GP2S28

Long Focal Distance, Case Type Photointerrupter

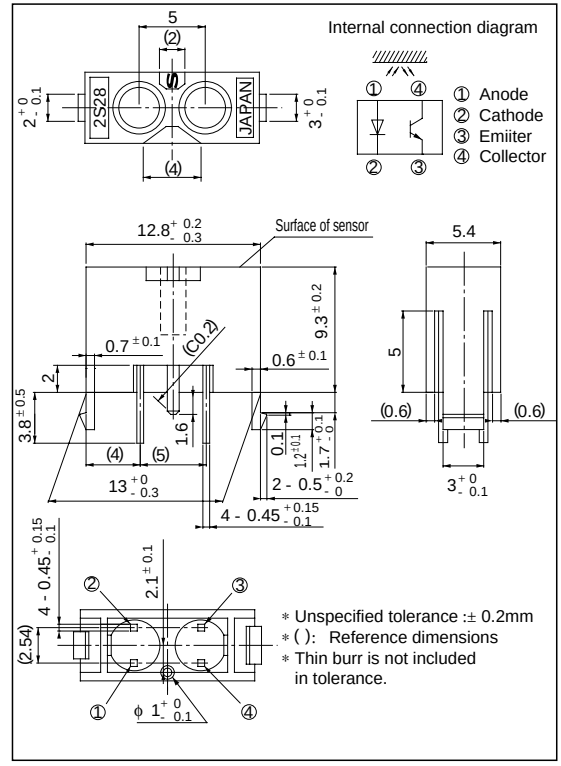
■ Features

1. Long focal distance type
   (Detecting range: 6mm)
2. With pins for protection of wrong insertion
3. Snap-in mounting type

■ Applications

1. CD players
2. Facsimiles
3. Printers

■ Outline Dimensions (Unit : mm)



■ Absolute Maximum Ratings (Ta= 25˚C)

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	60	mA
	*1Peak forward current	I_{FM}	1	A
	Reverse voltage	V_R	6	V
	Power dissipation	P	150	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	P_C	50	mW
Operating temperature		T_{opr}	- 25 to + 85	˚C
Storage temperature		T_{stg}	- 40 to + 85	˚C
*2Soldering temperature		T_{sol}	260	˚C

∗1 Pulse width <= 100 µs, Duty ratio: 0.01
∗2 For 5 seconds

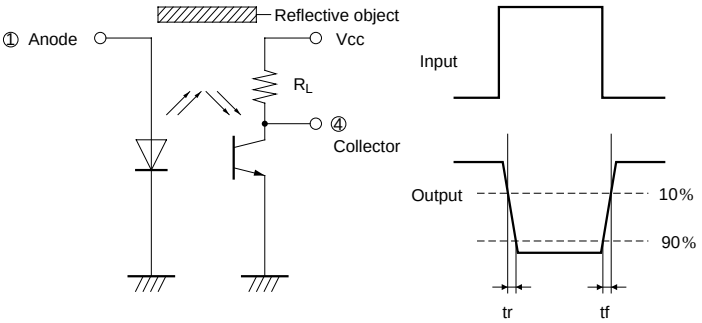
■ Electro-optical Characteristics

(Ta = 25°C)

Parameter			Symbol	Condition	MIN.	TYP.	MAX.	Unit
Input	Forward voltage		V_F	I_F = 20mA	-	1.3	1.5	V
	Peak forward voltage		V_{FM}	I_F = 0.5A	-	2.2	3.5	V
	Reverse current		I_R	V_R = 3V	-	-	10	μA
Output	Collector current		I_{CEO}	V_{CE} = 20V	-	1	100	nA
Transfer characteristics	Collector current		I_C	V_{CE} = 5V, I_F = 20mA, *3	0.04	-	0.9	mA
	Collector-emitter saturation voltage		$V_{CE(sat)}$	I_F = 40mA, I_C = 0.04mA	-	-	0.4	V
	Response time	Rise time	t_r	V_{CE} = 2V, I_C = 0.1mA	-	-	20	μs
		Fall time	t_f	R_L = 100Ω	-	-	30	μs

*3 The condition and arrangement of reflective object is shown in the following figure.

