GP2S30

Long Focal Distance Type Photointerrupter with Connector

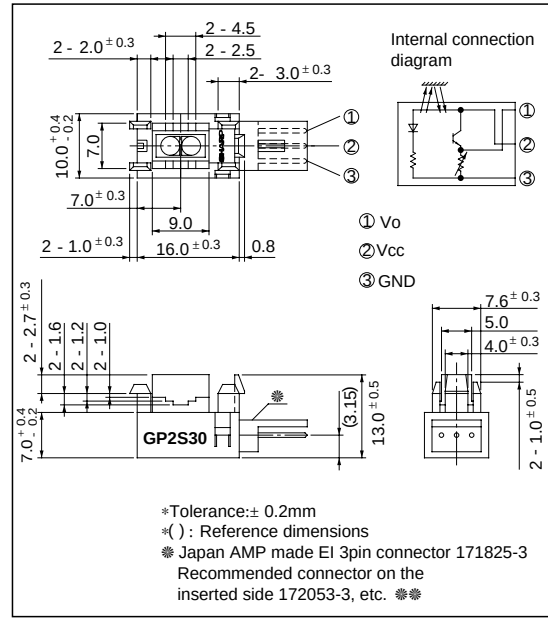
■ Features

1. Long focal distance
   Detection distance: 3 to 7mm
2. High sensing accuracy by laser trimming of resistor
3. 3-pin connector

■ Applications

1. Printers
2. Facsimiles
3. Copiers

■ Outline Dimensions (Unit : mm)



❋❋ Recommended connectors on the inserted side are shown on the below page.

■ Absolute Maximum Ratings (Ta = 25˚C)

Parameter	Symbol	Rating	Unit
Supply voltage	V_{CC}	- 0.5 to + 7	V
Output current	I_O	1	mA
*1Operating temperature	T_{opr}	- 20 to + 70	˚C
*1Storage temperature	T_{stg}	- 40 to + 80	˚C

∗1 The connector should be plugged in/out and the unit's hook should be used at normal temperature.

■ Electro-optical Characteristics (V_{CC} = 5V, Ta = 25˚C unless otherwise specified)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Operating supply voltage	V_{CC}	Ta = - 20 to + 70˚C	4.5	5.0	5.5	V
Dissipation current	I_{CC}	*2At detecting, d = 5mm	-	26	35	mA
Low level output voltage	V_{OL}	*3At non-detecting, d = 5mm	-	0.2	0.8	V
High level output voltage	V_{OH}	*2At detecting, d = 5mm	2.1	3.0	3.9	V
Response frequency	f	∗4	-	-	170	Hz

∗2 At detecting : White PPC paper as a reflective object without external disturbing light in Fig. 1.
∗3 At non-detecting : Black suede tape as a reflective object without external disturbing light in Fig. 1.
∗4 The definition of response frequency is shown in Fig. 2.

" 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."

Fig. 1 Test Condition for V_O

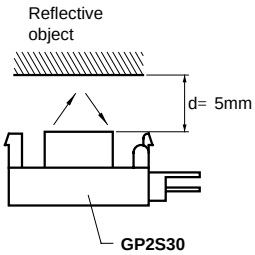
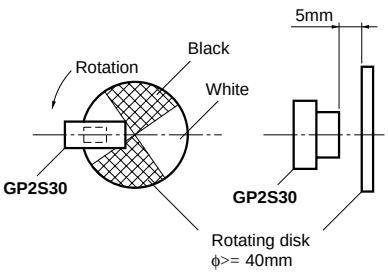
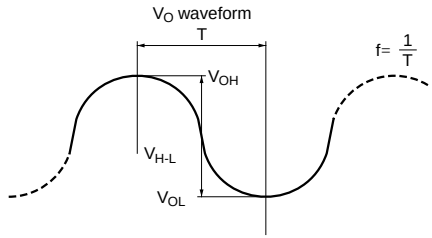


Fig. 2 Definition of Response Frequency





Response frequency: Rotational frequency f when V_{H-L} decreases 3dB from DC.

Fig. 3 Relative Output Voltage vs. Ambient Temperature

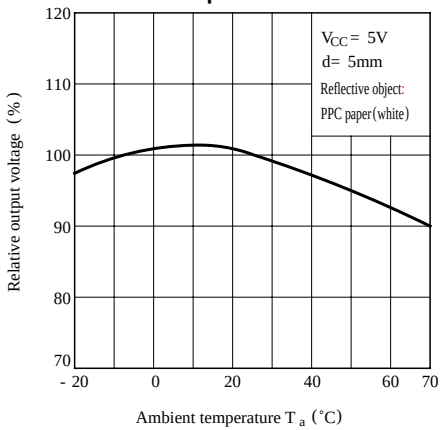


Fig. 4 Dissipation Current vs. Supply Voltage

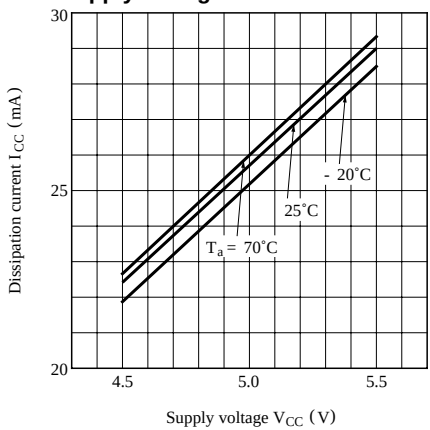


Fig. 5 Relative Output Voltage vs. Detecting Distance

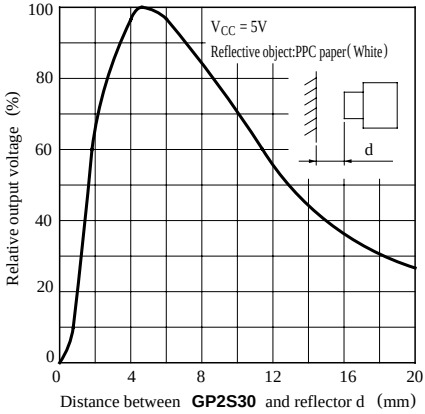


Fig. 6 Relative Collector Voltage vs. Reflector Moving Distance (1)

