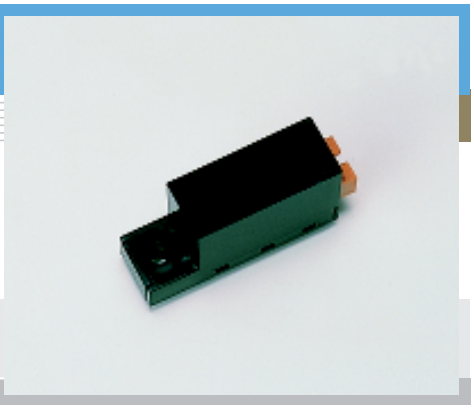
Light modulation photoreflector
P6448



Compact module combining light modulation photo IC and infrared LED

P6448 is a photoreflector 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".)

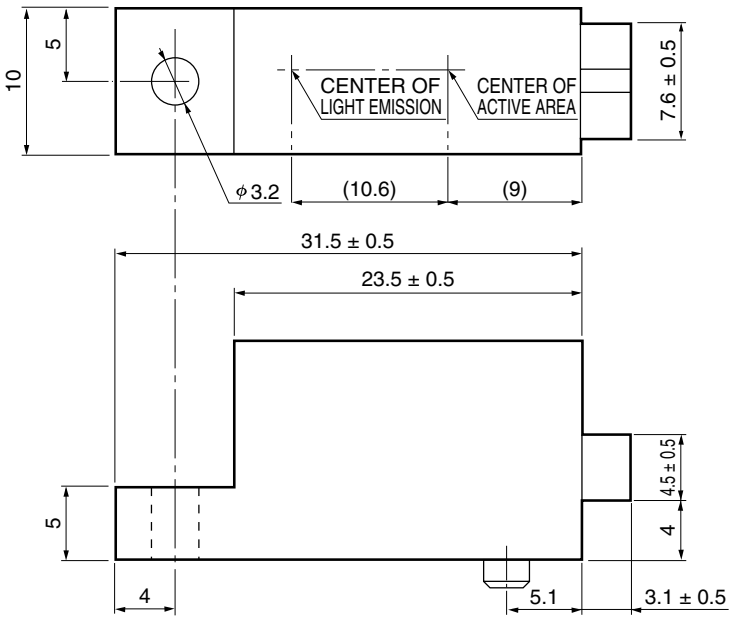
*2: No direct light source within field of view.

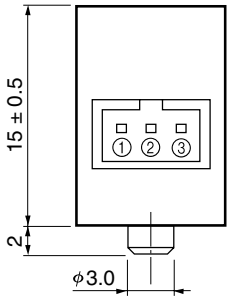
*3: Hysteresis: $\frac{E_{LH}}{E_{HL}}$

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.

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■ 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.

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