GP2L23L/GP2L23R

Compact, **Thin Type** Photointerrupter

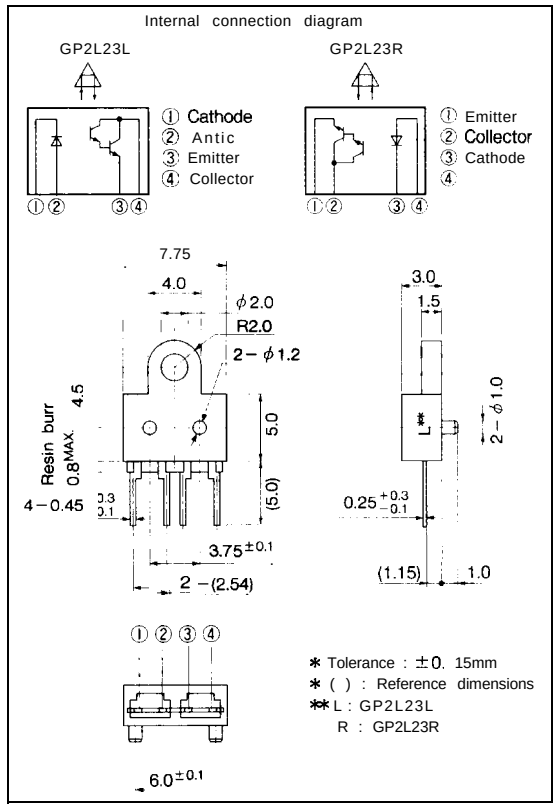
■ Features

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℃)

Parameter		Symbol	Rating	Unit
Input	Forward current	IF	50	mA
	*1 Peak 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	℃
Storage temperature		T_{stg}	−40 to +100	℃
*2Soldering temperature		T_{sol}	260	℃

*1 Pulse width ≦ 100 μs, Duty ratio = 0.01
*2 For 3 seconds

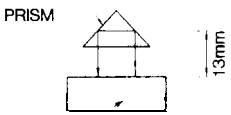
■ Electro-optical Characteristics

(Ta = 25℃)

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
	*3 Collector current		I_C	V_{CE} = 5V, I_F = 20mA	0.8	—	15	mA
	Response time	Rise time	t_r	V_{CE} = 2V, Ic = 10mA	—	80	400	μs
		Fall time	t_f	R_L = 100Ω, d=13mm	—	70	350	μs
	*4 Leak 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



GP2L23L
GP2L23R

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Fig. 1 Forward Current vs. Ambient Temperature

