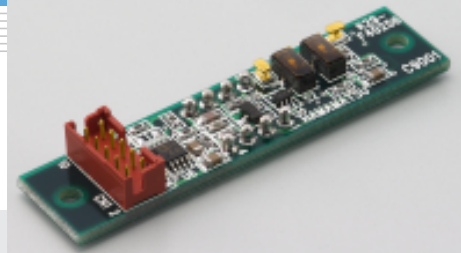


Driver circuit for CMOS linear image sensor C9001

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	-	V	V
Operating temperature	Topr	0 to +50 *1	°C
Storage temperature	Tstg	0 to +70 *1	°C

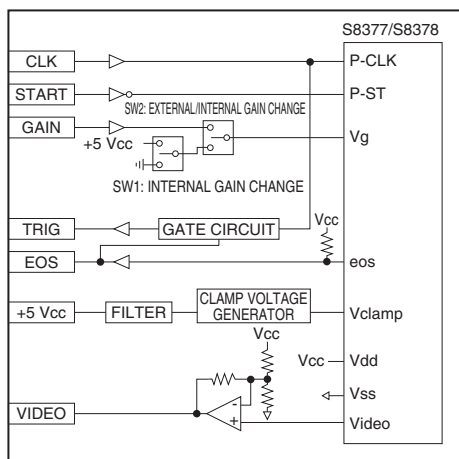
*1: No condensation

■ Specifications

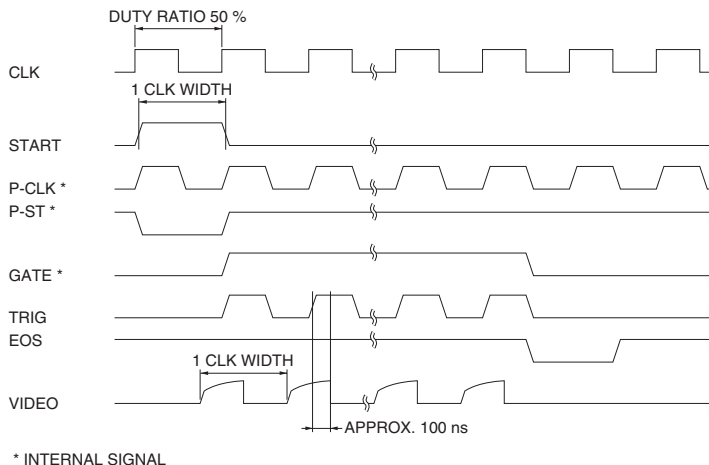
Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply voltage	+Vs	4.9	5.0	5.2	V
Current consumption	+Is	-	20	30	mA
Digital input	High level	V _{IH}	3.8	-	V
	Low level	V _{IL}	0	-	1.6
Start pulse width	T _{pwst}	1/2 × f _{CLK}	1/f _{CLK}	2/f _{CLK}	ns
Clock frequency	f _{CLK}	0.1	-	500	kHz
Digital rise/fall times	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.

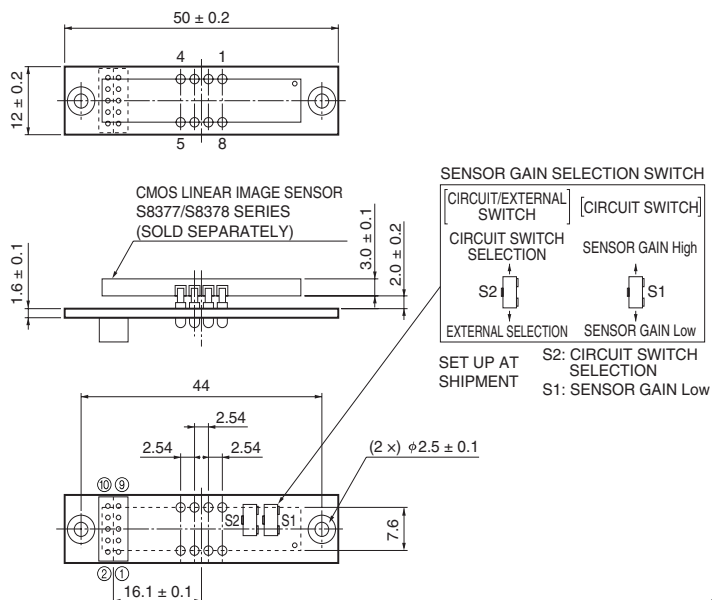
■ Block diagram



■ Timing chart



■ Dimensional outline (unit: mm)



■ 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 toa cable (30 cm, preassembled).

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Cat. No. KACC1079E01
Jul. 2002 DN