

HAMAMATSU

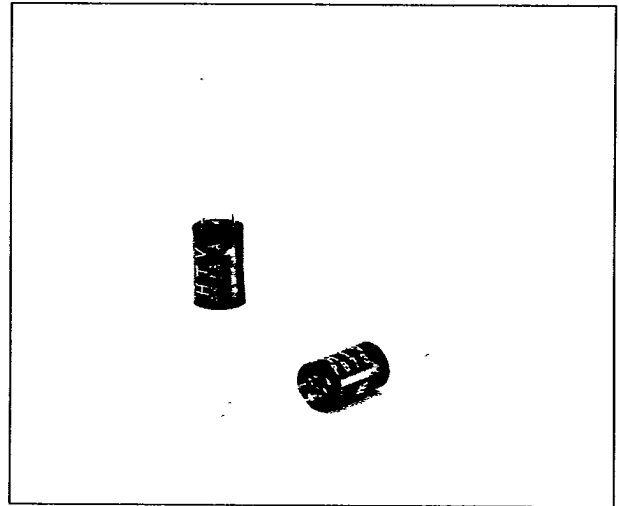
TECHNICAL DATA

CdS OUTPUT TYPE PHOTOCOUPLEDERS P873 SERIES

T-41-81

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.)



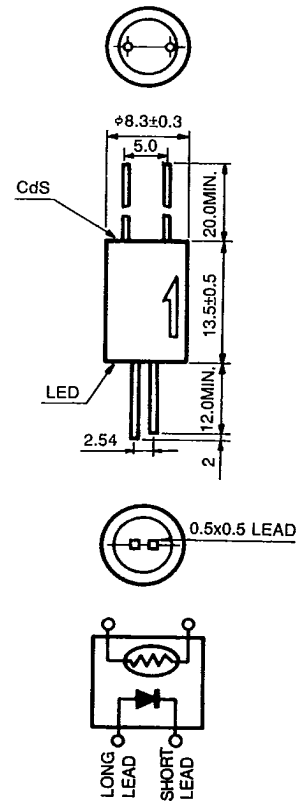
FEATURES

- 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

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



MAXIMUM RATINGS (Ta = 25°C)

Parameters		Symbols	P873-G35-380 P873-G35-201B	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	V_S	200	400	100	Vdc
	Power Dissipation	P	50	100	50	mW
Operating Temperature		T_{opr}	-30 ~ +55	-30 ~ +55 (1)	-30 ~ +55	°C
Storage Temperature		T_{stg}	-30 ~ +50	-30 ~ +55 (1)	-30 ~ +55	°C

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

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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	$I_F = 20\text{mA}$	—	2.1	—	—	2.1	—
	Recommended Forward Current	I_F		—	20	—	—	20	—
Output	ON Resistance	R_{ON}	$I_F = 20\text{mA}$	0.2	—	1.0	1.0	—	5.0
	OFF Resistance	R_{OFF}	10 seconds after I_F goes OFF	1.0	—	—	10	—	—
Transfer Characteristics	Input-Output Isolation Voltage	V_{ISO}	RH40 ~ 60% 1, minute	5000	—	—	5000	—	—
	Rise Time (1)	t_r	$I_i = 20\text{mA}$	—	8.0	20	—	4.0	10
	Fall Time (1)	t_f		—	8.0	20	—	1.0	5.0

