GP2S28

Long Focal Distance, Case Type Photointerrupter

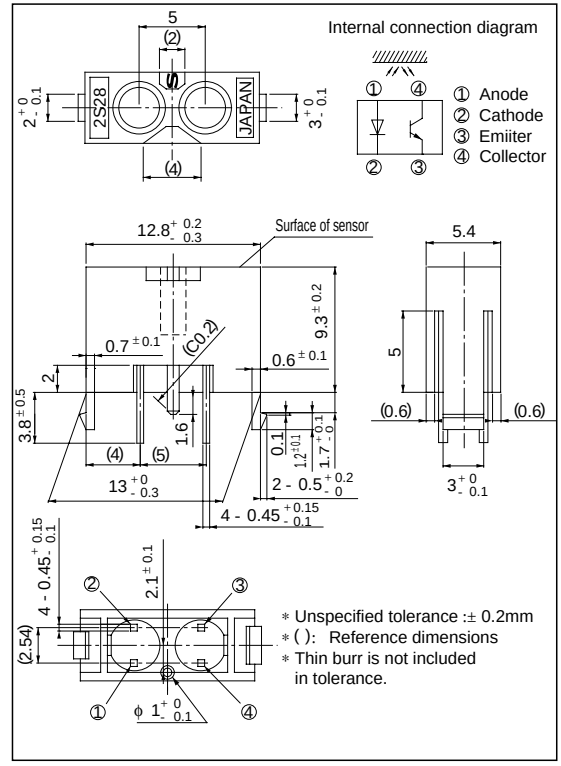
■ Features

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

" 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."

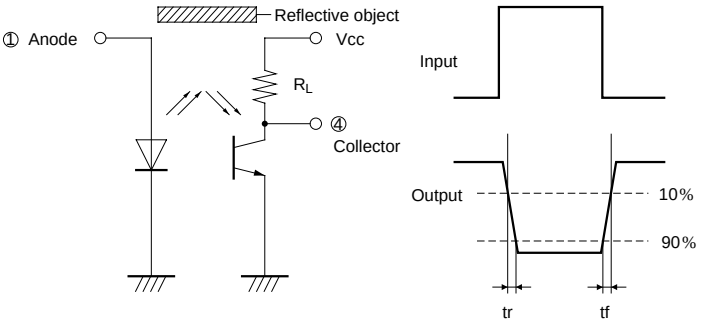
■ Electro-optical Characteristics

(Ta = 25°C)

