

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

■ Absolute Maximum Ratings (Ta= 25°C)

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

*1 At non detection (**GP2A16**)

At detection (**GP2A18F**)

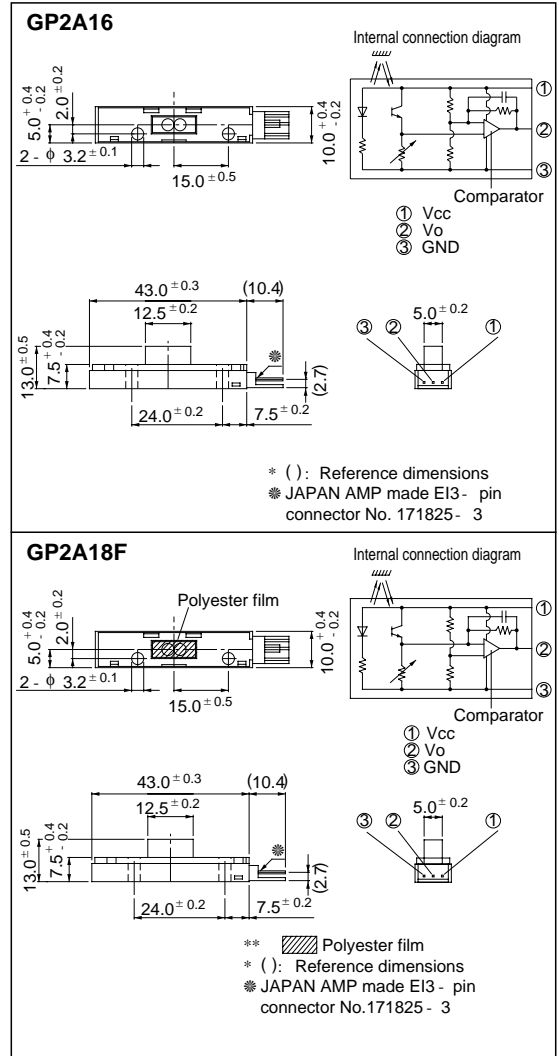
*2 At detection (**GP2A16**)

At non detection (**GP2A18F**)

*3 The connector should be plugged in/out at normal temperature.

■ Outline Dimensions

(Unit : mm)



■ Electro-optical Characteristics

(Unless otherwise specified, $V_{CC}= 5V$, $T_a= 25^{\circ}C$)

Parameter	Symbol	Condition	MIN.	TYP.	MAX.	Unit	
Operating supply voltage	V_{CC}	$T_a=- 10$ to $+ 70^{\circ}C$	4.5	5.0	5.5	V	
Dissipation current	GP2A16 GP2A18F	I_{CC}	$V_{CC}= 5V, R_L=\infty, *5$	-	27	50	mA
			$V_{CC}= 5V, R_L=\infty, *4$	-	27	50	mA
Low level output voltage	GP2A16 GP2A18F	V_{OL}	$V_{CC}= 5V, I_{OL}= 3mA, *4$	-	0.2	0.4	V
			$V_{CC}= 5V, I_{OL}= 3mA, *5$	-	0.2	0.4	V
High level output voltage	GP2A16 GP2A18F	V_{OH}	$V_{CC}= 5V, R_L= 10k\Omega, *5$	4.7	-	-	V
			$V_{CC}= 5V, R_L= 10k\Omega, *4$	4.7	-	-	V
*6 Response time	Rise time	t_r	$R_L= 10k\Omega$	-	-	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

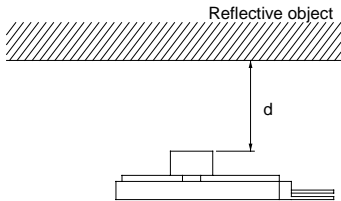
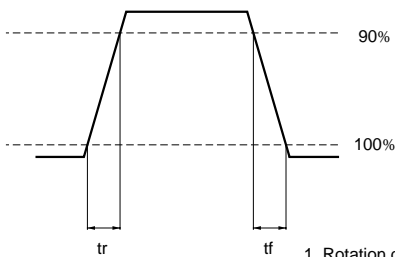
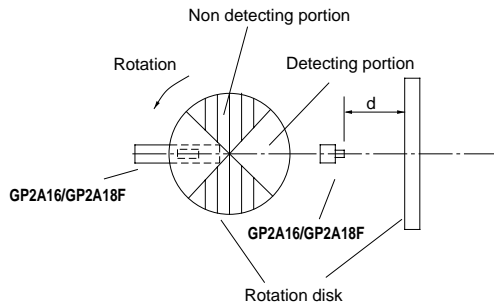


Fig. 2 Vout waveform



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)

