

■ Lighting

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■ Sensors

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Pack performance into the smallest dimensions with Sharp's solutions for Lighting, Sensing, and Power handling. Sharp's Lighting, Drivers, Power handling, and Sensing modules are specifically designed for engineers with small applications demanding higher packaging density and a smaller end product. Combine our Lighting with our Driver and Sensing modules for a complete solution. Sharp's Sensors provide the best cost/performance numbers in the industry, while Sharp's Photointerrupters are at the forefront in size and ambient light management. Sharp's Distance Sensors outperform capacitive, ultrasonic, and light-intensity offerings.



SMD High-brightness LEDs

Part Number	Package Type	Color	Color Temperature (°K)	Dominant Wavelength (nm)	Current MAX. (mA)	Tested Current (mA)	Forward Voltage (V)	Viewing Angle (degrees)	Luminous Flux (lm)	Luminous Intensity (mcd)
GM5BW96385A	PLCC2	White	5,300	NA	30	20	3.2	120	6.3	2,200
GM5BW97330A	PLCC4	White	5,300	NA	80	60	3.2	120	17	6,400
GM5BW97331A	PLCC4	White	5,000	NA	80	60	3.2	120	17	7,000
GM5BW97332A	PLCC4	Cool white	6700	NA	80	60	3.2	120	15	5,800
GM5BW97333A	PLCC4	Cool white	11,500	NA	80	60	3.2	120	12	5,100
GM5SAE27P0A	PLCC2	Warm white	2,700	NA	30	20	3.2	120	5.8	2,000
GM5SAE30P0A	PLCC2	Warm White	3,000	NA	30	20	3.2	120	5.8	2,050
GM5SAE35P0A	PLCC2	Warm White	3,500	NA	30	20	3.2	120	5.8	2,100
GM5SAE40P0A	PLCC2	White	4,000	NA	30	20	3.2	120	5.8	2,150
GM5SAE45P0A	PLCC2	White	4,500	NA	30	20	3.2	120	5.8	2,200
GM5SAE50P0A	PLCC2	White	5,000	NA	30	20	3.2	120	5.8	2,200
GM5SAE57P0A	PLCC2	Cool white	5,700	NA	30	20	3.2	120	5.8	2,200
GM5SAE65P0A	PLCC2	Cool white	6,500	NA	30	20	3.2	120	5.8	2,200
GM5BW05341A	5.0 × 5.0 with Lens	Cool white	6,500	NA	25/25/25	20/20/20	3.2	60	25	10,000
GM5BW01300A	6.0 × 5.0	Cool white	6,500	NA	40/40/40	35/35/35	3.4	120	11	4,000

NOTE: Ta = 25°C

RGB LEDs

Part Number	Package Type	Color	Color Temperature (°K)	Dominant Wavelength (nm)	Current MAX. (mA)	Tested Current (mA)	Forward Voltage (V)	Viewing Angle (degrees)	Luminous Flux (lm)	Luminous Intensity (mcd)
GM1WA55311A	1.6 × 1.6 SMD	RGB	NA	0.27/0.26 mixed colors	10	5	1.9/3.0/2.9	110	NA	20/70/23
GM1WA55321A	1.6 × 1.6 SMD	RGB	NA	0.27/0.26 mixed colors	10	5	2.0/3.0/2.9	110	NA	28/75/25
GM4WA25300A	5.0 × 2.5 SMD	RGB	NA	0.27/0.26 mixed colors	30/30/30	20/20/20	2.2/3.3/3.3	110	NA	640/1200/400
GM5WA94313A	2.8 × 3.5 SMD	RGB	NA	627/523/463	80	20/20/20	2.2/3.3/3.2	110	NA	600/1000/300
GM5WA94310A	2.8 × 3.5 SMD	RGB	NA	0.27/0.26 mixed colors	80	20/20/7	2.2/3.3/3.2	110	NA	620/1180/270
GM5WA06256A	6.0 × 5.0 SMD	RGB	NA	0.27/0.26 mixed colors	50/50/50	22/35/13	2.3/3.7/3.7	110	NA	470/500/280
GM5ZR96270A	2.8 × 3.5 × 1.9 mm	Red	NA	624	30	20	2.2	N/A	NA	600
GM5GC96270A	2.8 × 3.5 × 1.9 mm	Green	NA	527	30	20	2.2	N/A	NA	1300
GM5ZV96270A	2.8 × 3.5 × 1.9 mm	Amber	NA	588	30	20	2.2	N/A	NA	600

LED Lighting Module “Zenigata”

