

GP1L02 Photointerrupter

■ Features

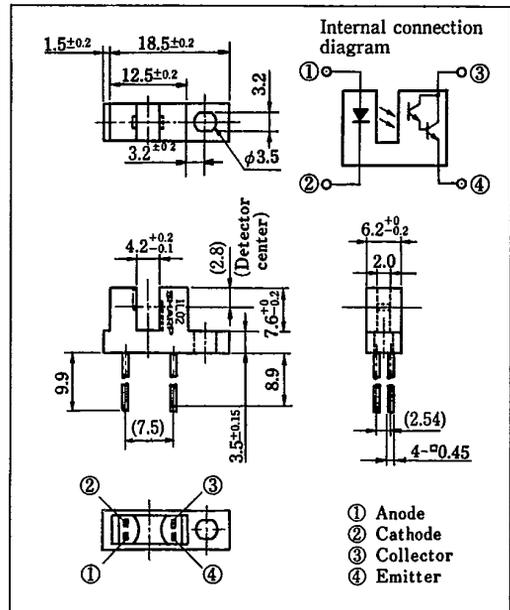
1. High current transfer ratio
(CTR: MIN. 20% at $I_F=10\text{mA}$)
2. Either side installation type package

■ Applications

1. VCRs, record players, cassette decks
2. Fan heaters, electronic sewing machines, knitting machines
3. Optoelectronic switches, optoelectronic counters

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings

($T_a=25^\circ\text{C}$)

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	65	mA
	*1 Peak forward current	I_{FM}	1	A
	Reverse voltage	V_R	6	V
	Power dissipation	P	100	mW
Output	Collector-emitter voltage	V_{CEO}	35	V
	Emitter-collector voltage	V_{ECO}	6	V
	Collector current	I_C	50	mA
	Collector power dissipation	P_C	100	mW
	Operating temperature	T_{opr}	$-25 \sim +85$	$^\circ\text{C}$
Storage temperature		T_{stg}	$-40 \sim +100$	$^\circ\text{C}$
*2 Soldering temperature		T_{sol}	260	$^\circ\text{C}$

*1 Pulse width $\leq 100\mu\text{s}$, Duty ratio = 0.01

*2 For 5 seconds

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V_F	$I_F = 20\text{mA}$	—	1.2	1.4	V
	Peak forward voltage	V_{FM}	$I_{FM} = 0.5\text{A}$	—	—	4.0	V
	Reverse current	I_R	$V_R = 4\text{V}$	—	—	20	μA
Output	Collector dark current	I_{CEO}	$V_{CE} = 10\text{V}, I_F = 0$	—	—	4×10^{-7}	A
Transfer characteristics	Current transfer ratio	CTR	$I_F = 10\text{mA}, V_{CE} = 2\text{V}$	20	—	150	%
	Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_F = 10\text{mA}, I_c = 0.5\text{mA}$	—	—	1.2	V
	Response time (Rise)	t_r	$I_c = 10\text{mA}, V_{CE} = 2\text{V}, R_L = 100\Omega$	—	130	520	μs
	Response time (Fall)	t_f		—	100	400	μs

