

SHARP

GP2A200LCS

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Light Modulation, Reflective Type Photointerrupter

■ Features

1. Light modulation type which is free from external disturbing light
2. Long focal distance type (Detecting range : 5 to 15mm)
3. Compact type

■ Applications

1. Copiers
2. Facsimiles
3. Laser beam printers

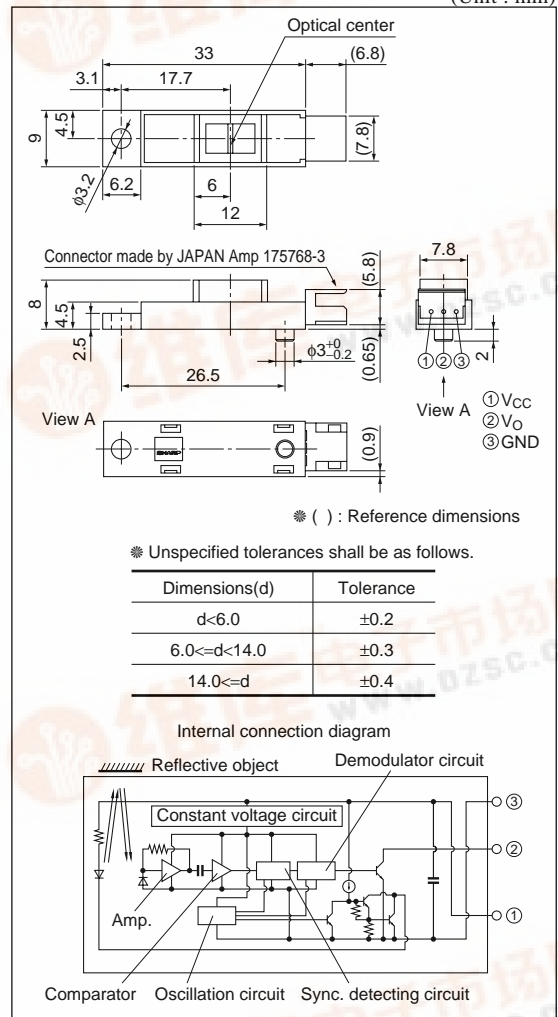
■ Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Supply voltage	V _{CC}	-0.5 to +7	V
Output voltage	V _O	30	V
*1 Output current	I _{OL}	50	mA
Operating temperature	T _{opr}	-10 to +70	°C
*2 Storage temperature	T _{stg}	-20 to +80	°C

*1 Sink current refer to Fig.5

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

■ Outline Dimensions (Unit : mm)



* "OPIC" (Optical IC) is a trademark of the SHARP Corporation.

An OPIC consists of a light-detecting element and signal-processing circuit integrated onto a single chip.

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Internet Internet address for Electronic Components Group <http://www.sharp.co.jp/ecg/>

■ Electro-optical Characteristics

(Ta=25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Supply voltage	V _{CC}	–	4.75	–	5.25	V
Dissipation current (I)	I _{CC}	V _{CC} =5V, R _L =∞, smoothing value	–	–	30	mA
Dissipation current (II)	I _{CCP}	*3 V _{CC} =5V, peak pulse value	–	–	150	mA
Low level output voltage	V _{OL}	V _{CC} =5V, I _{OL} =16mA, at detecting time	–	–	0.4	V
High level output voltage	V _{OH}	V _{CC} =5V, R _L =1kΩ, at non-detecting time	4.5	–	–	V
Non-detecting distance	L _{LHL}	*4 Kodak 90% reflective paper, V _{CC} =5V	–	–	90.0	mm
Detecting distance	L _{HLS}	*4 Kodak 90% reflective paper, V _{CC} =5V	–	–	2.0	mm
	L _{HLS}	*4 Black paper, V _{CC} =5V	–	–	5.0	mm
	L _{HLL}	*4 Kodak 90% reflective paper, V _{CC} =5V	22.0	–	–	mm
	L _{HLL}	*4 Black paper, V _{CC} =5V	15.0	–	–	mm
Response time	t _{PHL}	*5 V _{CC} =5V	–	–	1.0	ms
	t _{PLH}	*5 V _{CC} =5V	–	–	1.0	ms
External disturbing light illuminance	E _{V1}	*6	3 000	–	–	lx
	E _{V2}	*6	1 500	–	–	lx

