GP2A16/GP2A18F

Visible Light Cut-off Type Photointerrupters with Connector

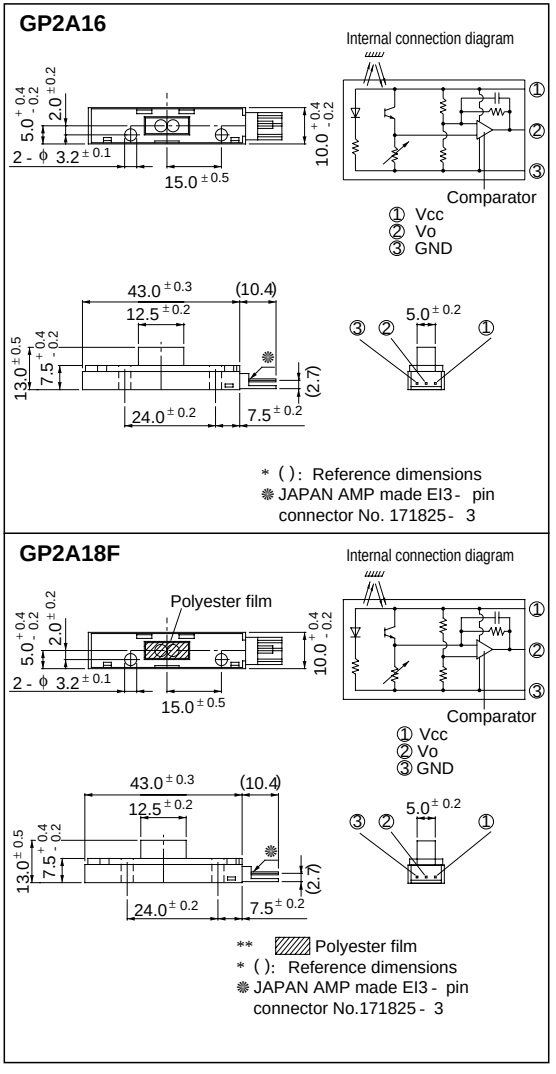
■ Features

1. Visible light cut-off type
2. Dust-protection type (**GP2A18F**)
3. Long focal distance type
   Detecting range: **GP2A16**: 2.0 to 7.0 mm,
   GP2A18F: 4.0 to 5.0 mm
4. With a 3-pin connector for easier interface with control circuit

■ Applications

1. Printers
2. Copies
3. Facsimiles

■ Outline Dimensions (Unit: mm)



■ Absolute Maximum Ratings (Ta= 25°C)

Parameter	Symbol	Rating	Unit
Supply voltage	V_{CC}	7	V
*1Output voltage	V_O	30	V
*2Low level output current	I_{OL}	6	mA
*3Operating temperature	T_{opr}	- 10 to + 70	°C
*3Storage temperature	T_{stg}	- 40 to + 80	°C

*1 At non detection (**GP2A16**)
At detection (**GP2A18F**)
*2 At detection (**GP2A16**)
At non detection (**GP2A18F**)
*3 The connector should be plugged in/out at normal temperature.

■ Electro-optical Characteristics

(Unless otherwise specified, V_{CC}= 5V, Ta= 25˚C)

Parameter		Symbol	Condition	MIN.	TYP.	MAX.	Unit
Operating supply voltage		V_{CC}	Ta=- 10 to + 70˚C	4.5	5.0	5.5	V
Dissipation current	**GP2A16**	I_{CC}	V_{CC}= 5V, R_L=∞ , ∗5	-	27	50	mA
	GP2A18F		V_{CC}= 5V, R_L=∞ , ∗4	-	27	50	mA
Low level output voltage	**GP2A16**	V_{OL}	V_{CC}= 5V, I_{OL}= 3mA, ∗4	-	0.2	0.4	V
	GP2A18F		V_{CC}= 5V, I_{OL}= 3mA, ∗5	-	0.2	0.4	V
High level output voltage	**GP2A16**	V_{OH}	V_{CC}= 5V, R_L= 10kΩ , ∗5	4.7	-	-	V
	GP2A18F		V_{CC}= 5V, R_L= 10kΩ , ∗4	4.7	-	-	V
∗6Response time	Rise time	t_r	R_L= 10kΩ	-	-	2.0	ms
	Fall time	t_f		-	-	2.0	ms

