# GP1L50/GP1L51 GP1L52V/GP1L54

## Features

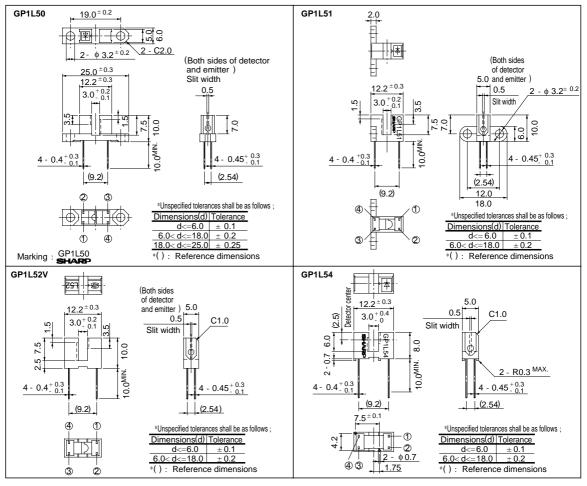
- 1. High sensing accuracy(Slit width:0.5mm)
- 2. High current transfer ratio
  - (CTR: MIN. 50% at I  $_{F}$ = 1mA)
- 3. Both-sides mounting type: GP1L50 (Case height: 10mm)
  Either-side mounting type: GP1L51 (Case height: 10mm)
  PWB direct mounting type: GP1L52V (Case height: 10mm)
  PWB direct mounting type: GP1L54 (Case height: 8mm)
- Outline Dimensions

## High Sensitivity Photointerrupter

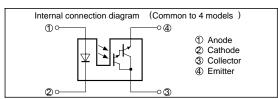
## Applications

- 1. OA equipment, such as floppy disk drives, printers, facsimiles, etc.
- 2. VCRs

(Unit: mm)



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### Absolute Maximum Ratings

 $(Ta = 25^{\circ}C)$ 

	Parameter	Symbol	Rating	Unit	
Input	Forward current	IF	50	mA	
	*1Peak forward current	I <sub>FM</sub>	1	А	
	Reverse voltage	VR	6	5 V	
	Power dissipation	Р	75	mW	
	Collector-emitter voltage	V <sub>CEO</sub>	35	V	
Output	Emitter-collector voltage	V <sub>ECO</sub>	6	V	
Output	Collector current	I <sub>C</sub>	40	mA	
	Collector power dissipation	Pc	75	mW	
	Operating temperature	Topr	T <sub>opr</sub> - 25 to + 85		
Storage temperature		Tstg	- 40 to + 100	°C	
*2Soldering temperature		T <sub>sol</sub>	260	°C	

\*1 Pulse width<= 100 µ s, Duty ratio= 0.01

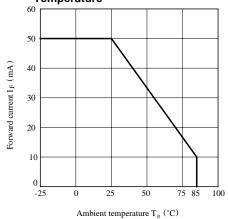
\*2 For 5 seconds

## ■ Electro-optical Characteristics

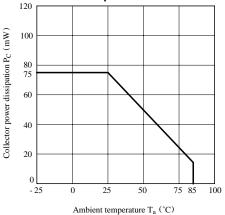
 $(Ta = 25^{\circ}C)$ 

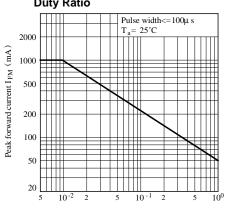
Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit	
Input	Forward voltage		VF	$I_F = 20 m A$	-	1.25	1.4	V
	Peak forward voltage		V <sub>FM</sub>	$I_{FM}=0.5A$	-	3	4	V
	Reverse current		IR	$V_R = 3V$	-	-	10	μΑ
Output	Collector dark current		I <sub>CEO</sub>	$V_{CE} = 10V$	-	-	10-6	А
Transfer charac- teristics	Collector Current		Ic	$I_F = 1mA$ , $V_{CE} = 2V$	0.5	-	20	mA
	Collector-emitter saturation voltage		V <sub>CE(sat)</sub>	$I_F = 2mA$ , $I_C = 0.5mA$	-	-	1.0	V
	Response time	Rise time	tr	$V_{CE} = 2V, I_C = 2mA$	-	80	400	μs
		Fall time	tf	$R_L = 100 \Omega$	-	70	300	μs





#### Fig. 2 Collector Power Dissipation vs. Ambient Temperature





#### Fig. 3 Peak Forward Current vs. Duty Ratio



Fig. 5 Collector Current vs. Forward Current

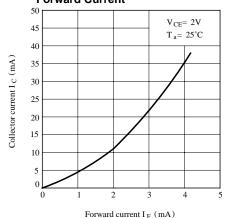


Fig. 7 Collector Current vs. Ambient Temperature

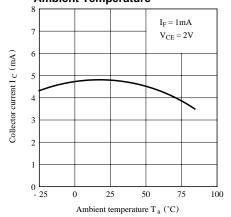
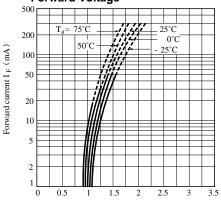
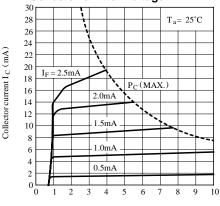


Fig. 4 Forward Current vs. Forward Voltage



Forward Voltage VF (V)

Fig. 6 Collector Current vs. Collector-emitter Voltage



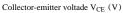
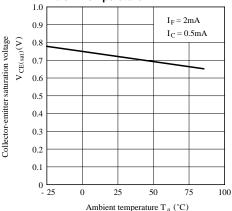
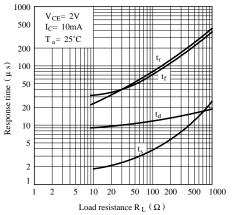
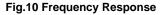


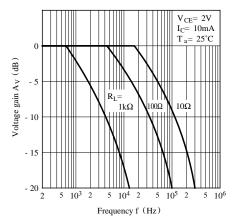
Fig. 8 Collector-emitter Saturation Voltage vs. Ambient Temperature



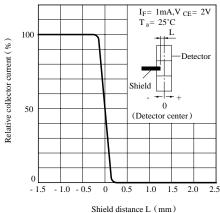
#### Fig. 9 Response Time vs. Load Resistance











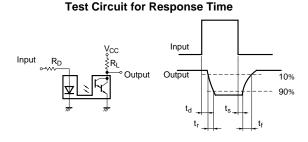


Fig.11 Collector Dark Current vs. Ambient Temperature

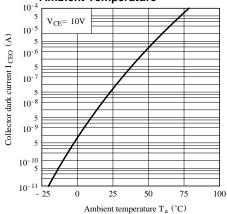
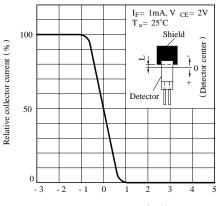


Fig. 13 Relative Collector Current vs. Shield Distance (2)



Shield distance L (mm)

## Precautions for Use

- In case of cleaning, use only the following type of cleaning solvent. Ethyl alchol, Methyl alcohol, Isopropyl alcohol
- (2) As for other general cautions, refer to the chapter" Precautions for Use".

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  - Industrial control
  - Audio visual equipment
  - Consumer electronics

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