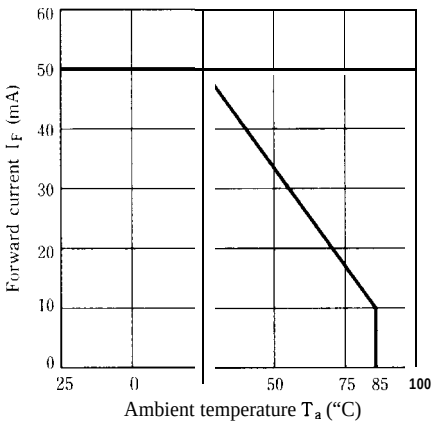


Fig. 2 Collector Power Dissipation vs. Ambient Temperature

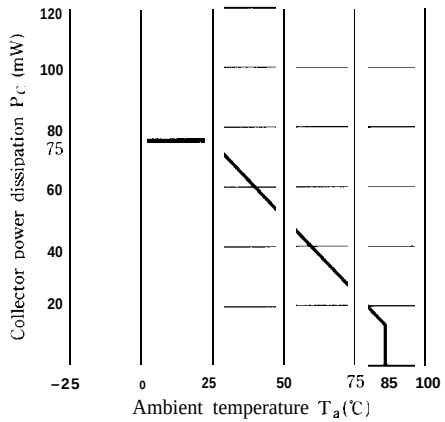


Fig. 3 Peak Forward Current vs. Duty Ratio

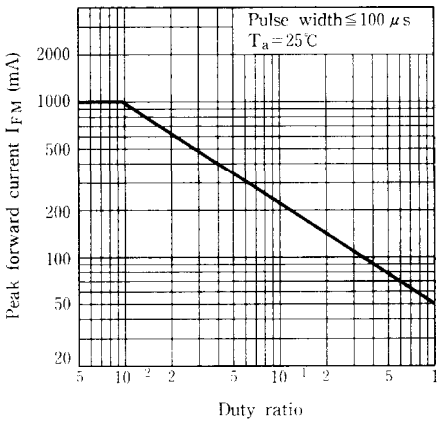


Fig. 4 Forward Current vs. Forward Voltage

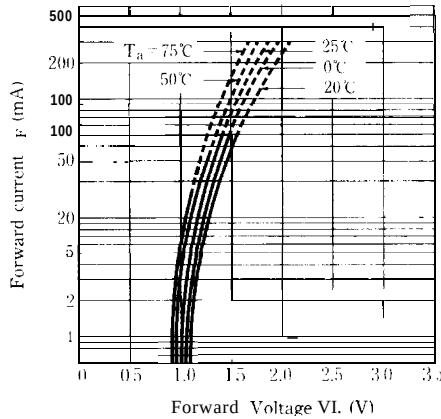


Fig. 5 Collector currant vs. Forward Current

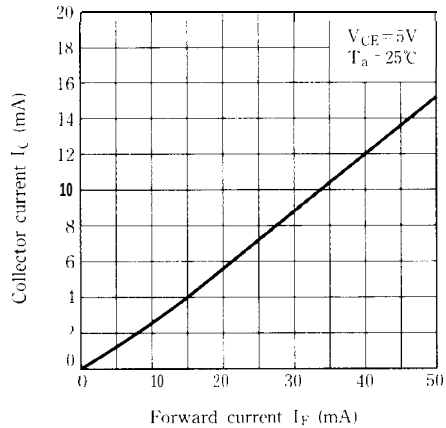


Fig. 6 Collector Current vs. Collector -emitter Voltage

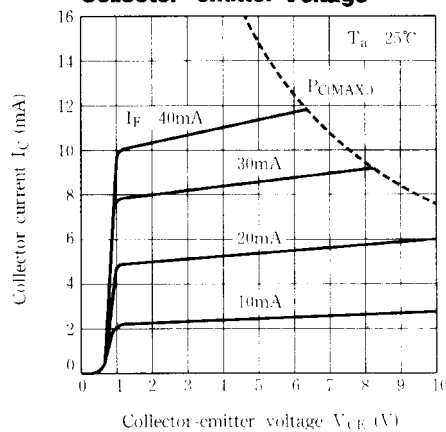


Fig. 7 Relative Collector Current vs. Ambient Temperature

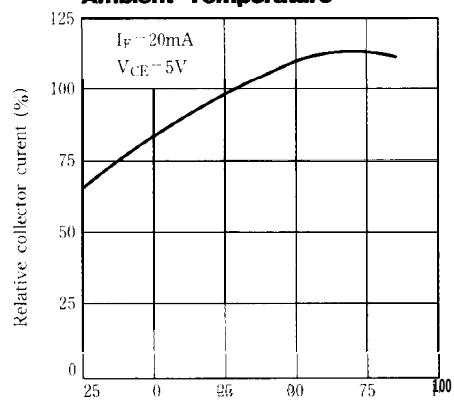
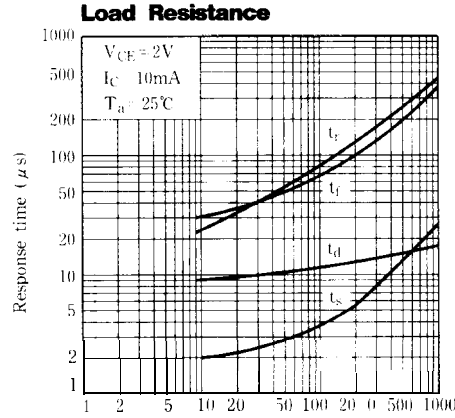


Fig. 8 Response Time vs. Load Resistance



Test Circuit for Response Time

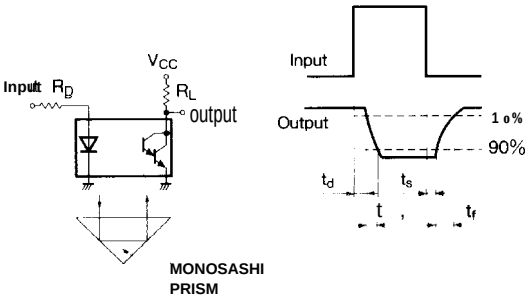


Fig. 9 Frequency Response

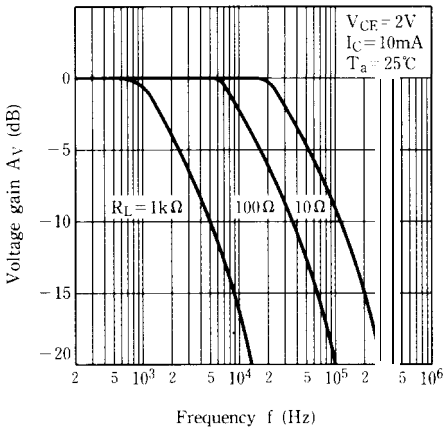
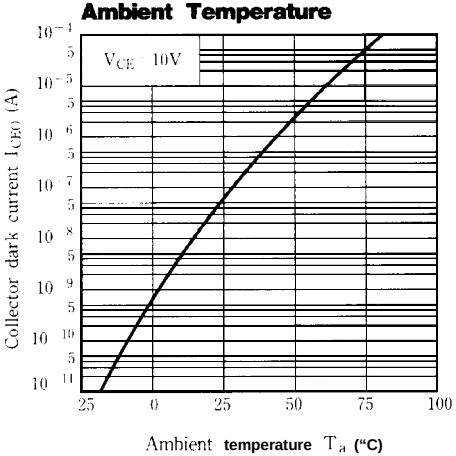


Fig.10 Collector Dark Current vs. Ambient Temperature



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