Power (Watt)	Part Number	Package Type	Color	Color Temperature (°K)	Current MAX. (mA)	Tested Current (mA)	Forward Voltage (V)	Viewing Angle (degrees)	Luminous Flux (lm)
3.6	GW5BDC15L02	18mm × 18mm	Warm White	2800	400	360	10.2	120	200
	GW5BWC15L02	18mm × 18mm	White	5000	400	360	10.2	120	280
	GW5BNC15L02	18mm × 18mm	High CRI White	5000	400	360	10.2	120	190
	GW5BNC15L12	18mm × 18mm	High CRI Cool White	6500	400	360	10.2	120	190
6.7	GW5BDF15L00	18mm × 18mm	Warm White	2800	700	640	10.2	120	400
	GW5BWF15L00	18mm × 18mm	White	5000	700	640	10.2	120	540
	GW5BNF15L00	18mm × 18mm	High CRI White	5000	700	640	10.2	120	350
	GW5BNF15L10	18mm × 18mm	High CRI Cool White	6500	700	640	10.2	120	350

Side Emission LEDs

Part Number	Package Type	Color	Color Temperature (°K)	Dominant Wavelength (nm)	Current MAX. (mA)	Tested Current (mA)	Forward Voltage (V)	Viewing Angle (degrees)	Luminous Flux (lm)	Luminous Intensity (mcd)
GM4BW853B0A	2.8 × 1.2 (T: 0.8)	White	8,000	NA	35	20	3.2	110	5.8	2,200
GM4BW653B0A	3.85 × 1.0 (T: 0.6)	White	8,000	NA	35	20	3.2	110	5.8	2,200
GM4BW53340A	3.85 × 1.0 (T: 0.5)	White	8,000	NA	35	20	3.2	110	5.4	1,800

LED Drivers

Model No.	LED Configuration		RGB	White	Input Voltage (V)	Output Current (mA)	Step-up Switching Frequency (Hz)	LED Anode Voltage Supply Source	Control	Package	Package Dimensions (mm)
	(parallel)	(series)									
IR2D07	16	N/A	N/A	N/A	3.0 - 5.5	55	N/A	External (to 7.0 V)	3-line serial	28-pin SDIP	8.6 × 25.5 × 4.4
IR2D20U	8+8+8	N/A	N/A	N/A	4.5 - 5.5	30	N/A	External (to 18 V)	3-line serial	52-pin HQFN	7.2 × 7.2 × 0.92
IR2E46Y7	3	2 sets of 2 LEDs	1 pair	2 sets of 2 LEDs (series)	2.7 - 4.5	155	1.2M	External (to 4.5 V) Built-in step-up Coil	I ² C bus	33-pin WLCSP	3.6 × 3.6 × 0.82
IR2E49U6	5	5 sets of 7 LEDs	N/A	5 sets of 7 LEDs (series)	6 - 28	150	100k - 1M	Built-in step-up Coil	Logic input	36-pin VQFN	6.2 × 6.2 × 1.0
	35 (5 × 7) possible										
IR2E51Y7	4 (W) + 2 (W) + 3 (RGB)	N/A	1 pair	6 LEDs (4+2) (parallel)	3.0 - 4.5 2.3 - 3.2	25	500k	Built-in step-up Charge pump	I ² C bus	35-pin WLCSP	3.6 × 3.6 × 0.82
IR2E53Y7	6 (RGB)	18 sets of 6 LEDs	6	18 LEDs	3.0 - 4.5 2.3 - 3.2	25.9	660k	Built-in step-up Charge pump	I ² C bus	35-pin WLCSP	3.57 × 3.57 × 0.875
PQ6CB11X1CP	N/A	1 set of 6 LEDs	N/A	6 LEDs (series)	2.7 - 5.5	250	1.2M	Built-in step-up Coil	Logic input	6-pin SMD	1.8 × 2.0 × 0.8
PQ7L2020BP	N/A	1 set of 9 LEDs	N/A	9 LEDs (series)	2.9 - 5.5	500	1.2M	Built-in step-up Coil	Logic input	6-pin SMD	1.8 × 2.0 × 0.8

