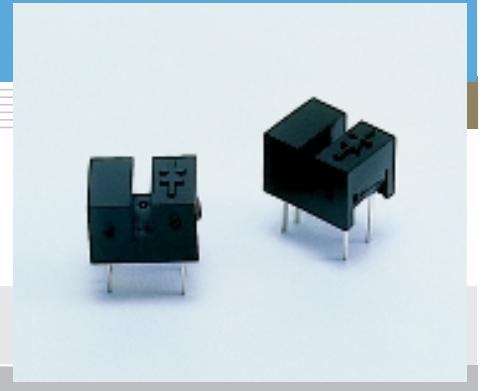


Photointerrupter P6291

Photo IC output



P6291 is a photointerrupter consisting of a high-power infrared LED and a photo IC. The photo IC incorporates a high-sensitivity photodiode, an amplifier, a Schmitt trigger circuit and an output transistor, all integrated in a single chip. These elements are enclosed in a miniature C-shape plastic package with a gap of 1.2 mm and a slit width of 0.2 mm, allowing object detection with high precision.

Features

- Photo IC output
- Miniature package

Applications

- Timing detection for copier, printer, etc.
- Rotary encoder
- Tape end detection for VTR, tape recorder, etc.

■ Absolute maximum ratings (Ta=25 °C)

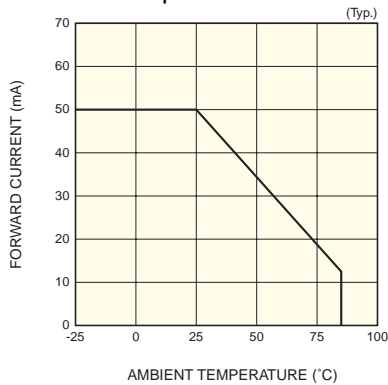
Parameter		Symbol	Value	Unit
Input	Forward current	IF	50	mA
	Reverse voltage	VR	5	V
	Power dissipation	P	80	mW
Output	Supply voltage	Vcc	-0.5 to +7	V
	Output voltage	Vo	-0.5 to +7	V
	Output current	Io	8	mA
	Power dissipation	Po	80	mW
Operating temperature		Topr	-25 to +85	°C
Storage temperature		Tstg	-30 to +85	°C
Soldering		-	260 °C, 3 s, at least 1 mm away from package surface	-

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

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Input	Forward voltage	VF	IF=20 mA	-	1.25	1.45	V
	Reverse current	IR	VR=5 V	-	-	10	μA
	Terminal capacitance	Ct	VR=0 V, f=1 MHz	-	30	-	pF
Output	Supply voltage	Vcc		2.2	-	7	V
	Low level output voltage	VOL	IoL=4 mA, IF=0 mA	-	0.1	0.4	V
	High level output current	IoH	Vo=5 V, IF=10 mA	-	-	10	μA
	Current consumption	ICC		-	1.3	3.0	mA
Transfer characteristics	L→H threshold input current	IFLH	RL=1.2 kΩ	-	0.6	6	mA
	Hysteresis	-	IFHL/IFLH	-	0.8	-	-
	L→H propagation delay time	tPLH		-	-	20	μs
	H→L propagation delay time	tPHL	IF=10 mA	-	-	30	μs
	Rise time	tr	RL=1.2 kΩ	-	0.07	-	μs
	Fall time	tf		-	0.03	-	μs

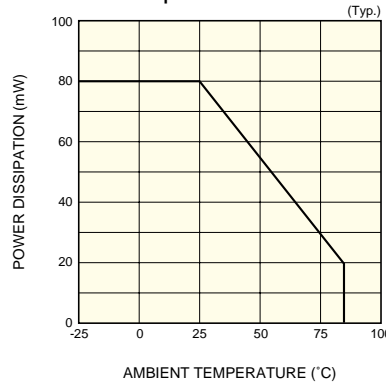
Note) Connect a capacitor of 0.01 μF or more between Vcc and GND.