*3 Refer to Fig.1
 *4 Refer to Fig.2
 *5 Refer to Fig.3
 *6 Refer to Fig.4

Fig.1 Test Condition for Peak Pulse Value I_{CCP}

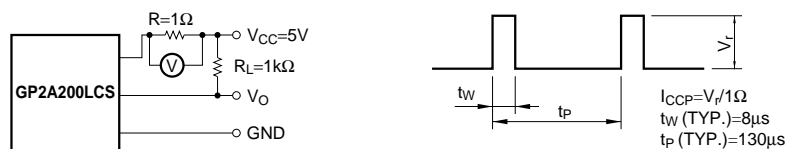


Fig.2 Test Condition for Detecting Distance Characteristics

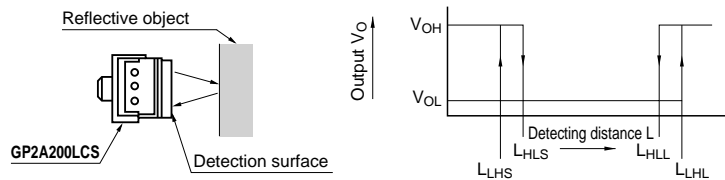


Fig.3 Test Circuit For Response Time

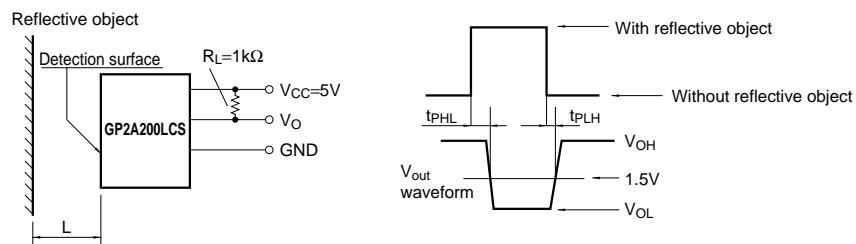


Fig.4 Test Condition for External Disturbing Light Illuminance

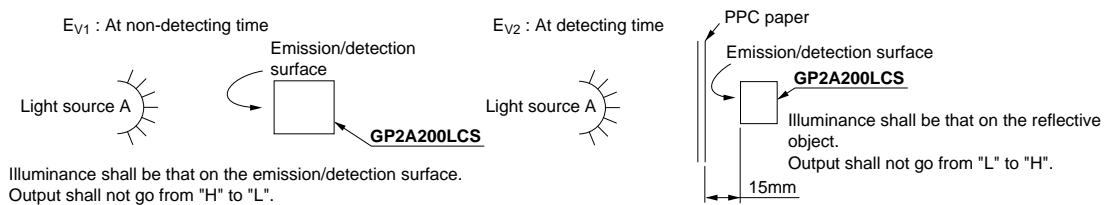


Fig.5 Output Current vs. Ambient Temperature

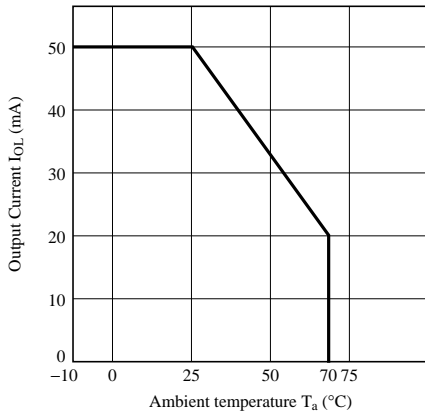


Fig.6 Low Level Output Voltage vs. Ambient Temperature

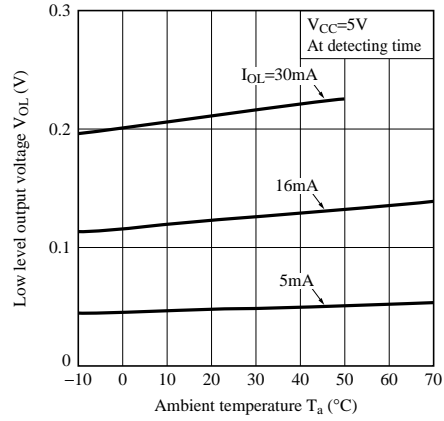


Fig.7 Low Level Output Voltage vs. Low Level Output Current

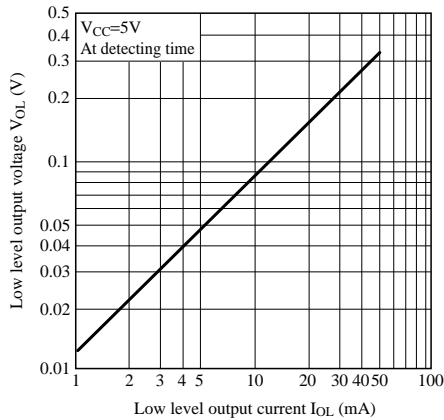
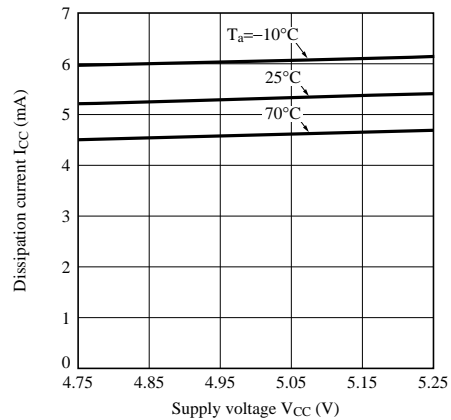


Fig.8 Dissipation Current (Smoothing Value) vs. Ambient Temperature



■ Precautions for Use

1. In order to stabilize power supply line, connect a by-pass capacitor of more than 0.33 μ F between V_{CC} and GND near the device.
2. For cleaning
 - Acryle resin is used as the material of the lens surface. As to cleaning, this refractive type photointerrupter shall not clean by cleaning materials absolutely. Dust and stain shall clean by air blow, or shall clean by soft cloth soaked in washing materials.
3. The connector should be plugged in / out at normal temperature.
4. As for other general precautions, refer to the chapter "Precautions for Use".

Application Circuits

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 - Industrial control
 - Audio visual equipment
 - Consumer electronics
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 - Gas leakage sensor breakers
 - Alarm equipment
 - Various safety devices, etc.
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