RoHS

■ Distance Measuring Sensors (1)

◆Digital Output

(Ta = 25°C)

Model No.	Detected distance (cm)	Features	Absolute maximum ratings		Electro-optical characteristics*1			
			Vcc (V)	Topr (°C)	VOH (V) MIN.	VOL (V) MAX.	Dissipation current	
							Operating (mA)	Standby (μA)
GP2Y0D805Z0F	5	Light detector, infrared LED and signal processing circuit, short distance measuring type, battery drive compatible (operating power supply: 2.7 to 6.2 V)	−0.3 to +7	−10 to +60	Vcc −0.6	0.6	MAX. 6.5	MAX. 8
GP2Y0D810Z0F	10	Light detector, infrared LED and signal processing circuit, short distance measuring type, battery drive compatible (operating power supply: 2.7 to 6.2 V)	−0.3 to +7	−10 to +60	Vcc −0.6	0.6	MAX. 6.5	MAX. 8
GP2Y0D815Z0F	15	Light detector, infrared LED and signal processing circuit, short distance measuring type, battery drive compatible (operating power supply: 2.7 to 6.2 V)	−0.3 to +7	−10 to +60	Vcc −0.6	0.6	MAX. 6.5	MAX. 8
GP2Y0D413K0F	13	Distance measuring sensor united with PSD※, infrared LED and signal processing circuit, digital voltage output according to the measured distance	−0.3 to +7	−10 to +60	Vcc −0.3	0.6	–	–
GP2Y0D21YK0F	24	Distance measuring sensor united with PSD※, infrared LED and signal processing circuit, digital voltage output according to the measured distance	−0.3 to +7	−10 to +60	Vcc −0.3	0.6	MAX. 40	–
GP2Y0D02YK0F	80	Distance measuring sensor united with PSD※, infrared LED and signal processing circuit, long distance measuring type (No external control signal required), digital voltage output according to the measured distance	−0.3 to +7	−10 to +60	Vcc −0.3	0.6	MAX. 50	–

*1 Vcc = 5 V

※ PSD: Position Sensitive Detector

Optoelectronics

☆ New product

■ Distance Measuring Sensors (2)

◆ Analog Output (Including I²C output)

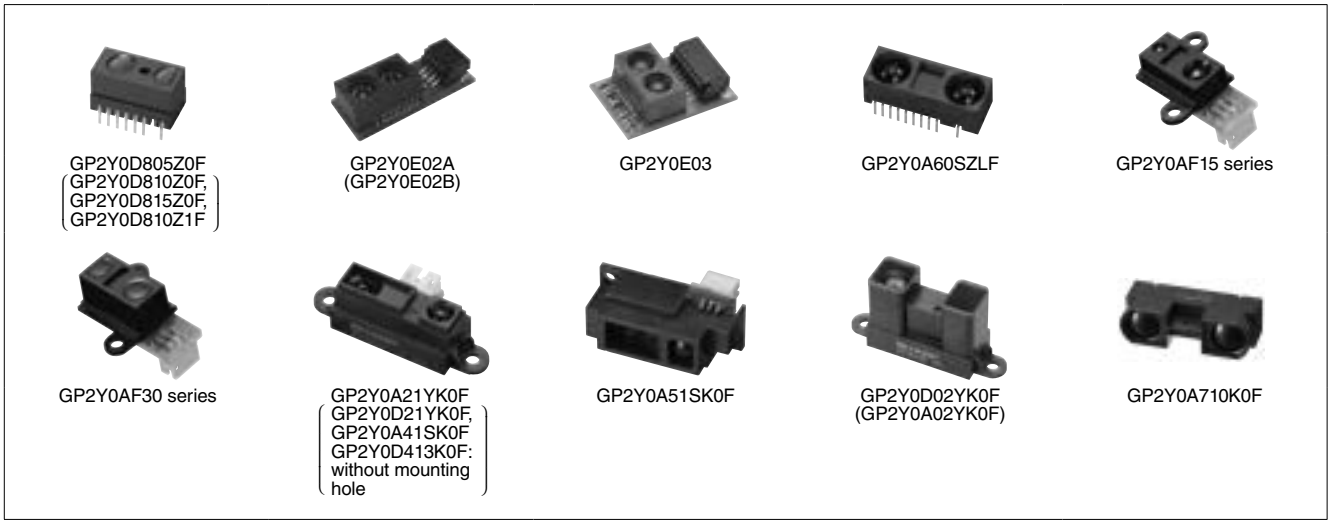
(Ta = 25°C)

