



Light modulation photoreflexor P6448

Compact module combining light modulation photo IC and infrared LED

P6448 is a photoreflexor consisting of a light modulation photo IC and an infrared LED, etc. The light modulation photo IC allows reliable operation even under background disturbance light.

Features

- Compact size (35 × 10 × 17 mm)
- Detection distance: 30 cm Typ.
- Allowable background light level: 2000 lx Min.

Applications

- Reflective optical switches

■ Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	Value	Unit
Supply voltage	Vcc	-0.5 to +7	V
Output current	Io	50	mA
Output voltage	Vo	-0.5 to +12	V
Operating temperature	Topr	-20 to +60	°C
Storage temperature	Tstg	-30 to +85	°C

■ Electrical and optical characteristics (Ta=25 °C, Vcc=5 V, unless otherwise noted)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Supply voltage	Vcc		4.75	-	5.25	V
Current consumption	Icc	Vo open, no emission	-	-	11	mA
		During LED emission	-	80	200	mA
Low level output voltage	VOL	IOL=16 mA	-	0.15	0.4	V
High level output voltage	VOH	RL=4.7 kΩ (connected between Vcc-Vo)	4.5	-	-	V
Maximum detectable distance *1	d	Reflective paper with reflectivity of 90 %	200	300	-	mm
Emission light pulse cycle	tc		-	130	-	μs
Emission light pulse width	tw		-	8	-	μs
H→L Propagation delay time	tPHL		-	-	1	ms
L→H Propagation delay time	tPLH		-	-	1	ms
Allowable background light level	Ex	Background light: "A" light source *2	2000	-	-	lx
Hysteresis *3	Hys		0.45	0.65	0.95	-

*1: Distance between P6448 and reflective paper (reflectivity 90 %) when the photo IC output level changes to "L" while bringing the paper close to P6448 operated with "H" level output. (The photo IC has hysteresis characteristics, so the distance when the output changes from "L" to "H" is longer than that when the output changes from "H" to "L".)

*2: No direct light source within field of view.

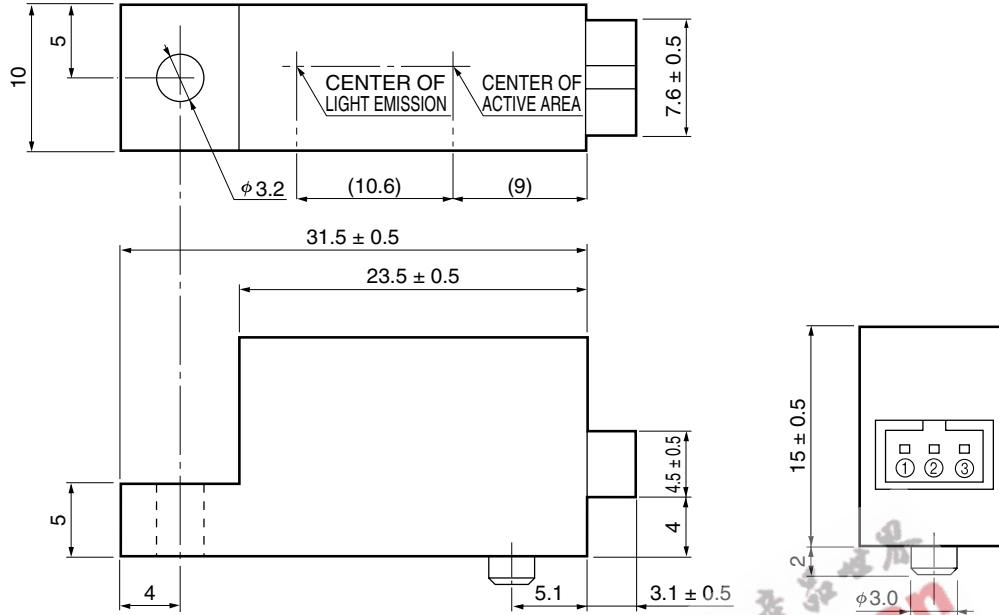
*3: Hysteresis: $\frac{ELH}{EHL}$

ELH: Input signal level at which the output changes from "L" to "H" level.

EHL: Input signal level at which the output changes from "H" to "L" level.

Light modulation photoreflector P6448

Dimensional outline (unit: mm)



- ① Vcc
- ② Vo
- ③ GND

Tolerance unless otherwise noted: ± 0.2
 Values in parentheses are not guaranteed, but for reference.

KPCA0001EA

HAMAMATSU

Information furnished by HAMAMATSU is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions. Specifications are subject to change without notice. No patent rights are granted to any of the circuits described herein. ©2001 Hamamatsu Photonics K.K.

HAMAMATSU PHOTONICS K.K., Solid State Division

1126-1 Ichino-cho, Hamamatsu City, 435-8558 Japan, Telephone: (81) 053-434-3311, Fax: (81) 053-434-5184, <http://www.hamamatsu.com>

U.S.A.: Hamamatsu Corporation: 360 Foothill Road, P.O.Box 6910, Bridgewater, N.J. 08807-0910, U.S.A., Telephone: (1) 908-231-0960, Fax: (1) 908-231-1218

Germany: Hamamatsu Photonics Deutschland GmbH: Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49) 08152-3750, Fax: (49) 08152-2658

France: Hamamatsu Photonics France S.A.R.L.: 8, Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: 33-(1) 69 53 71 00, Fax: 33-(1) 69 53 71 10

United Kingdom: Hamamatsu Photonics UK Limited: 2 Howard Court, 10 Tewin Road, Welwyn Garden City, Hertfordshire AL7 1BW, United Kingdom, Telephone: (44) 1707-294888, Fax: (44) 1707-325777

North Europe: Hamamatsu Photonics Norden AB: Smidesvägen 12, SE-171 41 Solna, Sweden, Telephone: (46) 8-509-031-00, Fax: (46) 8-509-031-01

Italy: Hamamatsu Photonics Italia S.R.L.: Strada della Moia, 1/E, 20020 Arese, (Milano), Italy, Telephone: (39) 02-935-81-733, Fax: (39) 02-935-81-741

Cat. No. KPC1002E01
 Mar. 2001 DN