GP2L23L/GP2L23R

Compact, Thin Type Photointerrupter

■ Features

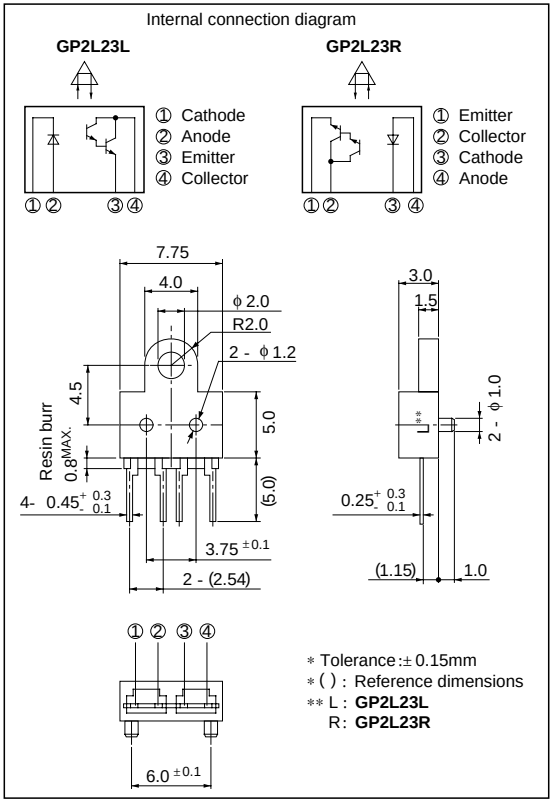
1. Correspond to prism system
2. Compact and thin (Thickness : 3mm)

■ Applications

1. Specified for tape-end detection for digital audio tape recorders

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings

(Ta = 25˚C)

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	50	mA
	*1Peak forward current	I_{FM}	1	A
	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	40	mA
	Collector power dissipation	P_C	75	mW
Operating temperature		T_{opr}	- 20 to + 85	˚C
Storage temperature		T_{stg}	- 40 to + 100	˚C
*2Soldering temperature		T_{sol}	260	˚C

∗1 Pulse width<=100μs, Duty ratio= 0.01
∗2 For 3 seconds

" In the absence of confirmation by device specification sheets, SHARP takes no responsibility for any defects that occur in equipment using any of SHARP's devices, shown in catalogs, data books, etc. Contact SHARP in order to obtain the latest version of the device specification sheets before using any SHARP's device."

■ Electro-optical Characteristics

(Ta= 25˚C)

Parameter			Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage		V_F	I_F = 20mA	-	1.2	1.4	V
	Peak forward voltage		V_{FM}	I_{FM} = 0.5A	-	3	4	V
Output	Reverse current		I_R	V_R = 3V	-	-	10	μA
Transfer characteristics	Collector dark current		I_{CEO}	V_{CE} = 10V	-	-	10^{-6}	A
	*3Collector current		I_C	V_{CE} = 5V, I_F = 20mA	0.8	-	15	mA
	Response time	Rise time	t_r	V_{CE} = 2V, I_C = 10mA	-	80	400	μs
		Fall time	t_f	R_L = 100Ω , d= 13mm	-	70	350	μs
	*4Leak current		I_{LEAK}	V_{CE} = 5V, I_F = 20mA	-	-	50	μA

*3 The condition and arrangement of the reflective object are shown in the following drawing
*4 Without reflective object