Model No.	Distance measuring range (cm)	Features	Absolute maximum ratings		Electro-optical characteristics*1		
			Vcc (V)	Topr (°C)	VOH (V) MIN.	VOL (V) MAX.	Dissipation current Operating (mA)
☆GP2Y0AF15 series	1.5 to 15	Distance measuring sensor united with PSD※, infrared LED and signal processing circuit, short measuring cycle (16.5 ms), compact, lineup of various connector shapes	−0.3 to +7	−10 to +60	VO (TYP.) = 0.4 V (at L = 15 cm), ΔVO (TYP.) = 2.3 V (at L = 15 cm → 1.5 cm)		TYP. 17
GP2Y0A51SK0F	2 to 15	Distance measuring sensor united with PSD※, infrared LED and signal processing circuit, short measuring cycle (16.5 ms)	−0.3 to +7	−10 to +60	VO (TYP.) = 0.4 V (at L = 15 cm), ΔVO (TYP.) = 2.25 V (at L = 15 cm → 2 cm)		TYP. 12
☆GP2Y0AF30 series	4 to 30	Distance measuring sensor united with PSD※, infrared LED and signal processing circuit, short measuring cycle (16.5 ms), compact, lineup of various connector shapes	−0.3 to +7	−10 to +60	VO (TYP.) = 0.4 V (at L = 30 cm), ΔVO (TYP.) = 2.3 V (at L = 30 cm → 4 cm)		TYP. 17
GP2Y0A41SK0F	4 to 30	Distance measuring sensor united with PSD※, infrared LED and signal processing circuit, short measuring cycle (16.5 ms)	−0.3 to +7	−10 to +60	VO (TYP.) = 0.4 V (at L = 30 cm), ΔVO (TYP.) = 2.25 V (at L = 30 cm → 4 cm)		MAX. 22
GP2Y0E02A	4 to 50	Infrared LED and CMOS image sensor with built-in signal processing circuit, compact size (18.9 × 8 × 5.2 mm), high-precision measurement, analog output	−0.3 to +3.6	−10 to +60	VOUT (A) 1 = 0.3 to 0.8 V (at L = 50 cm), VOUT (A) 3 = 2.1 to 2.3 V (at L = 4 cm)		MAX. 36
GP2Y0E02B	4 to 50	Infrared LED and CMOS image sensor with built-in signal processing circuit, compact size (18.9 × 8 × 5.2 mm), high-precision measurement, I²C output	−0.3 to +3.6	−10 to +60	D1 = 45 to 50 cm (at L = 50 cm), D3 = 3 to 5 cm (at L = 4 cm)		MAX. 36
GP2Y0E03	4 to 50	Infrared LED and CMOS image sensor with built-in signal processing circuit, compact size (16.7 × 11 × 5.2 mm), high-precision measurement, analog / I²C output both compatible	−0.3 to +5.5	−10 to +60	VOUT (A) 1 = 0.3 to 0.8 V, D1 = 45 to 50 cm (at L = 50 cm), VOUT (A) 3 = 2.1 to 2.3 V, D3 = 3 to 5 cm (at L = 4 cm)		MAX. 36
GP2Y0A21YK0F	10 to 80	Distance measuring sensor united with PSD※, infrared LED and signal processing circuit, linear voltage output	−0.3 to +7	−10 to +60	VO (TYP.) = 0.4 V (at L = 80 cm), ΔVO (TYP.) = 1.9 V (at L: 80 cm → 10 cm)		MAX. 40
GP2Y0A60SZLF	10 to 150	Distance measuring sensor united with PSD※, infrared LED and signal processing circuit, compact type (22 x 8 x 7.2 mm), long distance measuring type (No external control signal required)	−0.3 to +5.5	−10 to +60	VO (TYP.) = 0.65 V *2 (at L = 150 cm), ΔVO (TYP.) = 3.0 V (at L = 150 cm → 20 cm)		MAX. 50
GP2Y0A02YK0F	20 to 150	Distance measuring sensor united with PSD※, infrared LED and signal processing circuit, long distance measuring type (No external control signal required)	−0.3 to +7	−10 to +60	VO (TYP.) = 0.4 V (at L = 150 cm), ΔVO (TYP.) = 2.05 V (at L = 150 cm → 20 cm)		MAX. 50
GP2Y0A710K0F	100 to 550	Distance measuring sensor united with PSD※, infrared LED and signal processing circuit, long distance measuring type (No external control signal required)	−0.3 to +7	−10 to +60	VO (TYP.) = 2.5 V (at L = 100 cm), ΔVO (TYP.) = 0.7 V (at L = 100 cm → 200 cm)		TYP. 30

*1 Vcc = 5 V
*2 When Vcc = 3 V: Vo (TYP.) = 0.35 V (at L = 150 cm); ΔVo (TYP.) = 1.6 V (at L = 150 cm → 20 cm)

※ PSD: Position Sensitive Detector

★ Under development



GP2Y0D805Z0F
(GP2Y0D810Z0F, GP2Y0D815Z0F, GP2Y0D810Z1F)

GP2Y0E02A
(GP2Y0E02B)

GP2Y0E03

GP2Y0A60SZLF

GP2Y0AF15 series

GP2Y0AF30 series

GP2Y0A21YK0F
(GP2Y0D21YK0F, GP2Y0A41SK0F GP2Y0D413K0F: without mounting hole)

GP2Y0A51SK0F

GP2Y0D02YK0F
(GP2Y0A02YK0F)

GP2Y0A710K0F

■ Dust Sensor Unit

(Ta = 25°C)

Model No.	Features	Topr (°C)	Operating supply voltage (V)	Electro-optical characteristics		
				Dissipation current (mA)	Detection concentration μg/m³ (TYP.)	Output
GP2Y1010AU0F	• Built-in infrared emitting diode, photodiode and signal processing circuit • Compact, single-shot detection of house dust • Output: Analog voltage	–10 to +65	4.5 to 5.5	TYP. 11	0 to 600	Analog voltage
GP2Y1012AU0F	• High sensitivity • Built-in infrared emitting diode, photodiode and signal processing circuit • Compact, single-shot detection of house dust • Output: Analog voltage		4.5 to 5.5	TYP. 11	0 to 240	Analog voltage
GP2Y1023AU0F	• High sensitivity • Built-in microcomputer • Built-in infrared emitting diode, photodiode and signal processing circuit • Compact, single-shot detection of house dust • Output: Digital signal output (PWM)		4.75 to 5.25	TYP. 15	0 to 240	Digital signal (PWM) Temperature correction Averaging
★GP2Y1030AU0F	• Built-in infrared emitting diode, photodiode and signal processing circuit • Built-in microcomputer • Sensing can discriminate between PM2.5 and PM10 • Internal cleaning possible		3 to 5.5	TYP. 25	0 to 500	Digital signal (UART)

GP2Y1010AU0F
(GP2Y1012AU0F, GP2Y1023AU0F)

GP2Y1030AU0F

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