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SHARP GP2Y1010AU

GP2Y1010AU

■ Features

- 1. Compact, thin type (46×30×17.6mm)
- 2. Low dissipation current (I_{CC}:MAX. 20mA)
- 3. Single-shot detection of house dust

■ Applications

- 1. Air conditioners
- 2. Air cleaner

■ Absolute Maximum Ratings

 $(T_a=25^{\circ}C)$

Parameter	Symbol	Rating	Unit
Supply voltage	V _{CC}	-0.3 to +7	V
*1 Input terminal voltage	V_{LED}	-0.3 to V_{CC}	V
Operating temperature	Topr	-10 to +65	°C
Soldering temperature	T _{sol}	-20 to +80	°C

^{*1} Open drain drive input

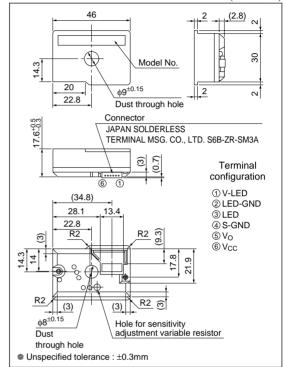
■ Recommend Operating Conditions

Parameter	Symbol	Rating	Unit
Operating Supply voltage	Vcc	5+0.5	V

Compact Dust Sensor for Air Conditioners

■ Outline Dimensions

(Unit: mm)



■ Electro-optical Characteristics

		$(1_a-25$ C, $\sqrt{CC}=3\sqrt{)}$				
Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Detecting sensitivity	K	*1 *2 *3 *4	0.35	0.5	0.65	V/ (0.1mg/m ³)
Output voltage (no dust)	V _{OC}	*2 *3 *4	0	0.9	1.5	V
Output voltage range	V _{OH}	*2 *3 *4 RL=4.7kΩ	3.4	_	_	V
LED terminal current	I_{LED}	*2 *3 *4 LED terminal=0V	_	10	20	mA
Dissipation current	I_{CC}	*2 *3 RL=∞	_	11	20	mA

^{*1} Dust density shall be measured the density of Mild seven by using a digital dust indicator. (P-5L2 made by SIBATA SCIENTIFIC TECHNOLOGY LTD.)

Fig.1 Input Condition for LED Input Terminal

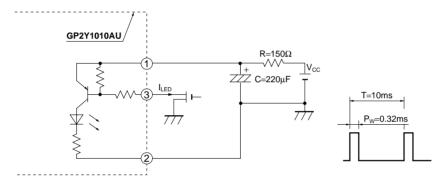
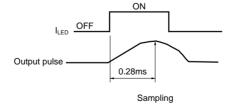


Fig.2 Sampling Timing of Output Pulse



■ Recommended Input Condition for LED Input Terminal

Parameter	Symbol	Recommendation	Unit
Pulse cycle	T	10±1	ms
Pulse width	P_{W}	0.32±0.02	ms

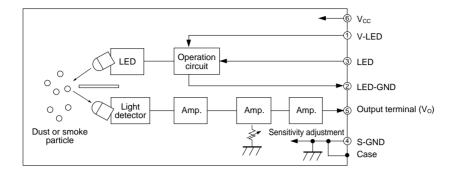
Sensitivity:K shall be specified about output voltage change when dust density is changed 0.1mg/m³

^{*2} Input condition for LED input terminal (pulse driving condition) is shown in Fig.1

^{*3} Refer to Fig.1 *4 Refer to Fig.2

GP2Y1010AU

Fig.3 Internal Block Diagram



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 - --- Industrial control
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