∗4 At detection

d= 2.0 to 7.0mm using black artwork tape as the reflective object with no external disturbing light as shown in Fig.1 (**GP2A16**)

d= 4.0 to 5.0mm using white PPC paper as the reflective object with no external disturbing light as shown in Fig.1 (**GP2A18F**)

∗5 At non detection

d= 11.0mm or more using black suede as the reflective object with no external disturbing light as shown in Fig.1 (**GP2A16**)

d= 4.0 to 5.0mm using black artwork tape as the reflective object with no external disturbing light as shown in Fig.1 (**GP2A18F**)

∗6 Definition of response time: As shown in Fig.2

Fig. 1 Vo Test Arrangement

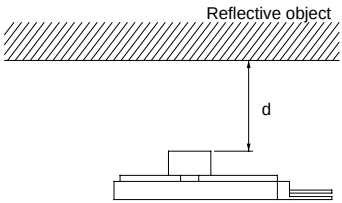
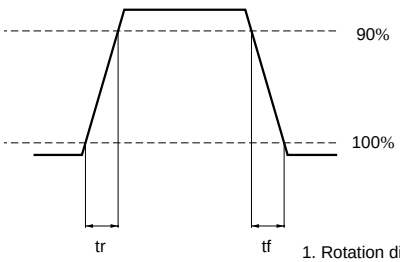
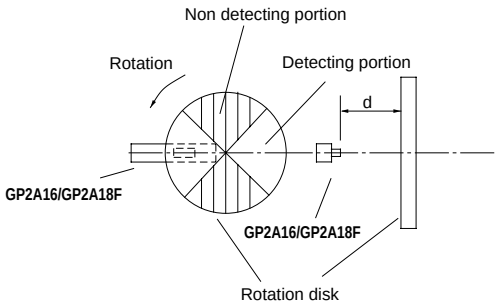


Fig. 2 Vout waveform



Test Arrangement



1. Rotation disk shall be ϕ 40mm or more. And it is in accordance with above test arrangement.
2. Rotation frequency shall be 5Hz or less. Output shall not be DC.

Fig. 3-a Low Level Output Voltage vs. Ambient Temperature (GP2A16)

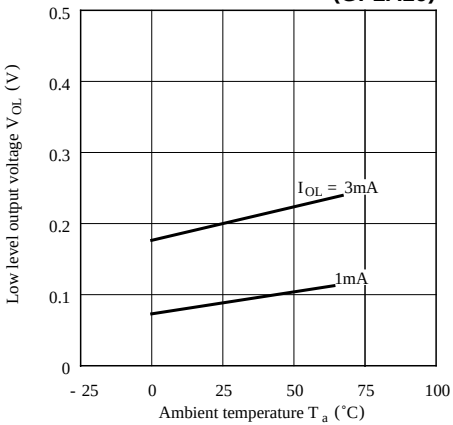


Fig. 3-b Low Level Output Voltage vs. Ambient Temperature (GP2A18F)

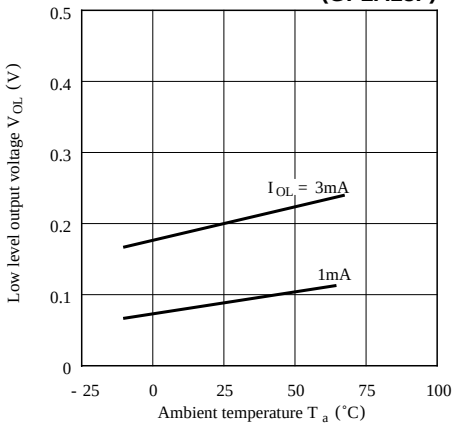


Fig. 4-a Dissipation Current vs. Supply Voltage (GP2A16)

