

Photocouplers, Photo IC Couplers

Photocouplers

LED-CdS Type

(Ta = 25°C)

Type No.	Package (mm)	Input (LED)					Output (CdS Cell)				Input-Output Isolation Voltage V _{iso} Min. (Vac)	Response Time			
		Maximum Ratings			Forward Voltage V _F (Vdc)	Recom- mended Forward Current I _F (mA)	Resistance		Maximum Ratings			Rise Time t _r 0~63%		Fall Time t _f 100~37%	
		Reverse Voltage V _R (Vdc)	Forward Current I _F (mA)	Power Dissipation P (mW)			ON (KΩ)	OFF Min. (MΩ)	Supply Voltage (Vdc)	Power Dissipation (mW)		Typ. (ms)	Max. (ms)	Typ. (ms)	Max. (ms)
P873-G35-380	Tubular type (φ8.3x13.5)	4	25	70	2.1	20	0.2~1.0	1.0	200	50	5000	8.0	20	8.0	20
P873-G35-201B		4	25	70	2.1	20	1.0~5.0	10	200	50	5000	4.0	10	1.0	5.0
P873-G35-552		4	25	70	2.1	20	0.05~0.2	1.0	100	50	5000	4.0	20	10	30
P873-G35-687		4	25	70	2.1	20	0.2~1.0	1.0	400	100	5000	5.0	20	7.0	30
P873-24		4	25	70	2.1	20	1.0~3.5	10	400	100	5000	5.0	15	5.0	20
P873-25	Tubular type (φ8.3x13.5)	4	25	70	2.1	20	0.2~2.5	10	400	100	5000	5.0	15	5.0	20
P873-G35-911		4	25	100	2.1	20	0.3~1.0	1.0	100	30	5000	5.0	20	5.0	20
P873-13		4	25	100	2.1	20	10 Max.	10	100	30	5000	4.0	20	6.0	20
P653-G35-584	Tubular type (φ15x13Max.)	4	25	100	2.1	20	1.0 Max.	5.0	100	50	500	7.0	20	7.0	20
P653-G50-584		4	50	100	1.6	10	5~20	10	100	50	500	4.0	20	6.0	20
P653-G50-6		4	50	100	1.6	10	2~7	1.0	100	50	500	6.0	20	9.0	30
P1501	5-pin DIP	4	30	80	2.5	20	1.0 Max.	5.0	400	100	1500	—	50 [Ⓒ]	—	50 [Ⓓ]
P1501-01		—	30	80	2.5	20	1.4 Max.	5.0	400	100	1500	—	50 [Ⓒ]	—	50 [Ⓓ]

UL listed products E75221(s)

A) I_F = recommended value B) At 10 sec after I_F is turned off. C) 10~90% D) 90~10%

LED-Phototransistor Type

(Ta = 25°C)

Type No.	Package (mm)	Maximum Ratings								Transfer Characteristics					
		LED (Input)			Phototransistor (Output)				Input-Output Isolation Voltage V _{iso} Min. (Vac)	Dark Current V _{CE} =20V I _d Max. (μA)	Current Transfer Ratio CTR Min. (%)	Rise Time t _r (μs)	Fall Time t _f (μs)	Collector Saturation Voltage V _{CE} (Sat) Max. (V)	Input- Output Capacitance Max. (pF)
		Forward Current I _F (mA)	Reverse Voltage V _R (V)	Power Dissipation P (mW)	Collector Emitter Voltage V _{CEO} (V)	Emitter Collector Voltage V _{ECO} (V)	Col- lector Current I _C (mA)	Collector Power Dissipation P _C (mW)							
P1063-02	6-pin DIP	50	6	70	35	6	50	150	5000	0.1	50	4.0	3.0	0.2	1.0
P2163	4-pin DIP	50	6	70	35	6	50	150	5000	0.1	50	4.0	3.0	0.2	1.0
P2067		50	—	70	35	6	50	150	5000	0.1	20	4.0	3.0	0.2	1.0
P2824	Mini mold (2.9x1.5x1.3)	50	5	75	35	6	20	60	1500	0.1	50	3.0	2.5	0.4	5.0

UL listed products E75221(s)

A) V_{CE}=5V, P1063-02 and P2163: I_F=5mA, P2067: I_F=±1mA, P2824: I_F=10mAB) 10~90%, 90~10% (P1063-02, P2163, P2067: V_{CE}=2V, I_c=2mA, R_L=100Ω), P2824: V_{CC}=5V, I_c=1mA, R_L=100ΩC) P1063-02, P2163, P2067: I_F=20mA, I_c=1mA, P2824: I_F=20mA, I_c=1mA

Lamp-CdS Type

(Ta = 25°C)

Type No.	Package (mm)	Kind of Lamp	Input (Lamp) ①			Output (CdS Cell) ①				Input- Output Isolation Voltage V _{iso} (Vac)	Response Time	
			Discharge Starting Voltage Max. (Vac)	Operating Voltage V (Vac)	Operating Current I (mAac)	Resistance ①		Maximum Ratings			Rise Time t _r 0~63% (ms)	Fall Time t _f 100~37% (ms)
						② ON Max. (KΩ)	③ OFF Min. (MΩ)	Supply Voltage (Vdc)	Power Dissipa- tion (mW)			
P1760	Tubular type (φ11.7x18)	Neon	75	100	1.7	1.5	1.0	150	50	3000	5	12
P1760-04	Tubular type (φ11.7x15)	Neon	75	100	1.7	1.5	1.0	150	50	3000	5	12

UL listed products E75221(s)

A) R_s = 30kΩ, B) V = 100V, C) At 10 sec after V is turned off.

High-Speed Photo IC Couplers

(Ta = 25°C)

Type No.	Maximum Ratings						Isolation Voltage V _{iso} Min. (V _{rms})	Electrical Characteristics						
	LED (Input)			Output (Photo IC)				Input Forward Voltage V _F (V)	Output		Transfer Characteristics			
	Forward Current I _F (mA)	Reverse Voltage V _R (V)	Power Dissipation P (mW)	Supply Voltage V _{CC} (V)	Output Current I _O (mA)	Collector Power Dissipation P _C (mW)			High Level Output Current I _{OH} Max. (μA)	Low Level Output Voltage V _{OL} Max. (V)	H→L Threshold Input Current I _{TH} Max. (mA)	Current Transfer Ratio CTR Min. (%)	H→L Propagation Delay Time T _{PH} (ns)	L→H Propagation Delay Time T _{PL} (ns)
P2821	25	5	45	-0.5 ~ +15	8	100	5000	1.6	0.5	0.4	—	10	300	300
P2822	20	5	40	7	50	85	5000	1.6	250	0.6	5	260	60	60
P2823	50	5	75	16	50	150	3500	1.1	100	0.4	5	—	1700	6300
P2823-01	50	5	75	16	50	150	3500	1.1	100	0.4	5	—	6500	1400

Package: P2821 and P2822 have 8-pin DIP. P2823 series is 6-pin mini flat-type.