Ambient Light Sensors

Model No.	Type	Package	Absolute Maximum Ratings		Electro-optical Characteristics						
			V _{CC} (V)	I ₀ (mA)	T _{opr} (°C)	Supply Voltage V _{CC} (V)	Illuminance Range Ex (lx)	Dissipation Current I _{CC} (μA) TYP.	Peak Sensitivity Wavelength λ _p (nm)	Output Current	
										I ₀₁ (μA) TYP.	I ₀₂ (μA) TYP.
GA1A2S100SS	Built-in amplification circuit. Peak sensitivity characteristic close to human vision: Linear current output. Straight leads.	Transparent resin (3 × 4 mm)	7.0	5	-40 to +85	2.7 to 3.6	10 to 10,000	500	555	480 (at E _v = 1,000 lx)	48 (at E _v = 100 lx)
GA1A2S100LY	Built-in amplification circuit. Peak sensitivity characteristic close to human vision: Linear current output. L-bend leads.		7.0	5	-40 to +85	2.7 to 3.6	10 to 10,000	500	555	480 (at E _v = 1,000 lx)	48 (at E _v = 100 lx)
GA1A1S201WP	Built-in amplification circuit. Peak sensitivity characteristic close to human vision: Logarithmic current output.	Compact (2.0 × 1.6 mm) Leadless	7.0	1	-40 to +85	2.3 to 3.2	3 to 55,000	70	555	20 (at E _v = 100 lx)	30 (at E _v = 1,000 lx)

Blue Laser Diodes (with integrated photodiode)

Part Number	Peak Wavelength (nm)	Optical Output Power (mW)	Threshold Current (mA) TYP.	Operating Current (mA) TYP.	Operating Voltage (V) TYP.	Packages
GH0420B2A	400 - 413	210	40	120	5.4	f5.6CAN
GH04125A2A	400 - 415	20	25	35	5.8	f5.6CAN

Photocouplers

Model No.	Features	Approved by Safety Standards	Package	Absolute Maximum Ratings			Electro-optical Characteristics						
				Forward Current I_F (mA)	Isolation Voltage (AC) V_{ISO} (rms) (kV)	Collector-emitter Voltage V_{CEO} (V)	Current Transfer Ratio			Response Time			
							CTR (%) MIN.	I_F (mA)	V_{CE} (V)	t_r (μ s) TYP.	I_C (mA)	R_L (Ω)	V_{CE} (V)
Single Phototransistor Output													
PC123J00000F	High isolation voltage, long creepage distance	UL, VDE, BSI, CSA, SEMKO, DEMKO, NEMKO, FIMKO	4-pin DIP	50	5.0	70	50	5	N/A	4	N/A	100	N/A
PC357NJ0000F	General purpose	UL	Mini-flat 4-pin	50	3.75	80	50	5	5	4	2	100	2
PC354NJ0000F	Low input current, AC input response, high resistance to noise	UL	Mini-flat 4-pin	± 50	3.75	80	20	± 1	5	4	2	100	2
PC3H7J00000F	Standard	UL	Mini-flat 4-pin	50	2.5	80	20	1	5	4	2	100	2
PC3H71xNIP0F	High resistance to noise, low input current	UL	Mini-flat 4-pin	10	2.5	80	100	0.5	5	4	2	100	2
PC3H4J00000F	AC input response	UL	Mini-flat 4-pin	± 50	2.5	80	20	± 1	5	4	2	100	2
PC3H41xNIP0F	AC input response, high resistance to noise, low input current	UL	Mini-flat 4-pin	± 10	2.5	80	50	± 0.5	5	4	2	100	2
PC4H510NIP0F	High collector-emitter voltage	UL	Mini-flat 4-pin	50	2.5	350	40	5	5	4	2	100	2
PC8141xNSZ0F	High isolation voltage, low input current, high resistance to noise	UL	4-pin DIP	± 10	5.0	80	50	± 0.5	N/A	4	N/A	100	N/A
PC817XJ0000F	High isolation voltage	UL, VDE	4-pin DIP	50	5.0	80	50	5	N/A	4	N/A	100	N/A
PC8171xNSZ0F	High isolation voltage, low input current, high resistance to noise	UL	4-pin DIP	10	5.0	70	100	0.5	N/A	4	N/A	100	N/A
Darlington Phototransistor Output													
PC355NJ0000F	High sensitivity	UL	Mini-flat 4-pin	50	3.75	35	600	1	2	60	2	100	2
PC3H5J00000F	High sensitivity	UL	Mini-flat 4-pin	50	2.5	35	600	1	2	60	2	100	2
PC3H510NIP0F	High sensitivity, low input current	UL	Mini-flat 4-pin	10	2.5	35	600	0.5	2	60	2	100	2
PC815XJ0000F	High isolation voltage, high sensitivity	UL	4-pin DIP	50	5.0	35	600	1	N/A	60	N/A	100	N/A
PC81510NSZ0F	High isolation voltage, high sensitivity, low input current	UL	4-pin DIP	10	5.0	35	600	0.5	N/A	60	N/A	100	N/A
PC851XJ0000F	High isolation voltage, high collector-emitter voltage	UL	4-pin DIP	50	5.0	350	40	5	N/A	4	N/A	100	N/A
PC852XJ0000F	High isolation voltage, high collector-emitter voltage	UL, VDE	4-pin DIP	50	5.0	350	1,000	1	N/A	100	N/A	100	N/A
PC853XJ0000F	High isolation voltage, high collector-emitter voltage	UL, VDE	4-pin DIP	50	5.0	350	1,000	1	N/A	100	N/A	100	N/A

NOTE: Please contact marketing for Current Transfer Ratio (CTR), Tape & Reel and Lead Forming Options.

