

C9001

Compact, easy-to-use driver circuit

C9001 is a driver circuit designed for S8377/S8378 series CMOS linear image sensors. C9001 operates a linear image sensor by just inputting two signals (clock and start) and a single +5 V supply. C9001 also outputs a trigger signal for A/D conversion so the external circuit configuration can be simplified. C9001 does not include an image sensor, so select the desired image sensor and order it separately.

Features

- Single power supply (+5 V) operation
- Operation with two input signals (clock and start)
- Compact: 50 × 12 mm
- Trigger signal output for A/D conversion

Applications

- Various types of image acquisition
- Optical detection equipment

Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	Value	Unit
Supply voltage	Vcc	+7	V
Digital input voltage	-	Vcc	V
Operating temperature	Topr	0 to +50 *1	°C
Storage temperature	Tstg	0 to +70 *1	°C

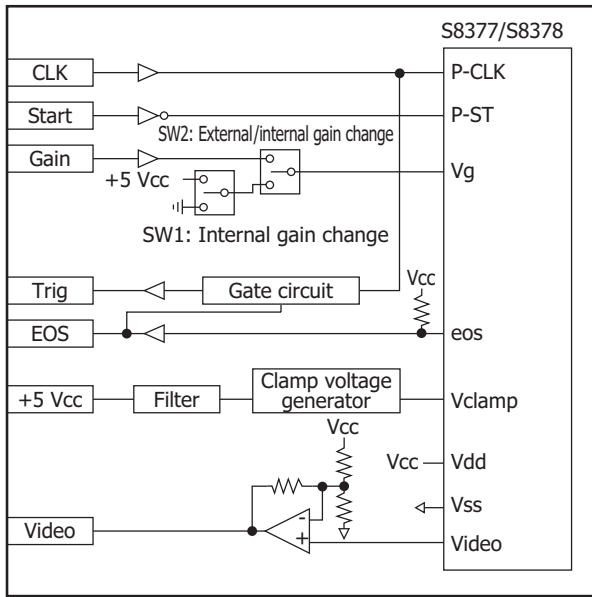
*1: No condensation

Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply voltage	+Vs	4.9	5.0	5.2	V
Current consumption	+Is	-	20	30	mA
Digital input	High level	V _{IH}	3.8	Vcc	V
	Low level	V _{IL}	0	1.6	
Start pulse width	T _{pwst}	1/2 × f _{CLK}	1/f _{CLK}	2/f _{CLK}	ns
Clock frequency	f _{CLK}	0.1	-	500	kHz
Digital rise/fall times	t _{TLH} /t _{THL}	-	14	25	ns
Date rate	f _V	0.1	-	500	kHz
Offset output	V _{offset}	-	0.5	-	V
VIDEO saturation output *2	V _{ast}	3.3	-	4.0	V

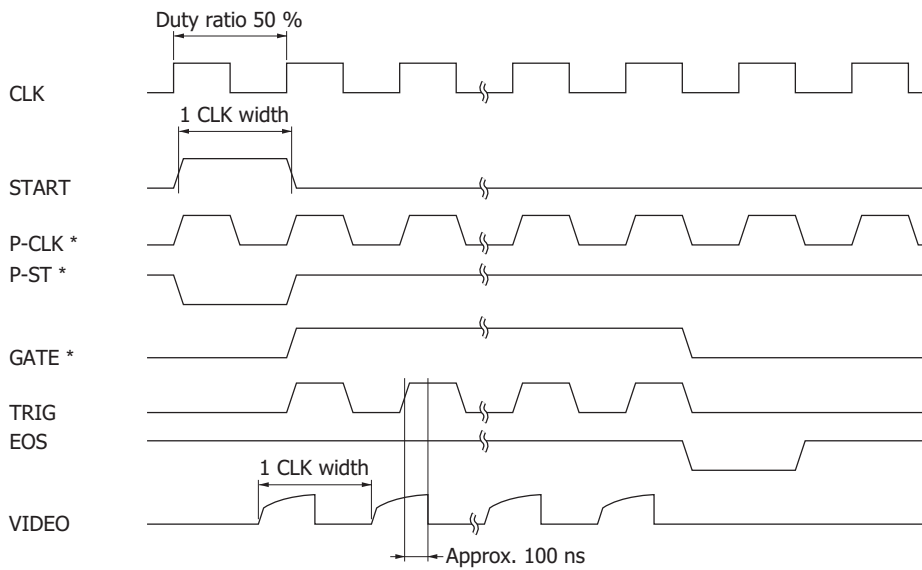
*2: From offset value.