Parameter			Symbol	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

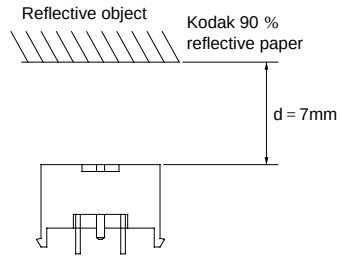


Fig. 1 Forward Current vs. Ambient Temperature

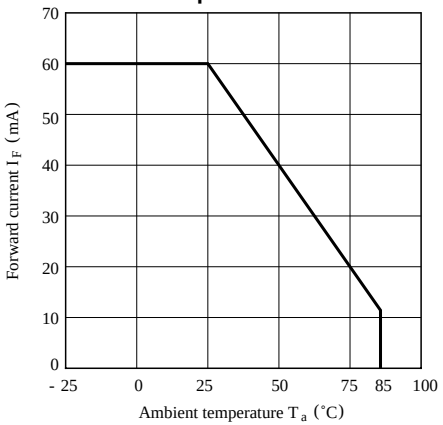


Fig. 2 Collector Power Dissipation vs. Ambient Temperature

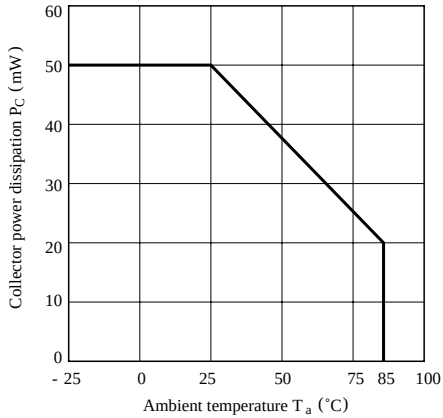


Fig. 3 Peak Forward Current vs. Duty Ratio

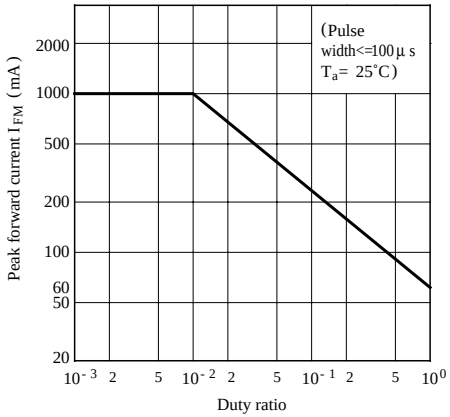


Fig. 4 Forward Current vs. Forward Voltage

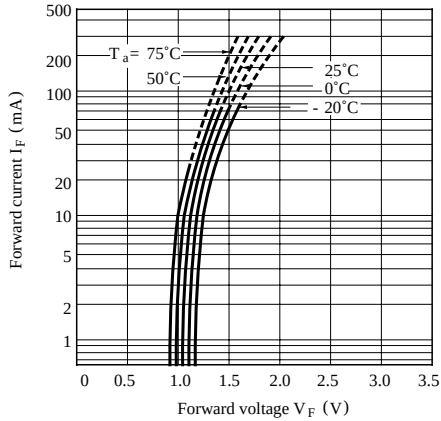


Fig. 5 Collector-current vs. Forward Currnt

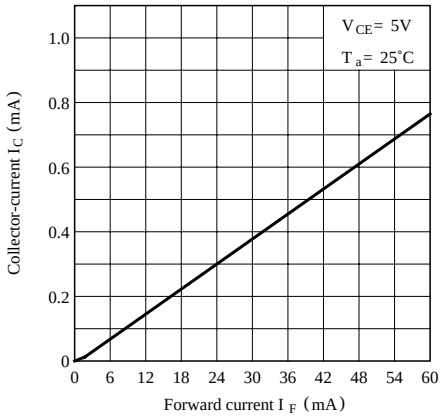


Fig. 6 Collector Current vs. Collector-emitter Voltage

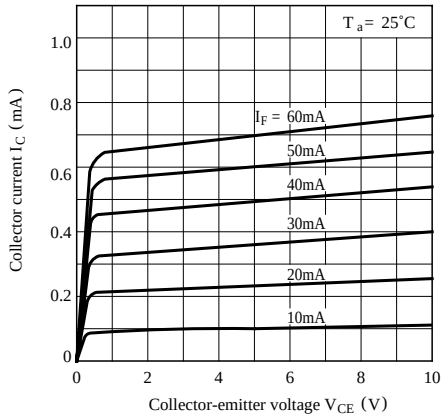


Fig. 7 Collector Current vs. Ambient Temperature

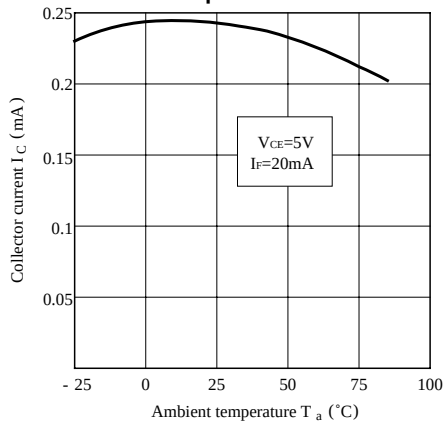


Fig. 8 Collector Dark Current vs. Ambient Temperature

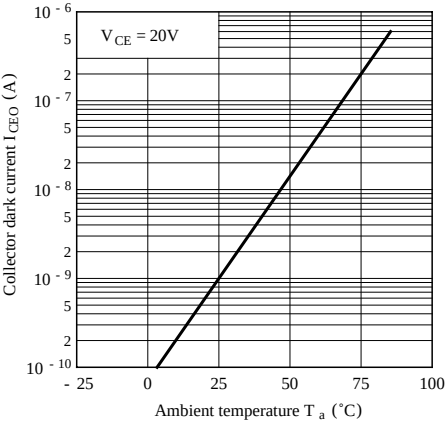
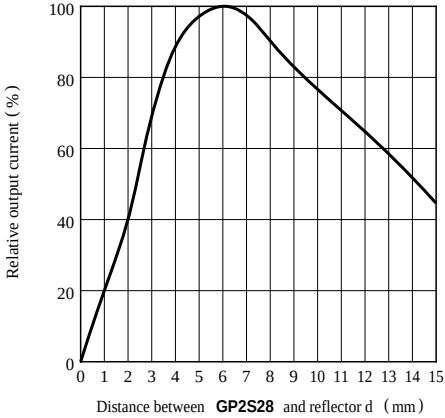
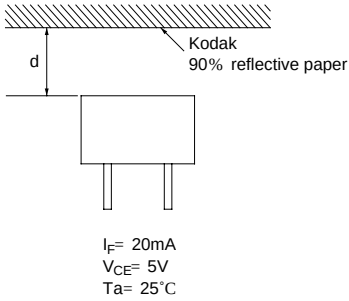


Fig. 9 Relative Output Current vs. Detecting Distance





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