Photocouplers (Cont'd)

Model No.	Features	Approved by Safety Standards	Package	Absolute Maximum Ratings		Electro-optical Characteristics							
				Forward Current I_F (mA)	Isolation Voltage (AC) V_{ISO} (rms) (kV)	Current Transfer Ratio				Propagation Delay Time			
						CTR (%) MIN.	I_F (mA)	V_O (V)	V_{CC} (V)	T_{PHL} (μ s) TYP.	T_{PLH} (μ s) TYP.	R_L (Ω)	I_F (mA)
OPIC Output Compact, SMT Type													
PC457SONIPOF	High speed (1 Mb/s), high CMR (15 kV/ μ s), For flow soldering, solder heat resistance: 270°C	UL, VDE	Mini-flat 5-pin	25	3.75	19	16	0.4	4.5	0.2	0.6	1,900	16
OPIC Output DIP Type, Analog/Digital Output													
PC957LONSZOF	High speed (1 Mb/s), high CMR (15 kV/ μ s), for flow soldering, solder heat resistance: 270°C	UL, VDE	8-pin DIP	25	5.0	19	16	0.4	4.5	0.2	0.6	1,900	16

Model No.	Features	Approved by Safety Standards	Package	Absolute Maximum Ratings		Electro-optical Characteristics							
				Forward Current I_F (mA)	Isolation Voltage (AC) V_{ISO} (rms) (kV)	Low Level Output Voltage				Threshold Input Current			
						V_{OL} (V) MAX.	T_a ($^{\circ}$ C)	I_{OL} (mA)	I_F (mA)	I_{FHL} (mA) MAX.	I_{FLH} (mA) MAX.	R_L (Ω)	
OPIC Output Compact, SMT Type													
PC410LONIPDF	High speed (10 Mb/s), high CMR (10 kV/ μ s), Flow solder.	UL, VDE	Mini-flat 5-pin	20	3.75	0.6	-40 to +85	13	5	5.0	N/A	350	
PC410SONIPDF	High speed (10 Mb/s), high CMR (10 kV/ μ s), Flow solder < 270°C.	UL, VDE	SOP 8-pin	20	3.75	0.6	-40 to +85	13	5	5.0	N/A	350	
PC412SONIPDF	High speed (25 Mb/s), high CMR (10 kV/ μ s), Flow solder < 270°C.	UL	SOP 8-pin	N/A	3.75	1	-40 to +85	4	$V_{IN} = V_{IL}$		N/A	N/A	
PC411LONIPDF	High speed (15 Mb/s), high CMR (10 kV/ μ s), Flow solder.	UL, VDE	Mini-flat 5-pin	20	3.75	0.1	-40 to +85	0.02	12	6.0	N/A	N/A	
PC411SONIPDF	High speed (15 Mb/s), high CMR (10 kV/ μ s), Flow solder < 270°C.	UL, VDE	SOP 8-pin	20	3.75	0.1	-40 to +85	0.02	12	6.0	N/A	N/A	
PC410SONIPDF	High speed (10 Mb/s), high CMR (10 kV/ μ s), Flow solder < 270°C, 2 ch output.	UL	SOP 8-pin	20	3.75	0.6	-40 to +85	13	5	5.0	N/A	N/A	
OPIC Output Digital Output													
PC900VONIPXF	Digital output, normal-off operation	UL, VDE	6-pin DIP	50	5.0	0.4	0 to +70	16	4	2.0	N/A	280	

Model No.	Features	Approved by Safety Standards	Package	Absolute Maximum Ratings			Electro-optical Characteristics					
				Forward Current I_F (mA)	Isolation Voltage (AC) V_{ISO} (rms) (kV)	Output current I_{O1} (A)	Propagation Delay Time			I_F (mA)	R_{L1} (Ω)	R_{L2} (Ω)
							T_{PHL} (μ s) TYP.	T_{PLH} (μ s) TYP.	V_{CC} (V)			
OPIC Output DIP Type, Gate Drive Type												
PC923LONSZOF	Built-in drive circuit directly connectable to MOS-FET and IGBT. Low dissipation current ($I_{CC} = 1.3$ mA TYP.). High resistance to noise (CMR: 15 kV/ μ s MIN.)	UL, VDE	8-pin DIP	20	5.0	0.1	0.3	0.3	24	5	$R_G = 47$	N/A
PC924LONSZOF		UL, VDE	8-pin DIP	25	5.0	0.1	1.0	1.0	24	10	$R_G = 47$	N/A