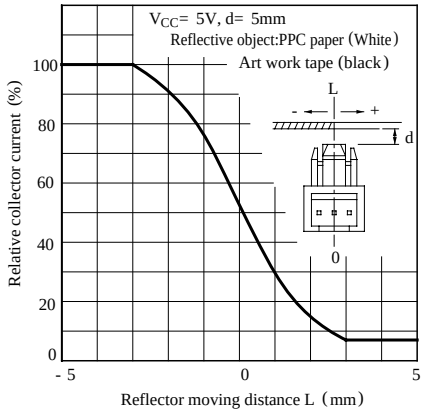
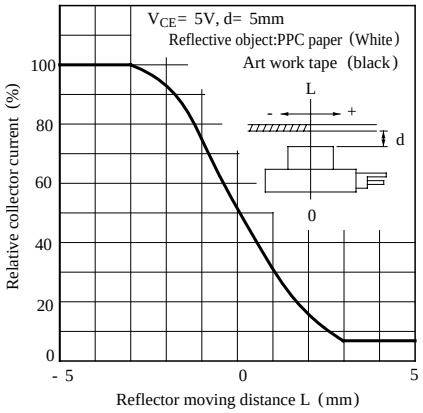
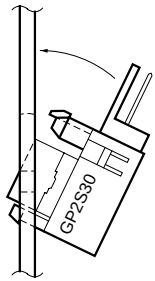


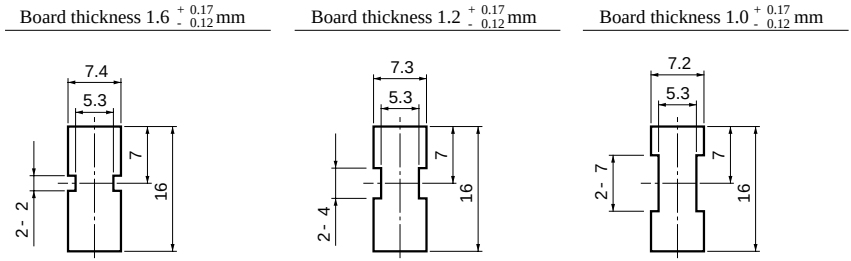
Fig. 7 Relative Collector Voltage vs. Reflector Moving Distance (2)



Recommended Mounting Holes (mm)



Mounting Method



Recommended Mounting Holes

■ Recommended Connectors on the Inserted Side

● JAPAN AMP made EI series connector (standard type)

Housing color	Natural color	Black	Blue	Green	Red
Housing Model No.	171822-3	2-171822-3	4-171822-3	6-171822-3	8-171822-3

Special terminal Model No.	AWG size	Product shape	Material	Model No.
	AWG 26 to 20	Chain	Brass	170204-1
			phosphor bronze	170204-2
		Bulk	Brass	170262-1
			phosphor bronze	170262-2
	AWG 30 to 26	Chain	Brass	170205-1
			phosphor bronze	170205-2
		Bulk	Brass	170263-1
			phosphor bronze	170263-2

● JAPAN AMP made EI Series connectors (low profile type)

Housing color	Natural color	Black	Blue	Green	Red
Housing Model No.	172142-3	2-172142-3	4-172142-3	6-172142-3	8-172142-3

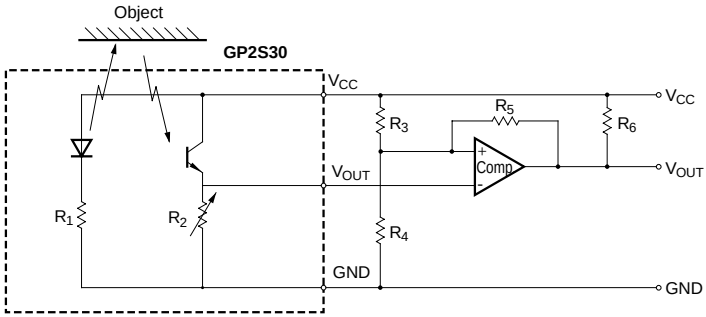
Special terminal Model No. (Material: phosphor bronze)	AWG size	Product shape	Model No.
	AWG 26 to 22	Bulk	170369-1
		Chain	170354-1
	AWG 30 to 26	Bulk	170370-1
		Chain	170355-1

● JAPAN AMP made EI Series connectors (amp. mass termination)

Housing terminal united type connector	AWG28 (Green)	AWG26 (Natural color)	AWG24 (Black)	AWG22 (Red)
	172054-3	172053-3	172052-3	172051-3

∗ Terminal Material: phosphor bronze

■ Recommended Circuit



■ Precautions for Use

(1) In this product, the PWB is fixed with a hook, and cleaning solvent may remain inside the case; therefore, dip cleaning or ultrasonic are prohibited.

(2) Remove dust or stains, using an air blower or a soft cloth moistened in cleaning solvent. However, do not perform the above cleaning using a soft cloth with cleaning solvent in the marking portion.
In this case, use only the following type of cleaning solvent used for wiping off:
Ethyl alcohol, Methyl alcohol, Isopropyl alcohol,
When the cleaning solvents except for specified materials are used, please consult us.

(3) As for other general cautions, refer to the chapter "Precautions for Use".