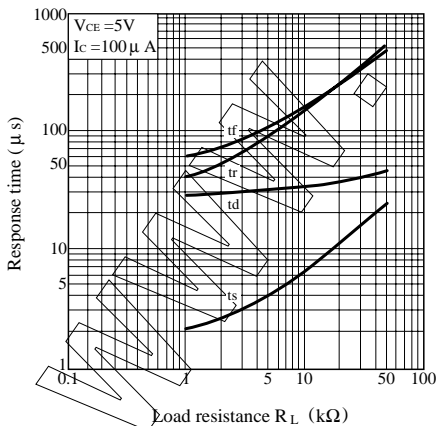


Fig. 6 Relative Collector Current vs. Ambient Temperature

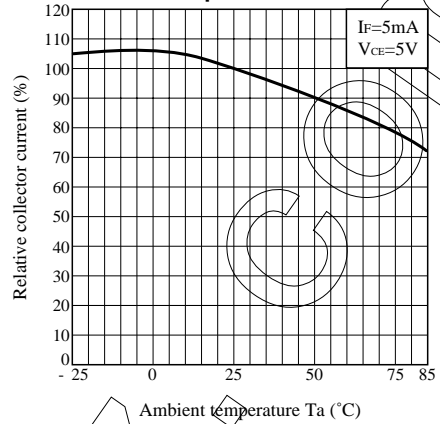
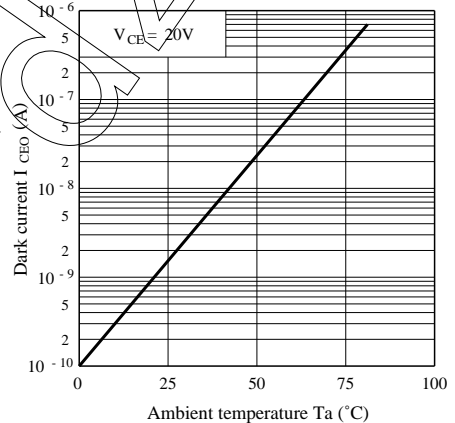


Fig. 8 Dark Current vs. Ambient Temperature



Test Circuit for Response Time

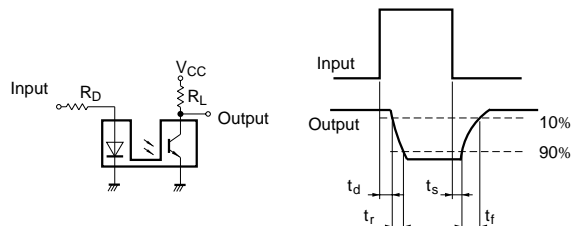


Fig. 10 Detecting Position Characteristics (1)

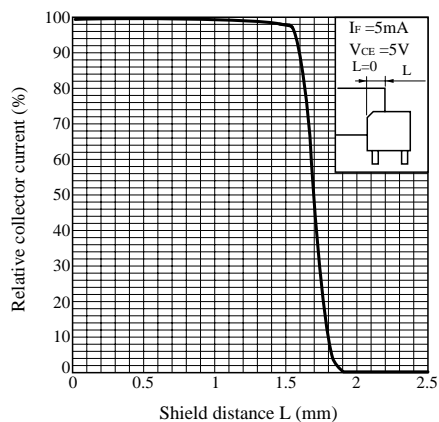
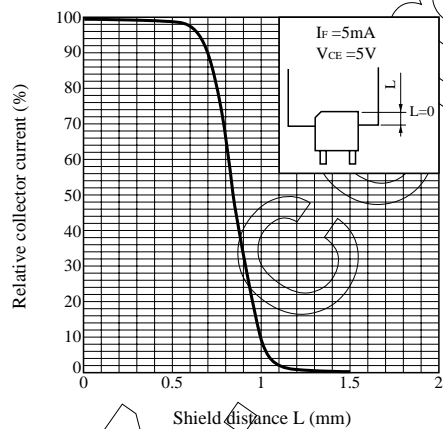


Fig. 11 Detecting Position Characteristics (2)



● Please refer to the chapter "Precautions for Use".

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