Test Condition and Arrangement for Collector Current

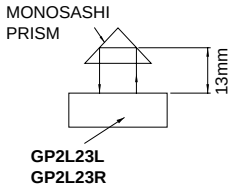


Fig. 1 Forward Current vs. Ambient Temperature

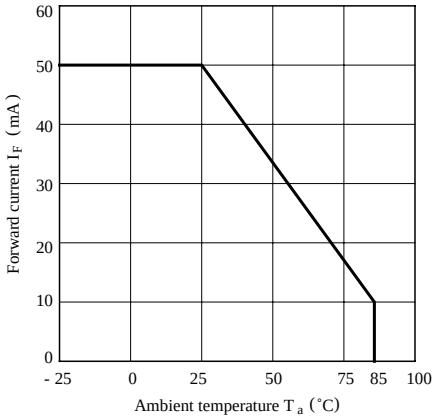


Fig. 2 Collector Power Dissipation vs. Ambient Temperature

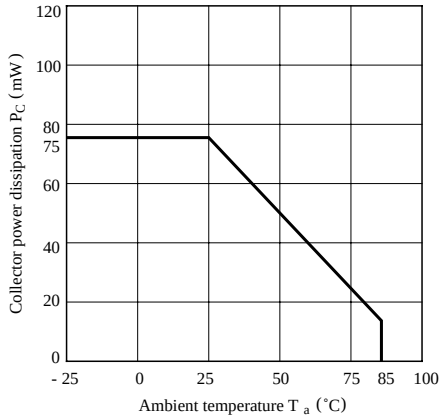


Fig. 3 Peak Forward Current vs. Duty Ratio

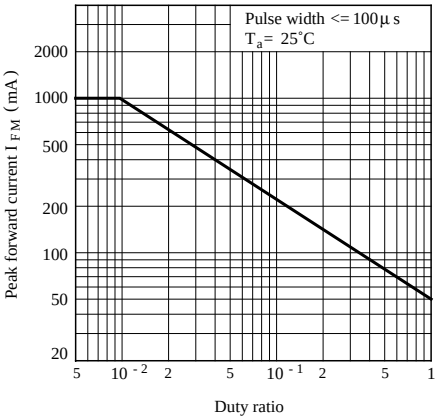


Fig. 4 Forward Current vs. Forward Voltage

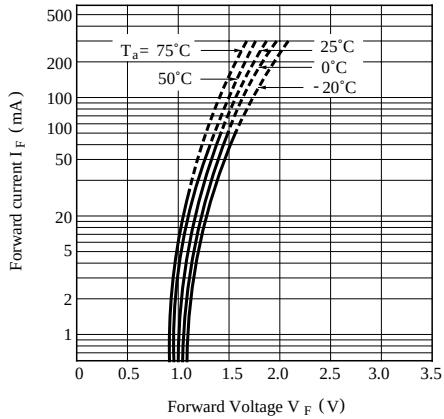


Fig. 5 Collector Current vs. Forward Current

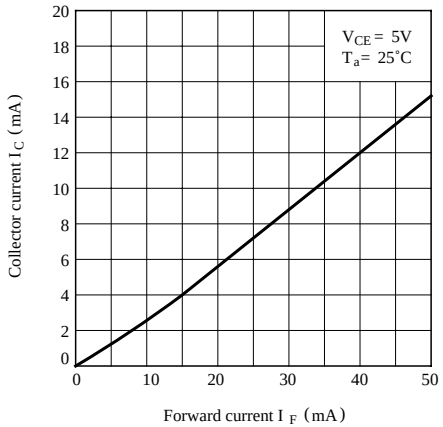


Fig. 6 Collector Current vs. Collector-emitter Voltage

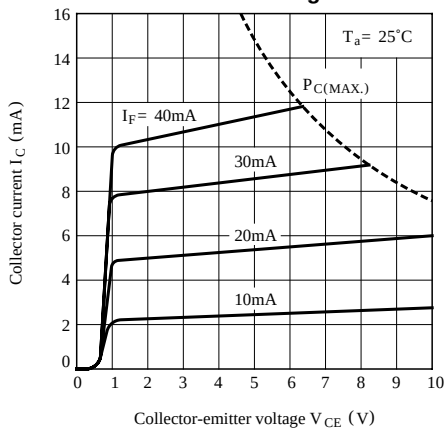


Fig. 7 Relative Collector Current vs. Ambient Temperature

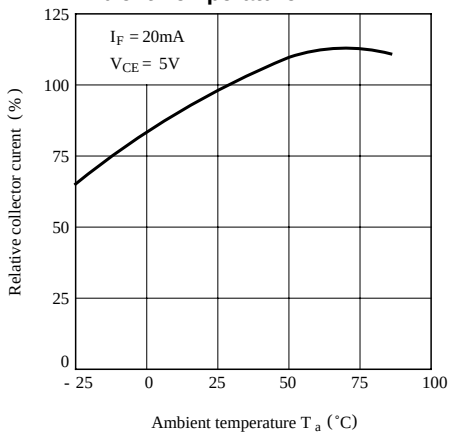
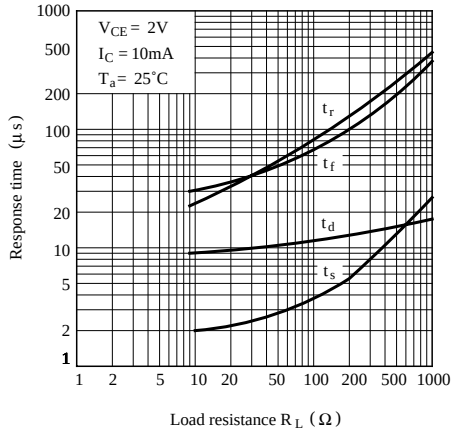


Fig. 8 Response Time vs. Load Resistance



Test Circuit for Response Time

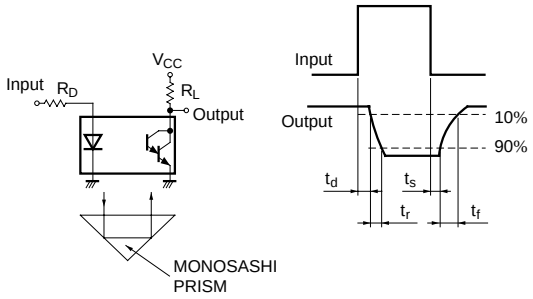


Fig. 9 Frequency Response

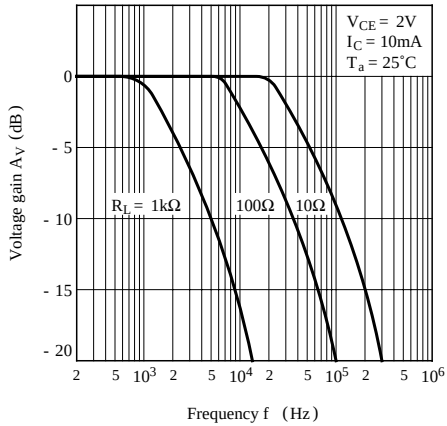
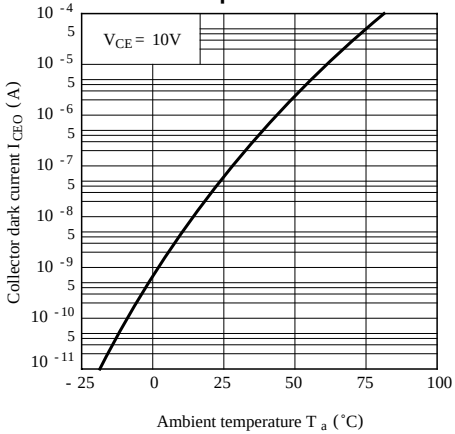


Fig.10 Collector Dark Current vs. Ambient Temperature



- Please refer to the chapter “Precautions for Use”.