Block diagram



KACCC0174EB

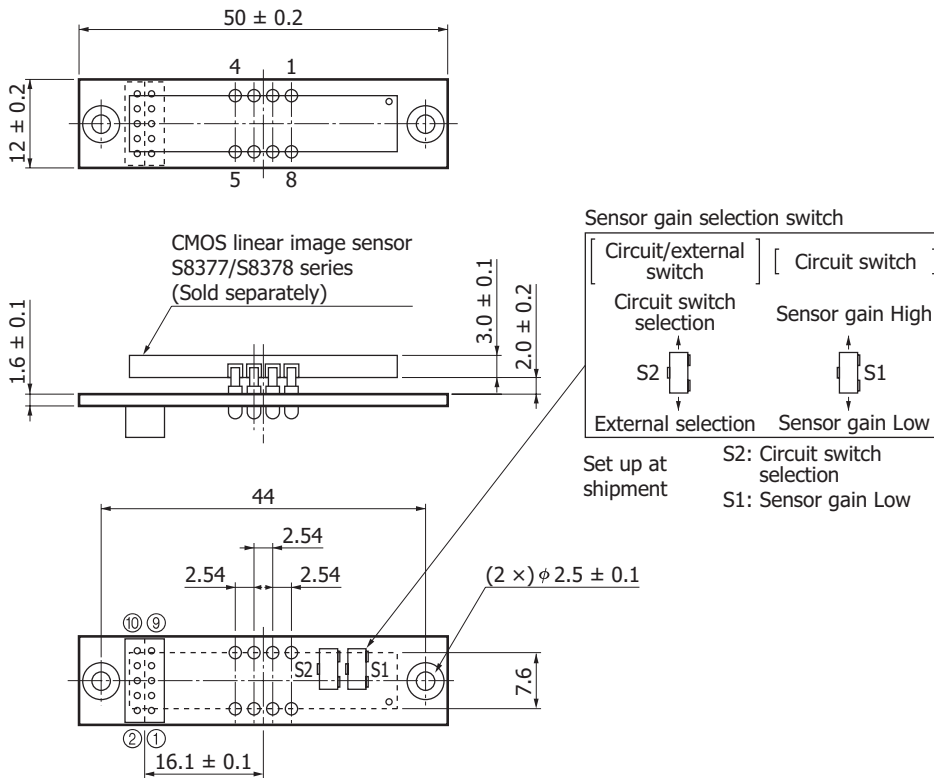
Timing chart



* Internal signal

KACCC0175EB

Dimensional outline (unit: mm)



KACCA0115EB

Pin assignment of I/O connector [Connector: LY20-10P-DTI-P1 (made by JAE)] *3

Pin No.	Terminal name	I/O	Description
①	CLK	I	Sensor scan synchronization signal. The sensor is scanned in synchronization with this signal.
②	START	I	Sensor scan start signal. The pulse interval of these start signals determines the sensor integration time.
③	GAIN	I	Sensor gain setting. Low gain is selected at High level, and high gain at Low level. (External gain setting is enabled with S2.)
④	EOS	O	Sensor end-of-scan signal. Negative logic
⑤	TRIG	O	A/D conversion timing signal. The number of output pulses is equal to the number of pixels.
⑥	GND		Circuit ground
⑦	Vcc	I	+5 V power supply line
⑧	GND		Circuit ground
⑨	VIDEO	O	Video output signal. Positive polarity
⑩	A.GND		Video signal ground

*3: A mating connector is supplied with C9001 along with to a cable (30 cm, preassembled).

Related information

www.hamamatsu.com/sp/ssd/doc_en.html

- Precautions
- Disclaimer
- Image sensor

Information described in this material is current as of October 2017.

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HAMAMATSU

www.hamamatsu.com

HAMAMATSU PHOTONICS K.K., Solid State Division

1126-1 Ichino-cho, Higashi-ku, Hamamatsu City, 435-8558 Japan, Telephone: (81) 53-434-3311, Fax: (81) 53-434-5184

U.S.A.: Hamamatsu Corporation: 360 Foothill Road, Bridgewater, N.J. 08807, U.S.A., Telephone: (1) 908-231-0960, Fax: (1) 908-231-1218, E-mail: usa@hamamatsu.com

Germany: Hamamatsu Photonics Deutschland GmbH: Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49) 8152-375-0, Fax: (49) 8152-265-8, E-mail: info@hamamatsu.de

France: Hamamatsu Photonics France S.A.R.L.: 19, 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, E-mail: infos@hamamatsu.fr

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, E-mail: info@hamamatsu.co.uk

North Europe: Hamamatsu Photonics Norden AB: Torshamnsgatan 35 16440 Kista, Sweden, Telephone: (46)8-509 031 00, Fax: (46)8-509 031 01, E-mail: info@hamamatsu.se

Italy: Hamamatsu Photonics Italia S.r.l.: Strada della Moia, 1 int. 6, 20020 Arese (Milano), Italy, Telephone: (39)02-93 58 17 33, Fax: (39)02-93 58 17 41, E-mail: info@hamamatsu.it

China: Hamamatsu Photonics (China) Co., Ltd.: B1201, Jiaming Center, No.27 Dongsanhuan Beilu, Chaoyang District, Beijing 100020, China, Telephone: (86) 10-6586-6006, Fax: (86) 10-6586-2866, E-mail: hpc@hamamatsu.com.cn

Taiwan: Hamamatsu Photonics Taiwan Co., Ltd.: 8F-3, No. 158, Section2, Gongdao 5th Road, East District, Hsinchu, 300, Taiwan R.O.C. Telephone: (886)03-659-0080, Fax: (886)03-659-0081, E-mail: info@tw.hpk.co.jp