HAMAMATSU

TECHNICAL DATA

CdS OUTPUT TYPE PHOTOCOUPLERS P873 SERIES

LED Input, CdS Cell Output, Cylindrical Package

The CdS output type photocoupler has a number of features such as a pure resistor with non-polar output on the output side, a simple circuit structure, and a wide output range. Hamamatsu provides various types of CdS output photocouplers. Please select the type best suited to your application.
(See the Selection Guide on page 3.)

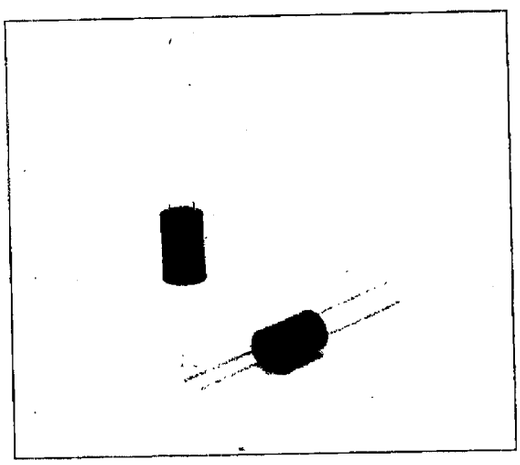
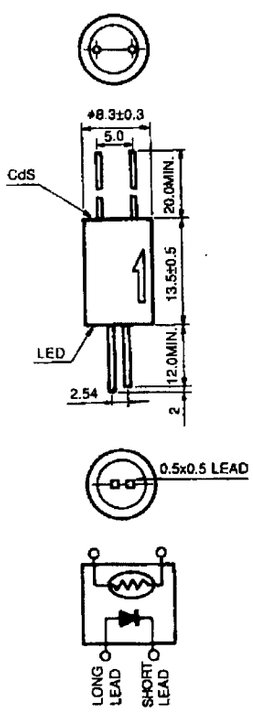


Figure 1: Dimensional Outline and Pin Connection (Unit:mm)



FEATURES

- **Pure resistor with non-polar output**
- **Simple circuit structure**
- **Wide output range**
- **Cylindrical package**
- **UL listed : P873-G35-687, P873-24, P873-25 (E75221)**

APPLICATIONS

- **Audio instruments**
- **Electronic musical instruments**
- **Electronic measuring devices**
- **Triac drivers**

MAXIMUM RATINGS (Ta = 25°C)

Parameters		Symbols	P873-G35-350 P873-G35-2618	P873-G35-687 P873-24, -25	P873-G35-552	Unit
Input	Forward Current	I_F	25			mA
	Reverse Voltage	V_R	4			Vdc
	Power Dissipation	P	70			mW
Output	Supply Voltage	Vs	200	400	100	Vdc
	Power Dissipation	P	50	100	50	mW
Operating Temperature		Topr	−30 ~ +50	−30 ~ +55 (1)	−30 ~ +55	°C
Storage Temperature		Tstg	−30 ~ +50	−30 ~ +55 (1)	−30 ~ +55	°C

(1) P873-24 and P873-25 are −30°~+60°C

CdS OUTPUT PHOTOCOUPLERS P873 SERIES

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

	Parameters	Symbols	Conditions	P873-G35-380			P873-G35-201B		
				Min.	Typ.	Max.	Min.	Typ.	Max.
Input	Forward Voltage	V_F	I_F = 20mA	–	2.1	–	–	2.1	–
	Recommended Forward Current	I_F		–	20	–	–	20	–
Output	ON Resistance	R_{ON}	I_F = 20mA	0.2	–	1.0	1.0	–	5.0
	OFF Resistance	R_{OFF}	10 seconds after I_F goes OFF	1.0	–	–	10	–	–
	Input-Output Isolation Voltage	V_{Iso}	RH40 ~ 60% 1, minute	5000	–	–	5000	–	–
Transfer Characteristics	Rise Time (1)	t_r	I_t = 20mA	–	8.0	20	–	4.0	10
	Fall Time (1)	t_f		–	8.0	20	–	1.0	5.0