Test Circuit for Response Time



Test Arrangement of Collector Current

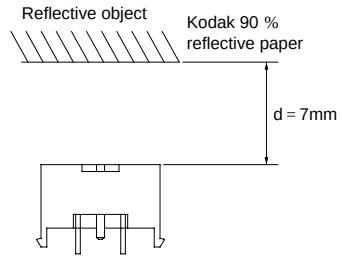


Fig. 1 Forward Current vs. Ambient Temperature

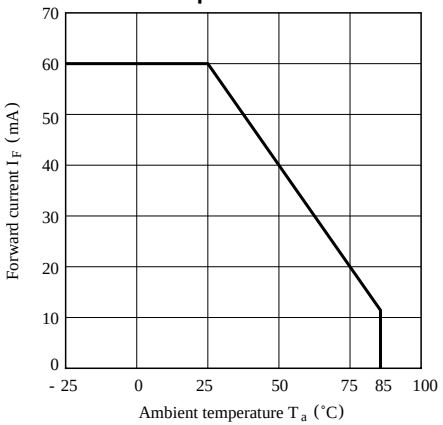


Fig. 2 Collector Power Dissipation vs. Ambient Temperature

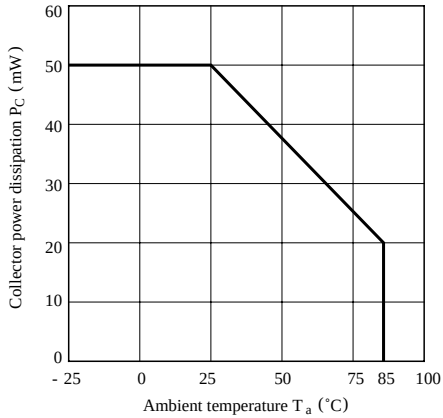


Fig. 3 Peak Forward Current vs. Duty Ratio

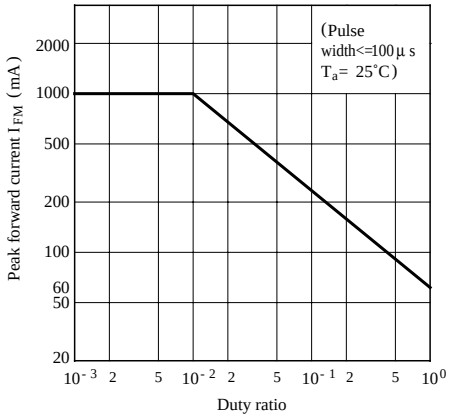


Fig. 4 Forward Current vs. Forward Voltage

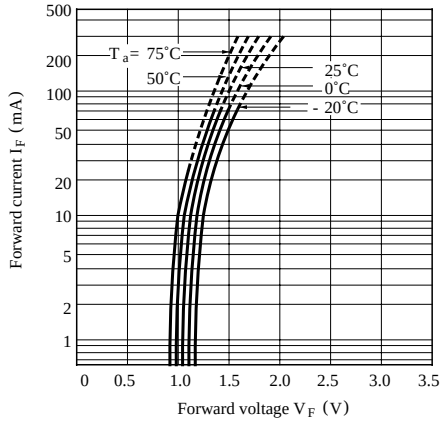


Fig. 5 Collector-current vs. Forward Currnt

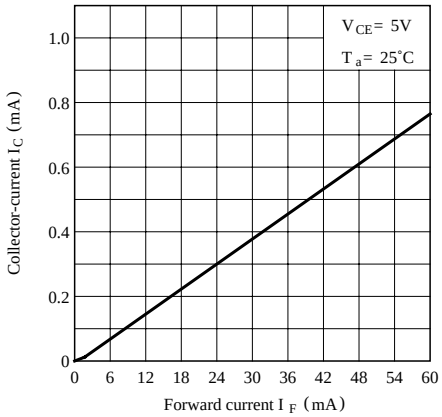


Fig. 6 Collector Current vs. Collector-emitter Voltage

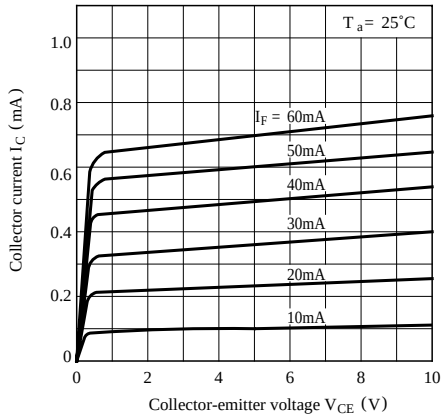


Fig. 7 Collector Current vs. Ambient Temperature

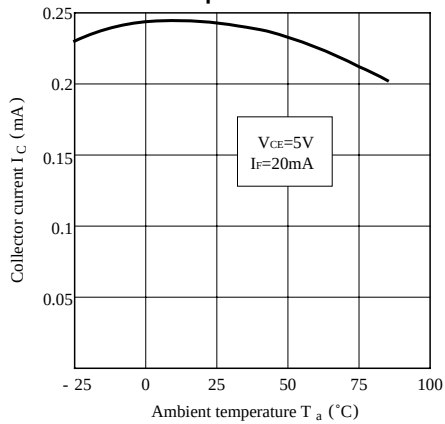


Fig. 8 Collector Dark Current vs. Ambient Temperature

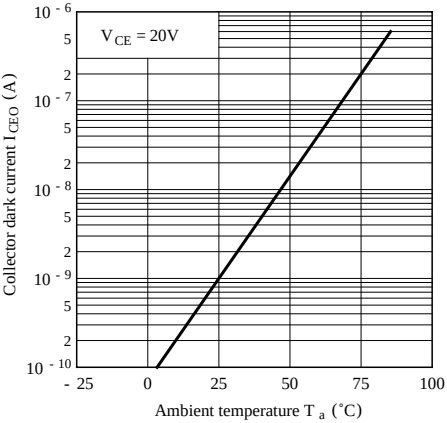
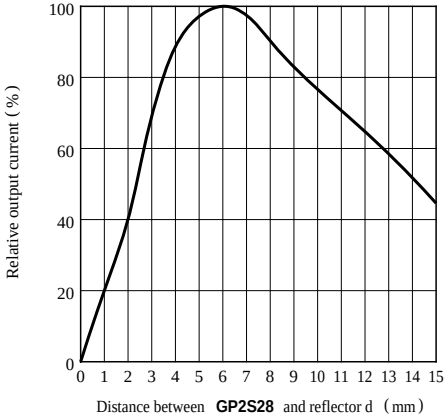
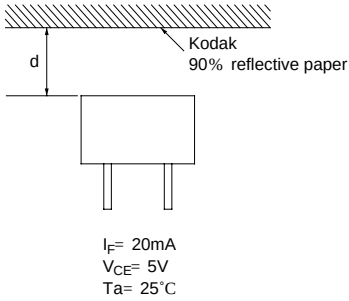


Fig. 9 Relative Output Current vs. Detecting Distance





- Please refer to the chapter "Precautions for Use".

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— Various safety devices, etc.

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