LED forward current vs. ambient temperature



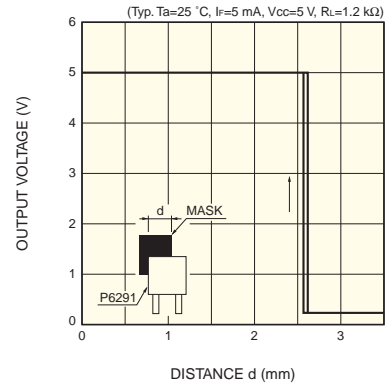
KLEDB0081EA

Allowable power dissipation vs. ambient temperature



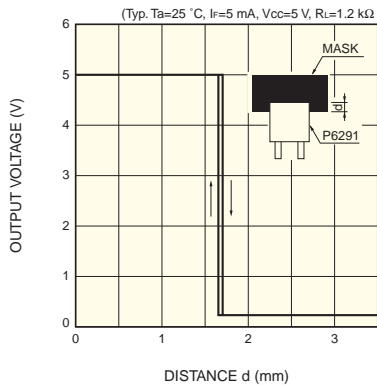
KPCB0001EA

Position detection characteristic (1)

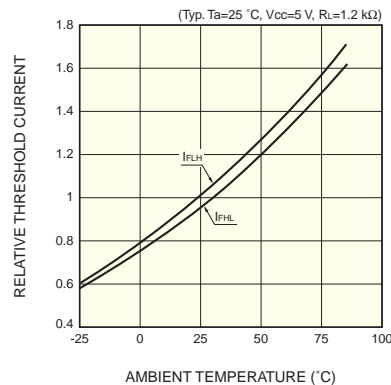


KPCB0004EB

Position detection characteristic (2) Threshold current vs. ambient temperature

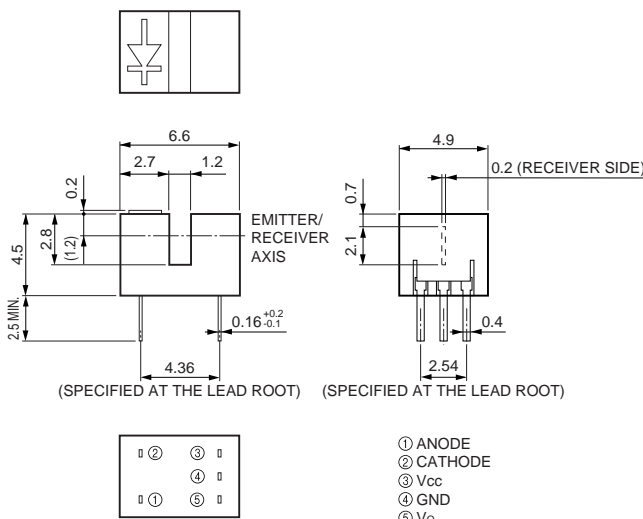


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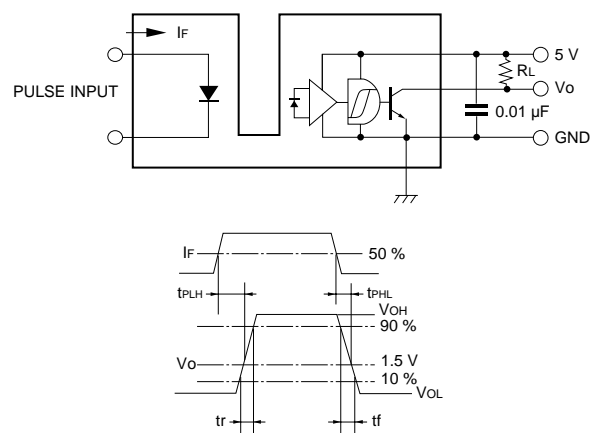
Dimensional outline (unit: mm)



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

KPCA0006EA

Response time measuring circuit



KPC0007EB

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