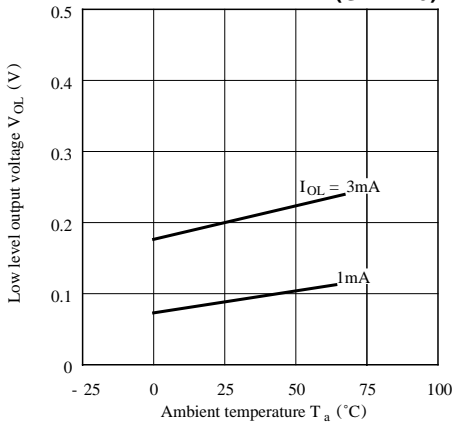


Fig. 3-b Low Level Output Voltage vs. Ambient Temperature (GP2A18F)

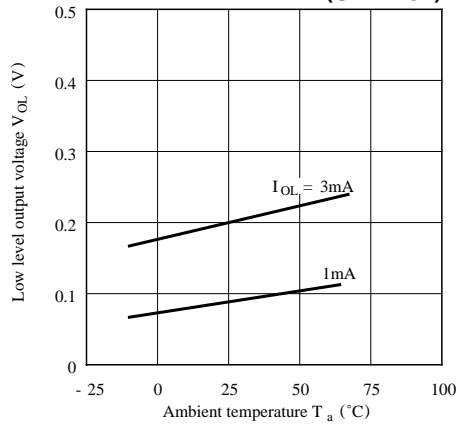


Fig. 4-a Dissipation Current vs. Supply Voltage (GP2A16)

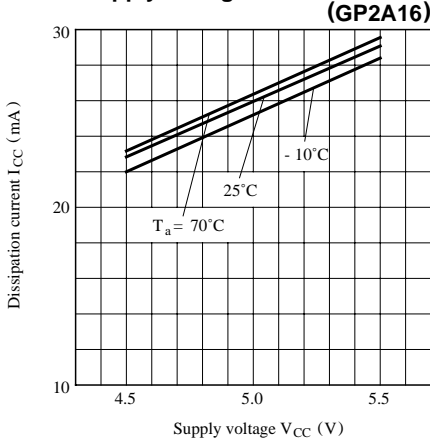


Fig. 4-b Dissipation Current vs. Supply Voltage (GP2A18F)

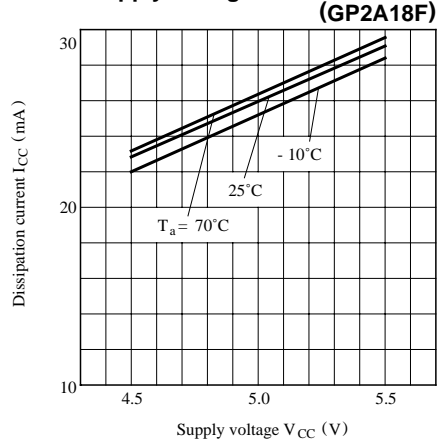


Fig. 5-a Detecting Distance Characteristics (GP2A16)

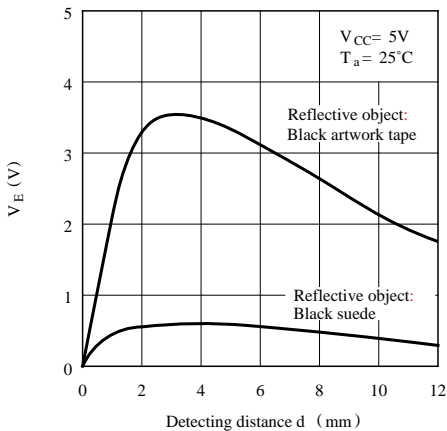
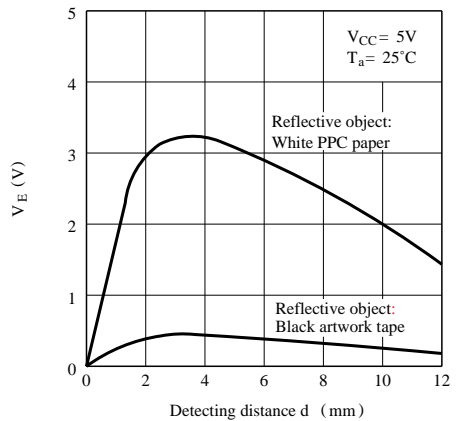
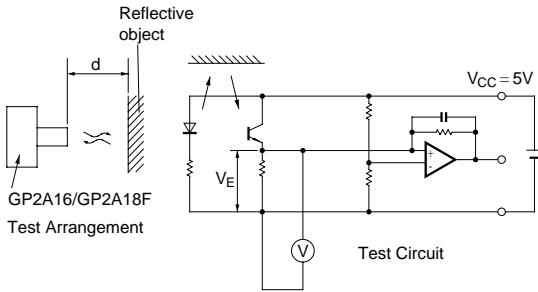


Fig. 5-b Detecting Distance Characteristics (GP2A18F)



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