4-pin DIP



6-pin DIP



8-pin DIP



Mini-flat 4-pin



Mini-flat 5-pin

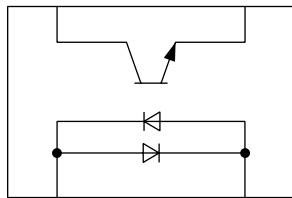


SOP 8-pin

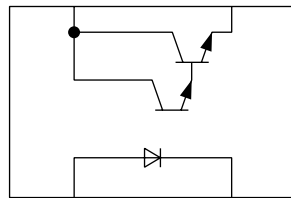
Phototriac Couplers

Model No.	Features	Approved by Safety Standards	Package	Absolute Maximum Ratings			Electro-optical Characteristics (Trigger Current MIN.)		
				ON-state Current I_T (rms) (A)	Repetitive Peak OFF-state VDRM (V)	Isolation Voltage (AC) V_{iso} (rms) (kV)	I_{FT} (mA) MAX.	V_D (V)	R_L (Ω)
Triggering Devices									
PC3ST11NSZAF	200 V lines, compact	UL, CSA	4-pin DIP	0.1	600	5.0	10	6	100
PC3SD12NTZAF	200 V lines	UL, CSA	6-pin DIP	0.1	600	5.0	10	6	100
PC3SF11YVZAF	200 V lines, reinforced isolation	UL, CSA	6-pin DIP	0.1	600	5.0	10	6	100
PC4SF11YVZAF	200 V lines, reinforced isolation, repetitive peak-OFF-state voltage	UL, CSA	6-pin DIP	0.1	800	5.0	10	6	100
S2S4A000F	200 V lines, compact, built-in zero-cross circuit	UL, CSA	Mini-flat 4-pin	0.05	600	3.75	10	6	100
PC3SH21YFZBF	200 V lines, compact, reinforced isolation, built-in zero-cross circuit	UL, VDE, CSA, BSI, SEMKO, DEMKO, FIMKO	4-pin DIP	0.1	600	5.0	7	4	100
PC3SD21YTZBF	200 V lines, compact, reinforced isolation, built-in zero-cross circuit	UL, VDE, CSA	6-pin DIP	0.1	600	5.0	7	4	100
PC3SD21YTZDF	200 V lines, low zero-cross voltage: 20 V MAX., built-in zero-cross circuit	UL, VDE, CSA	6-pin DIP	0.1	600	5.0	3	4	100
PC3SF21YVZBF	200 V lines, low zero-cross voltage: 20 V MAX., built-in zero-cross circuit	UL, VDE, CSA, BSI, SEMKO, DEMKO, FIMKO	6-pin DIP	0.1	600	5.0	7	4	100

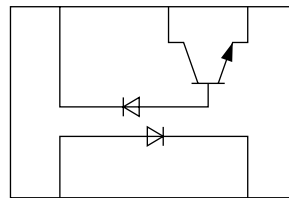
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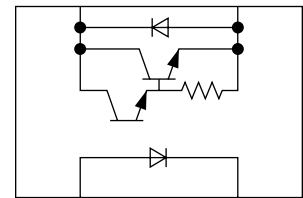
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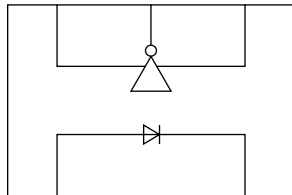
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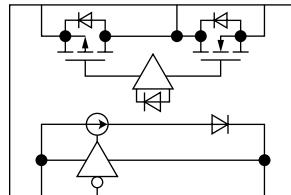
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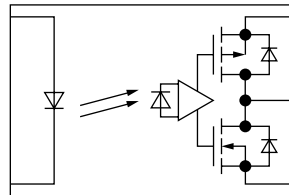
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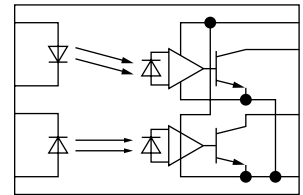
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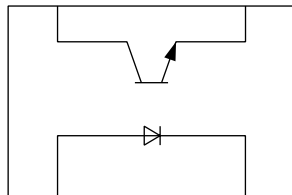
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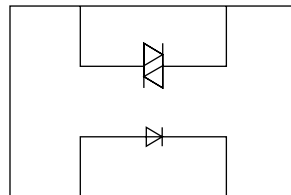
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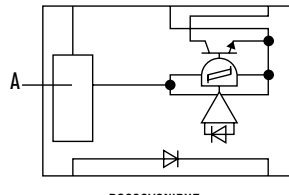
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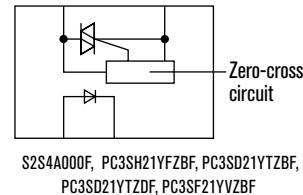
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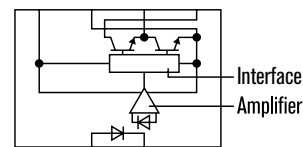
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PC900VONIPXF