(1) Response Time Measuring Circuit

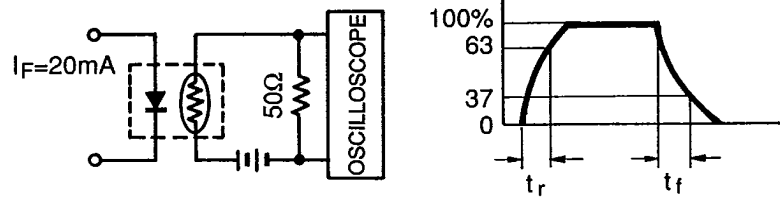


Figure 2: LED Allowable Forward Current vs. Temperature

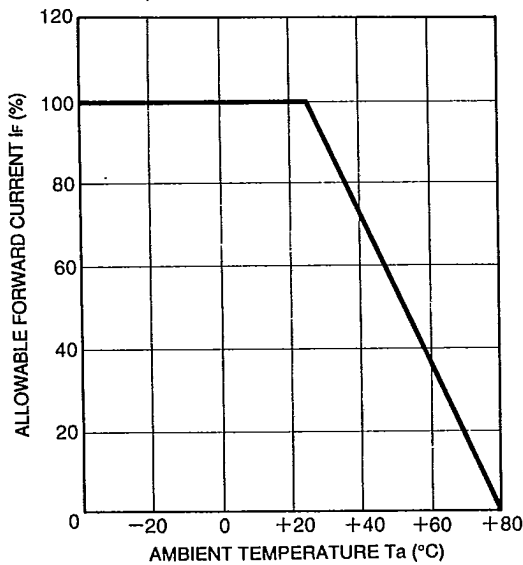
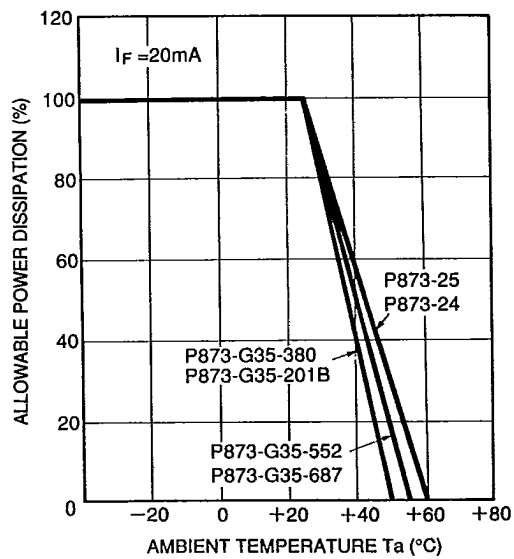


Figure 3: CdS Cell Allowable Power Dissipation vs. Temperature



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

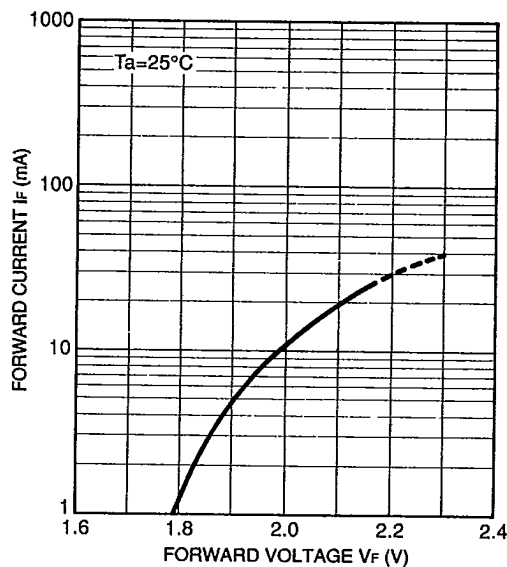


Figure 5: Output Resistance vs. Forward Current

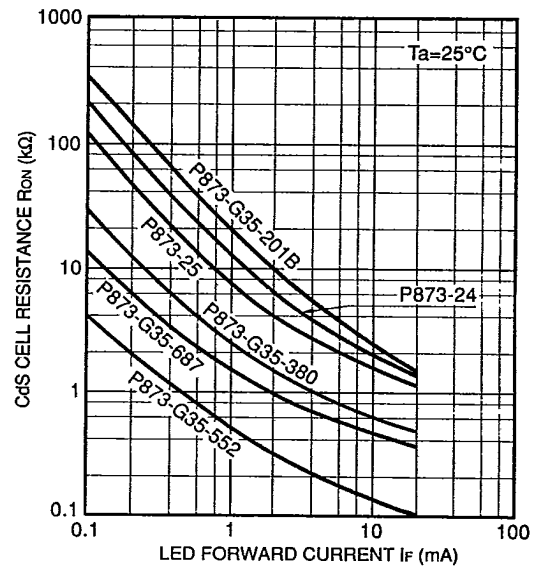


Figure 6: Rise/Fall Time vs. Load Resistance (P873-G35-380)

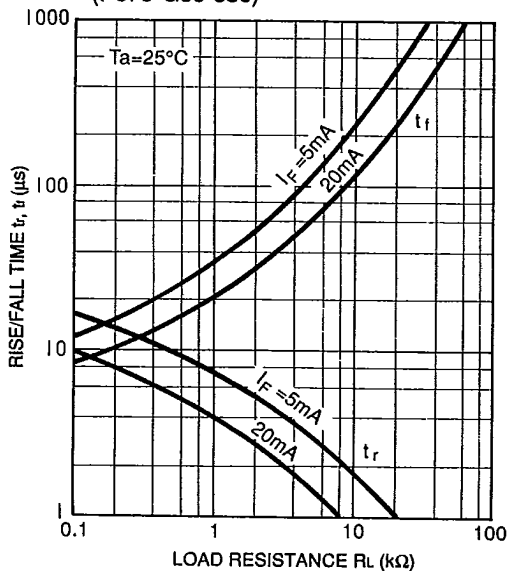


Figure 7: Output Resistance vs. Temperature (P873-G35-380)

