GP1S24

Subminiature **Photointerrupter**

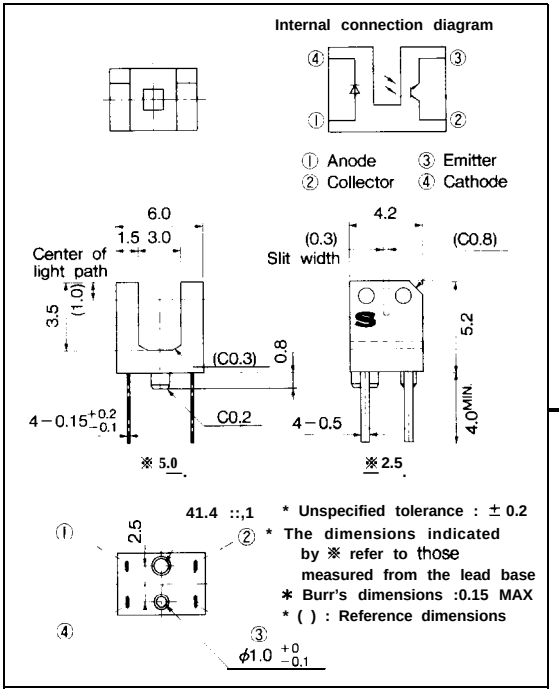
■ Features

1. Compact package
2. PWB mounting type
3. High sensing accuracy (Silt width : 0.3mm)
4. Gap between light emitter and detector(3mm)
5. With a positioning boss

■ Applications

1. Floppy disk drives
2. Laser disc players

■ Outline Dimensions (Unit : mm)



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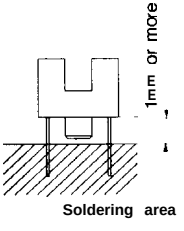
■ Absolute Maximum Ratings (Ta = 25℃)

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	Pc	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	℃



*1 For MAX. 5 seconds

■ Electro-optical Characteristics (Ta=25℃)