Fig. 1 Forward Current vs. Ambient Temperature

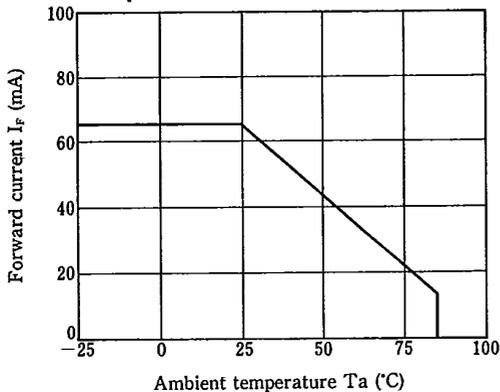


Fig. 2 Collector Power Dissipation vs. Ambient Temperature

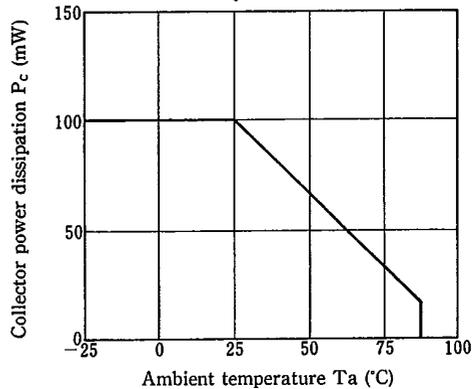


Fig. 3 Peak Forward Current vs. Duty Ratio

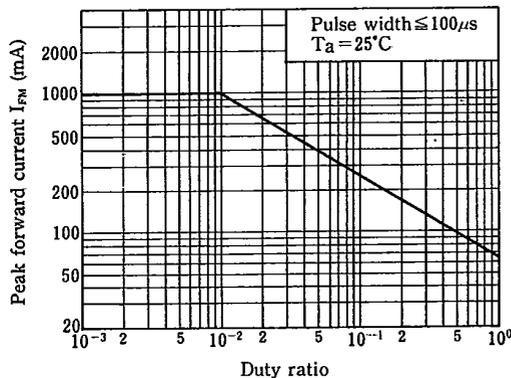


Fig. 4 Forward Current vs. Forward Voltage

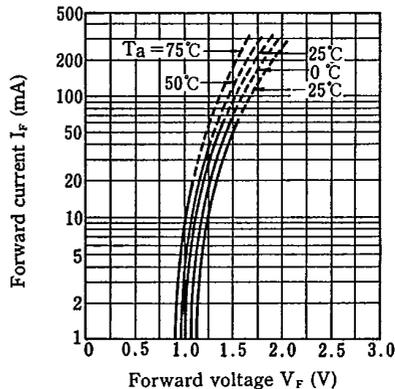


Fig. 10 Frequency Response

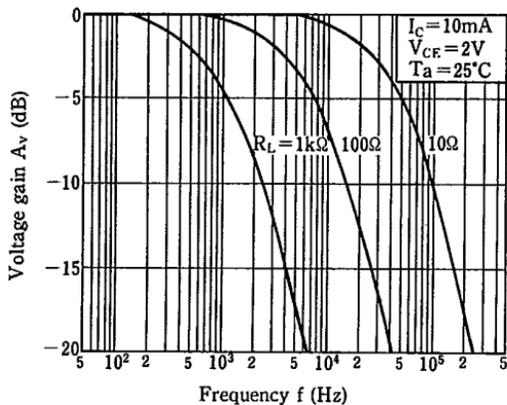


Fig. 11 Collector Dark Current vs. Ambient Temperature

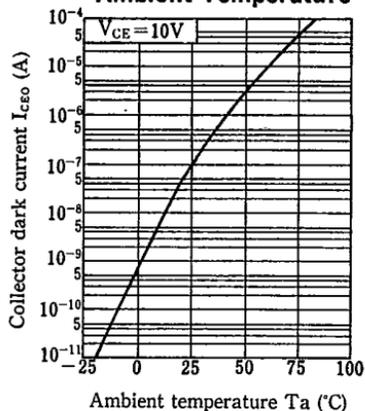


Fig. 12 Relative Collector Current vs. Shield Distance (1)

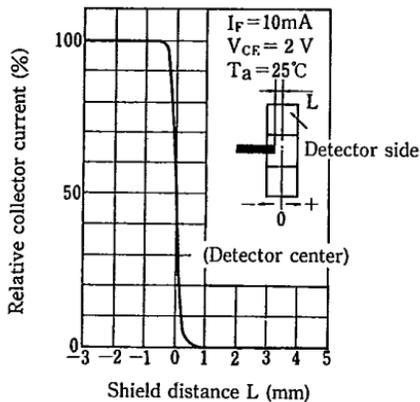


Fig. 13 Relative Collector Current vs. Shield Distance (2)