S2S4A000F, PC3SH21YFZBF, PC3SD21YTZBF, PC3SD21YTZDF, PC3SF21YVZBF



PC923LONSZ0F, PC924LONSZ0F

Photointerrupters

Model No.	Features	Detecting and Emitting Gap (mm)	Slit width (mm)	Electro-optical Characteristics							
				Current transfer ratio			Response time				
				CTR (%)	I _F (mA)	V _{CE} (V)	t _r (μs) TYP.	I _C (mA)	R _L (Ω)	V _{CE} (V)	
Transmissive, Single Transistor Output Compact Type											
GP1S092HCPIF	Height: 2.9 mm, for soldering reflow, with positioning boss	2.0	0.3	2.0	5	5	50	0.1	1,000	5	
GP1S094HCZ0F	Wide gap, with positioning pin, PWB mounting type (5.5 × 2.6 × 4.8 mm)	3.0	0.3	0.8	5	5	50	0.1	1,000	5	
GP1S096HCZ0F	Low profile (3.5 × 2.6 × 2.9 mm)	1.0	0.3	2.0	5	5	50	0.1	1,000	5	
GP1S196HCZSF	Surface mount, for soldering reflow, compact, low profile (3.1 × 2.0 × 2.7 mm)	1.1	0.3	2.0	5	5	50	0.1	1,000	5	
GP1S097HCZ0F	High resolution, wide gap, with mounting hole (4.5 × 2.6 × 4.5 mm)	2.0	0.3	2.0	5	5	50	0.1	1,000	5	



GP1S092HCPIF



GP1S094HCZ0F



GP1S096HCZ0F



GP1S196HCZSF



GP1S097HCZ0F

Model No.	Features	Detecting and Emitting Gap (mm)	Slit width (mm)	Electro-optical Characteristics							
				Current transfer ratio			Response time				
				CTR (%)	I _F (mA)	V _{CE} (V)	t _r (μs) TYP.	I _C (mA)	R _L (Ω)	V _{CE} (V)	
Transmissive, Single Transistor Output Case Type											
GP1S51VJ000F	High resolution, side mounting type	3.0	0.5	2.5	20	5	3	2	100	2	
GP1S52VJ000F	High resolution, PWB mounting type	3.0	0.5	2.5	20	5	3	2	100	2	
GP1S53VJ000F	High resolution, PWB mounting type	5.0	0.5	2.5	20	5	3	2	100	2	
GP1S58VJ000F	High resolution, with positioning pin, PWB mounting type	5.0	0.5	2.5	20	5	3	2	100	2	

Model No.	Features	Detecting and Emitting Gap (mm)	Slit Width (mm)	Electro-optical Characteristics							
				Threshold Input Current		Propagation Delay Time					
				I _{FLH} (mA) MAX.	V _{CC} (V)	T _{PLH} (μs) TYP.	T _{PHL} (μs) TYP.	I _F (mA)	R _L (Ω)	V _{CC} (V)	
OPIC Case Type											
GP1A50HRJ00F	Both-side mounting type	3.0	0.5	5	5	3	5	5	280	5	
GP1A51HRJ00F	Side mounting type	3.0	0.5	5	5	3	5	5	280	5	
GP1A52HRJ00F	PWB mounting type	3.0	0.5	5	5	3	5	5	280	5	
GP1A53HRJ00F	PWB mounting type	5.0	0.5	8	5	3	5	8	280	5	
GP1A57HRJ00F	PWB mounting type, with positioning pin	10.0	1.8	7	5	3	5	7	280	5	



GP1S51VJ000F



GP1S52VJ000F



GP1S53VJ000F



GP1S58VJ000F



GP1A50HRJ00F



GP1A51HRJ00F



GP1A52HRJ00F



GP1A53HRJ00F



GP1A57HRJ00F

Photointerrupters (Cont'd)

Model No.	Features	Detecting and Emitting Gap (mm)	Slit Width (mm)	Electro-optical Characteristics					
				Supply Voltage V_{CC} (V)		Low Level Output Voltage			
				MIN.	MAX.	V_{OL} (V) MAX.	Light Cut-off	I_{OL} (mA)	V_{CC} (V)
OPIC Type with 3-pin Connector									
GP1A05AJ000F	Either-side mounting type	5.0	0.5	4.5	5.5	0.35	No	16	5

