



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)
GP2Y5D91S00F	1.5	Light detector, infrared LED and signal processing circuit, short distance measuring type, battery drive compatible (operating power supply: 2.7 to 6.2 V), capable of operation at high temperature	-0.3 to +7	-30 to +105	Vcc -0.6	0.6	TYP. 7	-
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
GP2Y0D810Z1F	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), wide operating temperature type	-0.3 to +7	-40 to +85	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

Notice

In the absence of confirmation by device specification sheets, SHARP takes no responsibility for any defects that may occur in equipment using any SHARP devices shown in catalogs, data books, etc. Except where specially indicated, models listed on this page comply with the RoHS Directive*. For details, please contact SHARP. *RoHS Directive: Prohibits use of lead, cadmium, hexavalent chromium, mercury and specific brominated flame retardants (PBBs and PBDEs), with certain exceptions. Contact SHARP in order to obtain the latest device specification sheets before using any SHARP device.

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, I ² C 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 / I ² C 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
GP2Y0A60SZ0F/ GP2Y0A60SZLF	10 to 150	Distance measuring sensor united with PSD*, infrared LED and signal processing circuit, compact type (22 × 8 × 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 (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

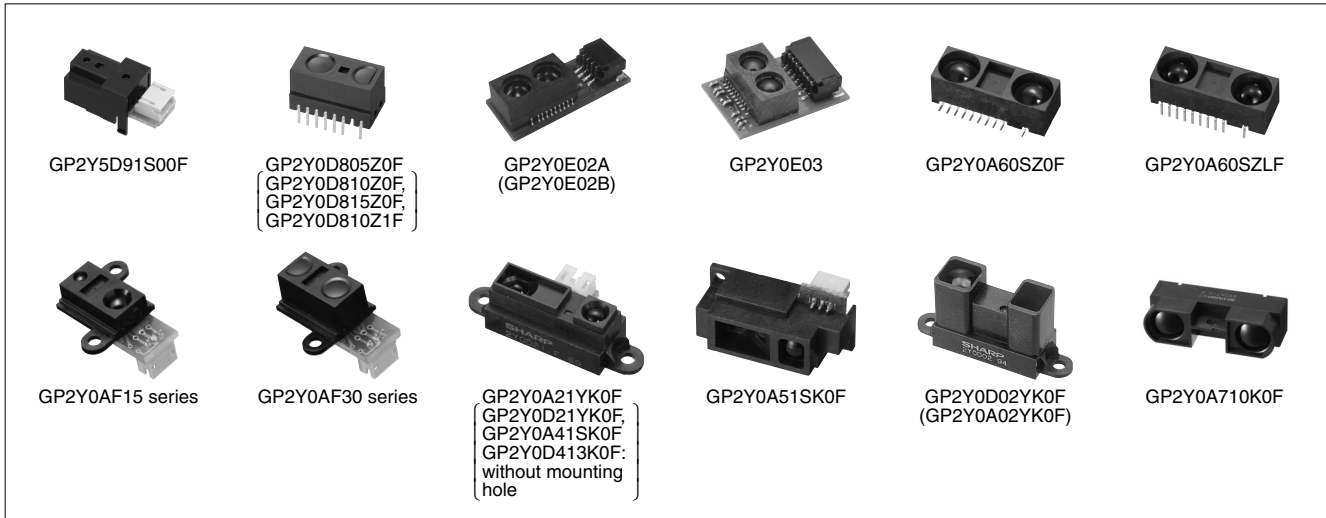
*2 GP2Y0A60SZ0F: Surface mount type
GP2Y0A60SZLF: Board insertion type

*3 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

Notice

In the absence of confirmation by device specification sheets, SHARP takes no responsibility for any defects that may occur in equipment using any SHARP devices shown in catalogs, data books, etc.
Except where specially indicated, models listed on this page comply with the RoHS Directive*. For details, please contact SHARP.
*RoHS Directive: Prohibits use of lead, cadmium, hexavalent chromium, mercury and specific brominated flame retardants (PBBs and PBDEs), with certain exceptions.
Contact SHARP in order to obtain the latest device specification sheets before using any SHARP device.



High-Precision Displacement Sensor

(Ta = 25°C)

Model No.	Features	Topr (°C)	Operating supply voltage (V)	Dissipation current (mA)	Distance measuring range (mm)	Distance characteristic of output
GP2Y0AH01K0F	Resolution: 50 μm	-10 to +60	4.5 to 5.5	TYP. 20	4.5 to 6.0	TYP. 1.70 V Variation in output over range (4.5 to 6.0 mm)



Dust Sensor Unit

(Ta = 25°C)

Model No.	Features	Topr (°C)	Electro-optical characteristics				
			Operating supply voltage (V)	Dissipation current (mA)	Detection sensitivity V/(0.1 mg/m ³)	Output voltage at no dust Voc (V)	Output voltage range Voh (V)
GP2Y1010AU0F	Built-in infrared emitting diode, photodiode and signal processing circuit, compact, single-shot detection of house dust	-10 to +65	4.5 to 5.5	TYP. 11	TYP. 0.5	TYP. 0.9	MIN. 3.4



Notice

In the absence of confirmation by device specification sheets, SHARP takes no responsibility for any defects that may occur in equipment using any SHARP devices shown in catalogs, data books, etc. Except where specially indicated, models listed on this page comply with the RoHS Directive*. For details, please contact SHARP. *RoHS Directive: Prohibits use of lead, cadmium, hexavalent chromium, mercury and specific brominated flame retardants (PBBs and PBDEs), with certain exceptions. Contact SHARP in order to obtain the latest device specification sheets before using any SHARP device.