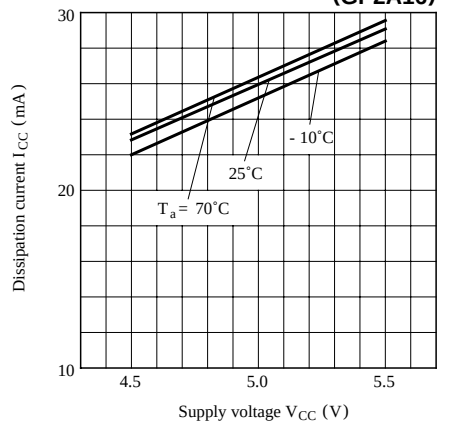


Fig. 4-b Dissipation Current vs. Supply Voltage (GP2A18F)

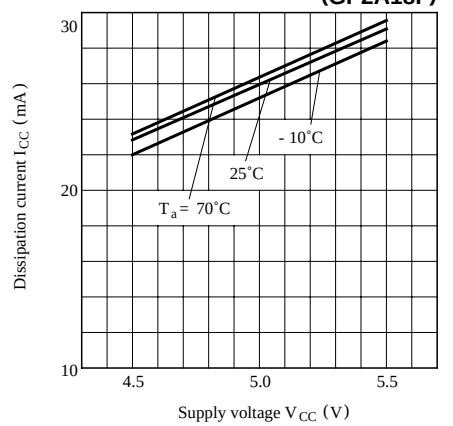


Fig. 5-a Detecting Distance Characteristics (GP2A16)

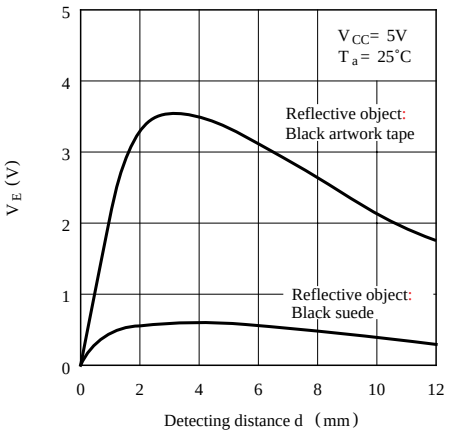
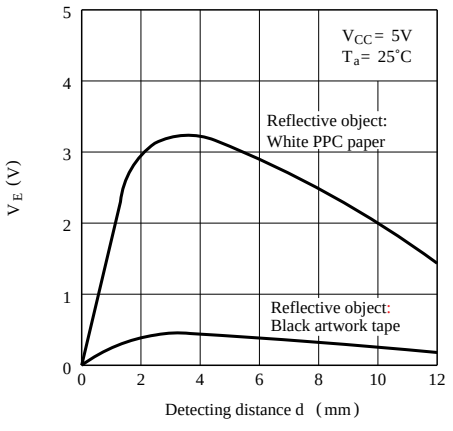
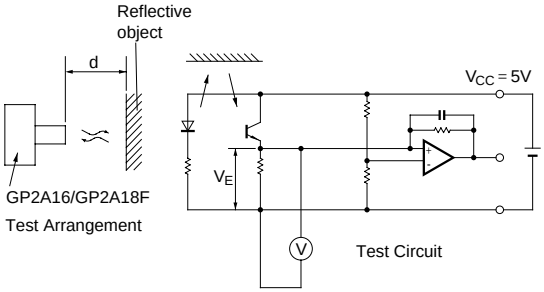


Fig. 5-b Detecting Distance Characteristics (GP2A18F)



Test Circuit for Detecting Position Characteristics
(GP2A16/GP2A18F)



■ Recommended Connectors on the Inserted Side

● JAPAN AMP made EI series connectors (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

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

	AWG size	Product shape	Model No.
Special terminal Model. No. (Material: phosphor bronze)	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

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

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