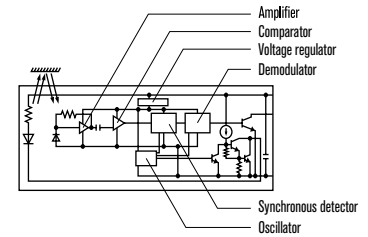
Model No.	Features	Optimum Detecting Distance (mm)	Electro-optical Characteristics						
			Supply Voltage V_{CC} (V)		Dissipation Current		Low Level Output Voltage		
			MIN.	MAX.	I_{CC} (mA) MAX.	V_{CC} (V)	V_{OL} (V) MAX.	V_{CC} (V)	
OPIC Output with 3-pin Connector									
GP2A200LCS0F	Multi types of paper detectable, light modulation type, with connector, sensitivity adjusted	5 to 15	4.75	5.25	30	5	0.4	5	
GP2A25J0000F	Multi types of paper detectable, light modulation type, with connector, sensitivity adjusted	3 to 7	4.75	5.25	30	5	0.4	5	
GP2A231LRS0F	Compact, hook type, multi types of paper detectable, light modulation type, with connector, sensitivity adjusted	3 to 7	4.75	5.25	20	5	0.4	5	
GP2A25NJJ00F	Multi types of paper detectable, light modulation type, sensitivity adjusted, applicable to inverter fluorescent lamp, built-in visible light cut filter	3 to 6	4.75	5.25	30	5	0.4	5	



GP1A05AJ000F

GP2A200LCS0F, GP2A25J0000F,
GP2A25NJJ00F

GP2A231LRS0F



Photointerrupters (Cont'd)

Model No.	Features	Focal Distance (mm)	Electro-optical Characteristics							
			Current Transfer Ratio			Response Time				
			CTR (%)	I _F (mA)	V _{CE} (V)	tr (μs) TYP.	I _C (mA)	R _L (Ω)	V _{CE} (V)	
Reflective Type										
GP2S700HCP	Compact, long focal distance, surface mounting leadless type	3	1.5	4	2	20	0.1	1,000	2	
GP2S60	Thin (3.2 × 1.7 × 1.1 mm), leadless type	(0.5)	1.75 TYP.	4	2	20	0.1	1,000	2	

Photointerrupters with Actuator

Model No.	Features	Actuator Lever Starting Torque (Initial) MAX.	Electro-optical Characteristics									
			Light Beam Interrupted					Light Beam Uninterrupted				
			Dissipation Current		Collector Current			Dissipation Current		Collector Current		
			I _{CC1} (mA)	V _{CC} (V)	I _{C1} (μA)	V _{CC} (V)	V _O (V)	I _{CC2} (mA)	V _{CC} (V)	I _{C2} (mA)	V _{CC} (V)	V _O (V)
Transmissive Type, Single Phototransistor Output Type with Actuator and 3-pin Connector												
GP1S44S1J00F	Spring lever type actuator united with connector	1 × 10 ⁻⁴ N·m or less	20 MAX.	5	50 MAX.	5	5	20 MAX.	5	0.25 MIN.	5	5