(1) Response Time Measuring Circuit

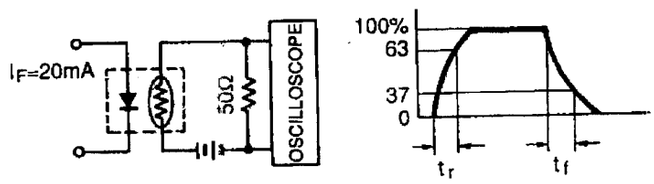


Figure 2: LED Allowable Forward Current vs. Temperature

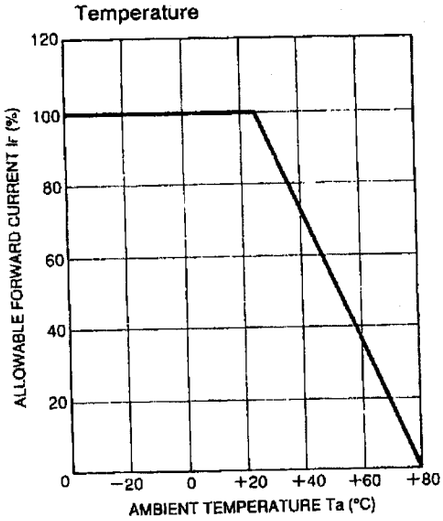
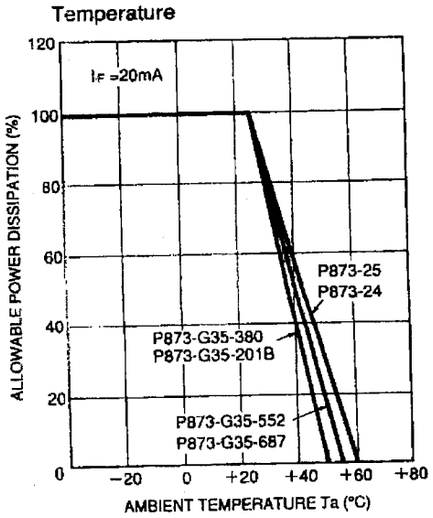


Figure 3: CdS Cell Allowable Power Dissipation vs. Temperature



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P873-G35-552			P873-G35-687			P873-24			P873-25			Unit
Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
–	2.1	–	–	2.1	–	–	2.1	–	–	2.1	–	Vdc
–	20	–	–	20	–	–	20	–	–	20	–	mA
0.05	–	0.2	0.2	–	1.0	1.0	–	3.5	0.2	–	2.5	kΩ
1.0	–	–	1.0	–	–	10	–	–	10	–	–	–
5000	–	–	5000	–	–	5000	–	–	5000	–	–	Vrms
–	4.0	20	–	5.0	20	–	5.0	15	–	5.0	15	ms
–	10	30	–	7.0	30	–	5.0	20	–	5.0	20	ms

Figure 4: LED Forward Current vs. Forward Voltage

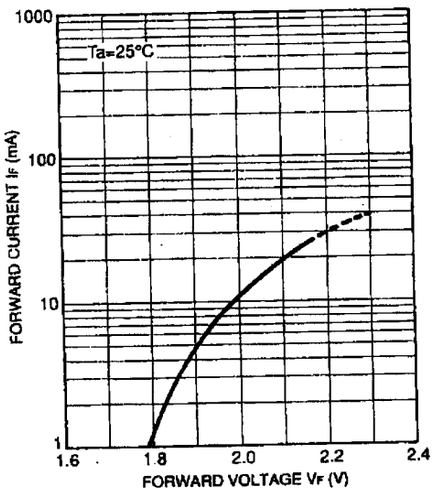

Figure 5: Output Resistance vs. Forward Current

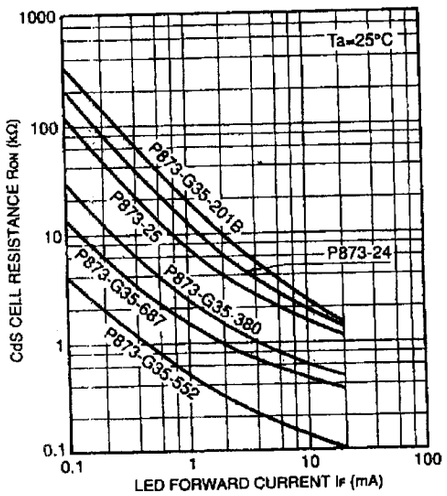

Figure 6: Rise/Fall Time vs. Load Resistance (P873-G35-380)

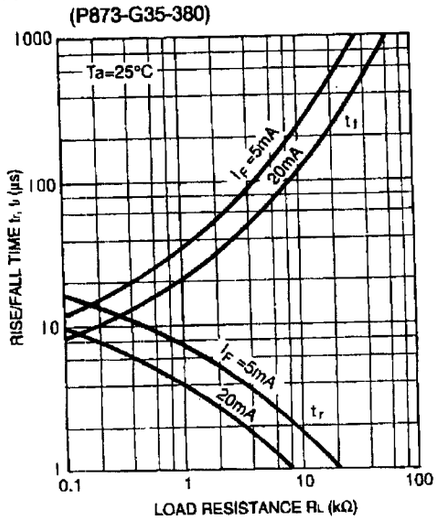

Figure 7: Output Resistance vs. Temperature (P873-G35-380)