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

Fig. 1 Forward **Current vs. Ambient Temperature**

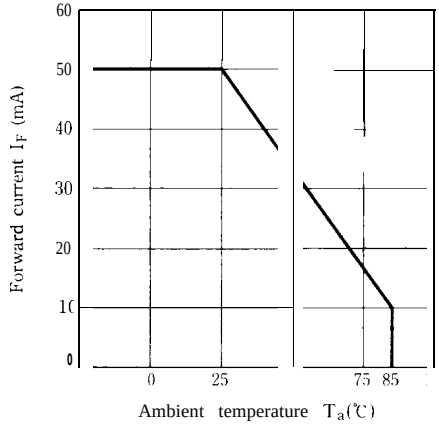


Fig. 2 Power Dissipation vs. Ambient Temperature

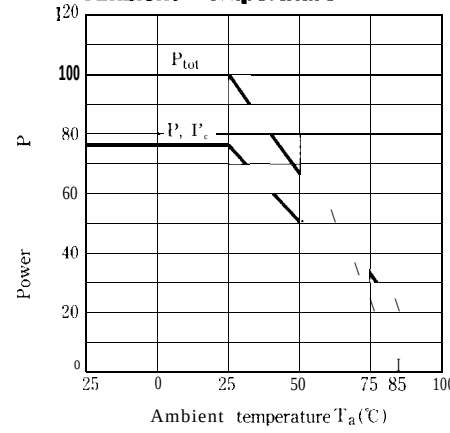


Fig. 3 **Forward Current vs. Forward Voltage**

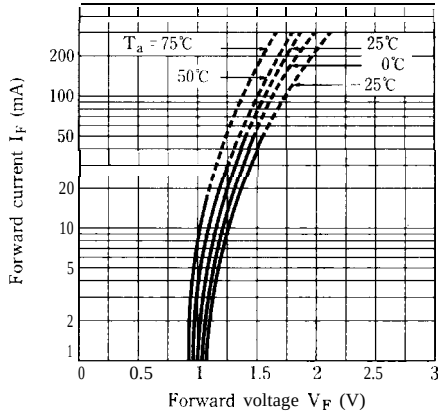


Fig. 4 Collector Current vs. Forward Currant

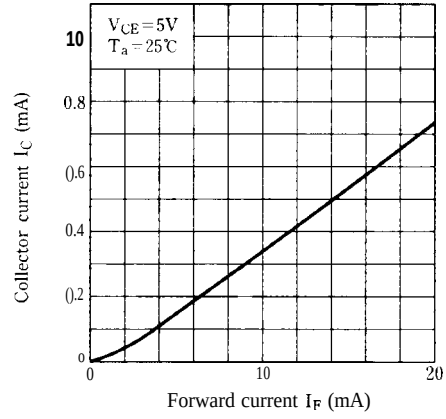


Fig. 5 Collector Current vs. Collector-emiter Voltage

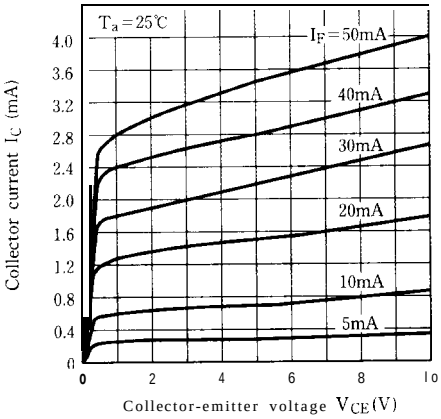


Fig. 6 **Collector** current vs. **Ambient Temperature**

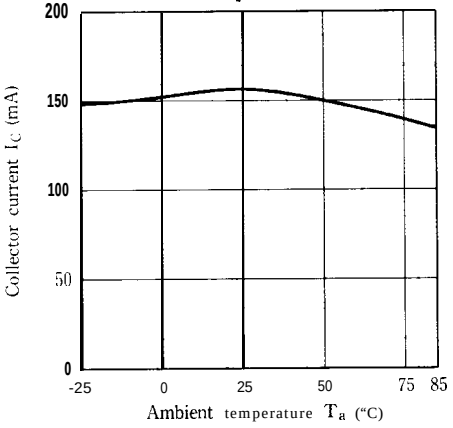


Fig. 7 Collector-emitter Saturation Voltage vs. Ambient Temperature

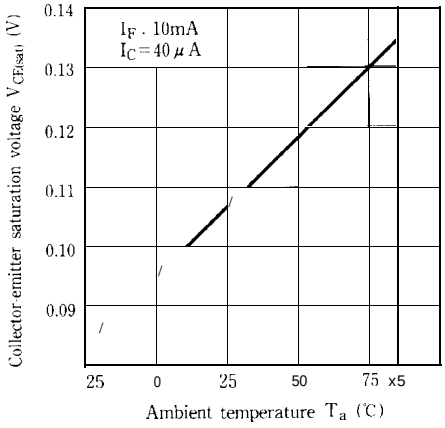


Fig. 8 Collector Dark Current vs. Ambient Temperature

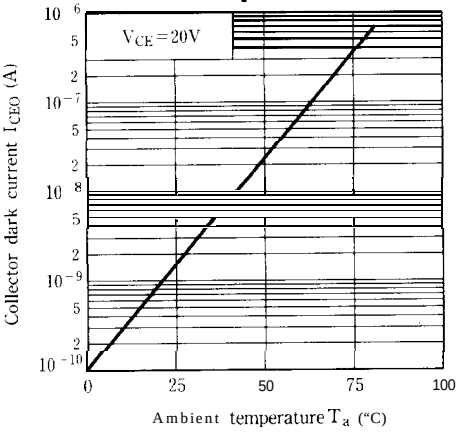
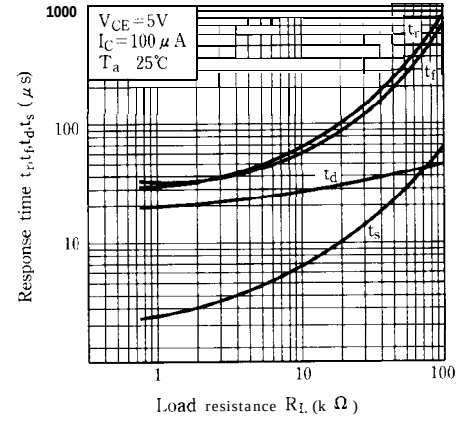


Fig. 9 Response Time vs. Load Resistance



Test Circuit for Response Time

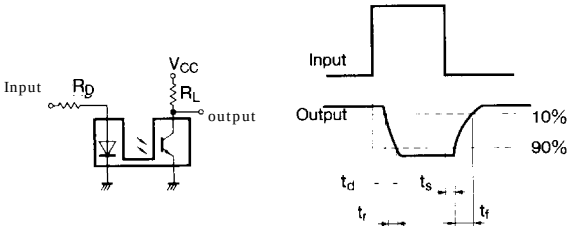


Fig.10 Relative Collector Current vs. Shield Distance (1) R.Ic—L

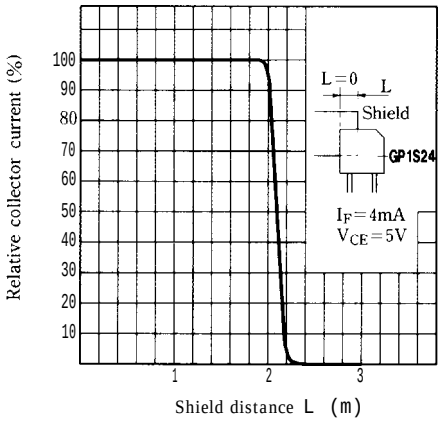
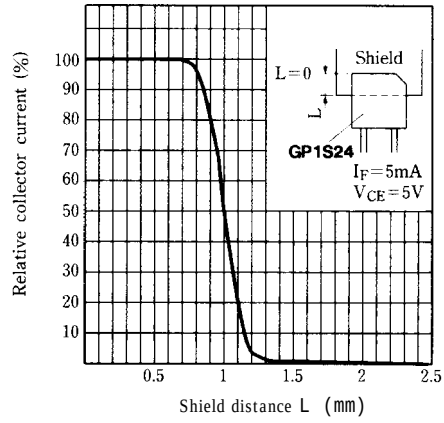


Fig.11 Relative Collector Current vs. Shield Distance (2) R.Ic—L



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