Optical System Devices

Model No.	Features	Absolute Maximum Ratings		Electro-optical Characteristics					
		V _{CC} (V)	Topr (°C)	Distance Measuring Range (cm)	V _{OH} (V) MIN.	V _{OL} (V) MAX.	Dissipation Current		
							Operating (mA)	Stand-by (μA)	Measured Distance (cm)
Distance Measuring Sensors									
GP2D12J0000F	Distance measuring sensor united with PSD, infrared LED and signal processing circuit, linear voltage output	-0.3 to +7	-10 to +60	10 to 80	V _O (TYP.) = 0.4 V (at L = 80 cm), ΔV _O (TYP.) = 2.0 V (at L: 80 cm → 10 cm)		50 MAX.	N/A	N/A
GP2Y0A21YK0F	Distance measuring sensor united with PSD, infrared LED and signal processing circuit, linear voltage output	-0.3 to +7	-10 to +60	10 to 80	V _O (TYP.) = 0.4 V (at L = 80 cm), ΔV _O (TYP.) = 1.9 V (at L: 80 cm → 10 cm)		40 MAX.	N/A	N/A
GP2D120XJ00F	Distance measuring sensor united with PSD, infrared LED and signal processing circuit, linear voltage output	-0.3 to +7	-10 to +60	4 to 30	V _O (TYP.) = 0.4 V (at L = 30 cm), ΔV _O (TYP.) = 2.25 V (at L = 30 cm → 4 cm)		50 MAX.	N/A	N/A
GP2Y0D805Z0F	Light detector, infrared LED and signal processing circuit, short distance measuring sensor unit, battery drive compatible (operating power supply: 2.7 V to 6.2 V)	-0.3 to +7	-10 to +60	N/A	V _{CC} -0.6	0.6	6.5 MAX.	8 MAX.	5
GP2Y0D810Z0F	Light detector, infrared LED and signal processing circuit, short distance measuring sensor unit, battery drive compatible (operating power supply: 2.7 V to 6.2 V)	-0.3 to +7	-10 to +60	N/A	V _{CC} -0.6	0.6	6.5 MAX.	8 MAX.	10
GP2D15J0000F	Distance measuring sensor united with PSD, infrared LED and signal processing circuit, digital voltage output	-0.3 to +7	-10 to +60	10 to 80	V _{CC} -0.3	0.6	50 MAX.	N/A	24
GP2Y0D21YK0F	Distance measuring sensor united with PSD, infrared LED and signal processing circuit, digital voltage output	-0.3 to +7	-10 to +60	10 to 80	V _{CC} -0.3	0.6	40 MAX.	N/A	24
GP2D150AJ00F	Distance measuring sensor united with PSD, infrared LED and signal processing circuit, digital voltage output	-0.3 to +7	-10 to +60	N/A	V _{CC} -0.3	0.6	50 MAX.	N/A	15
GP2Y0D02YK0F	Distance measuring sensor united with PSD infrared LED and signal processing circuit, long distance measuring sensor unit (No external control signal required), digital voltage output according to the measuredDistance	-0.3 to +7	-10 to +60	N/A	V _{CC} -0.3	0.6	50 MAX.	N/A	80
GP2Y0A02YK0F	Distance measuring sensor united with PSD, infrared LED and signal processing circuit	-0.3 to +7	-10 to +60	20 to 150	V _O (TYP.) = 0.4 V (at L = 150 cm), ΔV _O (TYP.) = 2.0 V (at L = 150 cm → 20 cm)		50 MAX.	N/A	N/A
GP2Y0A700K0F	Distance measuring sensor united with PSD, infrared LED and signal processing circuit	-0.3 to +7	-10 to +60	100 to 550	V _O (TYP.) = 2.5 V (at L = 100 cm), ΔV _O (TYP.) = 0.7 V (at L = 100 cm → 200 cm)		30 TYP.	N/A	N/A



GP2D12J0000F, GP2Y0A21YK0F,
GP2D120XJ00F, GP2D15J0000F,
GP2Y0D21YK0F, GP2D150AJ00F



GP2Y0D805Z0F, GP2Y0D810Z0F



GP2Y0D02YK0F, GP2Y0A02YK0F



GP2Y0A700K0F

Emitters (Infrared)

Model No.	Features	Absolute Maximum Ratings				Electro-optical Characteristics							
						ϕ_e (mW)		VF (V)				$\Delta\theta$ (°) TYP.	λ_p (nm) TYP.
		I_F (mA)	V_R (V)	P (mW)	T_{opr} (°C)	MIN.	TYP.	I_F (mA)	TYP.	MAX.	I_F (mA)		
Infrared Emitting Diodes													
GL100MNOMP	Surface mounting leadless type, epoxy resin board with lens	50	6	75	-30 to +85	1.0	3.0 MAX.	20	1.2	1.4	20	± 10	940
GL100MN1MP	Surface mounting leadless type, epoxy resin board with lens, high output type	50	6	75	-30 to +85	2.0	6.0 MAX.	20	1.2	1.5	20	± 10	940

Detectors (Infrared)

Model No.	Features	Absolute Maximum Ratings				Electro-optical Characteristics							
						I_C (mA)				I_{CE0} (A)		$\Delta\theta$ (°) TYP.	λ_p (nm) TYP.
		V_{CE0} (V)	P_C (mW)	T_{opr} (°C)	MIN.	MAX.	V_{CE} (V)	E_e (mW/cm ²)	MAX.	V_{CE} (V)			
Phototransistors													
PT100MCOMP	Surface mounting	35	75	-30 to +85	1.7	5.1	5	1	1×10^{-7}	20	± 15	900	
PT100MFOMP	Leadless type	35	75	-30 to +85	1.15	3.45	5	1	1×10^{-7}	20	± 15	910	
PT100MF1MP1	Top view taping	35	75	-30 to +85	0.2	1.2	5	0.01	1×10^{-6}	10	± 15	860	



GL100MNOMP, GL100MN1MP

PT100MCOMP, PT100MFOMP,
PT100MF1MP

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