

C7884

C7884 series

High-precision driver circuits for current-output type NMOS linear image sensor

The C7884 series is a driver circuit specifically designed for the HAMAMATSU current-output type NMOS linear image sensors (refer to the "Selection guide" for suitable sensor). NMOS linear image sensors are self-scanning photodiode arrays integrated with a scanning circuit of N-channel MOS transistors.

The C7884 series supplies start pulses and two-phase clock pulses necessary for image sensor operation. The C7884 series also includes a signal processing circuit to read out video signals from an image sensor in the electric charge accumulation mode. The C7884 series operates by input of a master start pulse, master clock pulse and connection to double power supply ($\pm 12\text{ V}$ or $\pm 15\text{ V}$).

Features

- High-precision operation
- Low noise
- Compact
- Double power supply ($\pm 12\text{ V}$ or $\pm 15\text{ V}$) operation

Selection guide

Type no.	Product name	Feature	Applicable sensor
C7884	Driver circuit	High precision driver circuit for current-output type NMOS linear image sensors. Has no input/output connector.	S3901-128Q/-256Q/-512Q S3902-128Q/-256Q/-512Q S3903-256Q/-512Q/-1024Q
C7884-01	Low noise driver circuit	Low noise driver circuit for current-output type NMOS linear image sensors. Has no input/output connector.	S3904-256Q/-512Q/-1024Q S8380-128Q/-256Q/-512Q S8381-256Q/-512Q/-1024Q

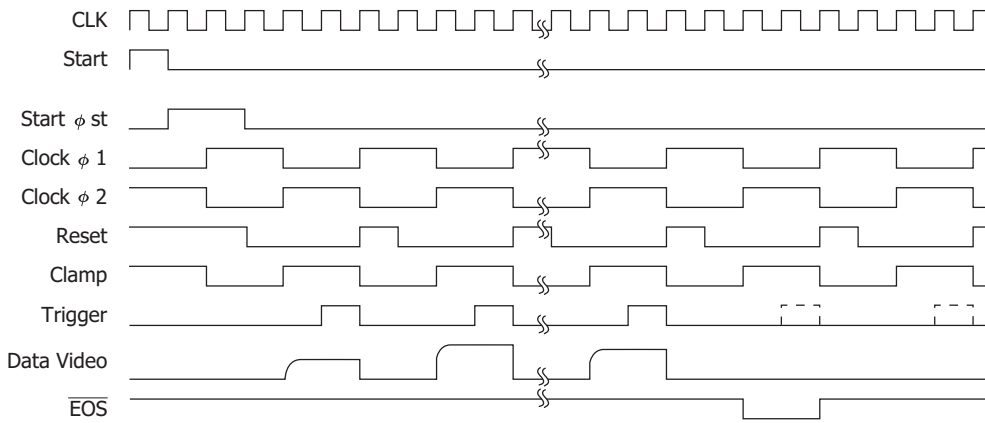
Note: Standard input/output connector is FAP-16-07#2 (made by Yamaichi Electronics Co., Ltd, sold separately). Equivalent connectors are available from other manufacturers.

Specifications (Ta=25 °C)

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Supply voltage	Positive power supply	+Vs		+11.5	+12.0	+15.5	V
	Negative power supply	-Vs		+11.5	+12.0	+15.5	V
Current consumption	C7884	Positive power supply	+Is +12 V	-	30	40	mA
		Negative power supply	-Is -12 V	-	10	20	mA
	C7884-01	Positive power supply	+Is +12 V	-	20	30	mA
		Negative power supply	-Is -12 V	-	10	20	mA
Operation frequency	C7884	-	S3902/S3903 series, master clock frequency: 4 MHz	-	-	1	MHz
		-	S3901/S3904 series, master clock frequency: 2 MHz	-	-	500	kHz
	C7884-01	-	master clock frequency: 250 kHz	-	-	62.5	kHz
Gain		G		0.3			V/pC
Operating temperature		Topr		0 to +50			°C
Storage temperature		Tstg		-10 to +60			°C

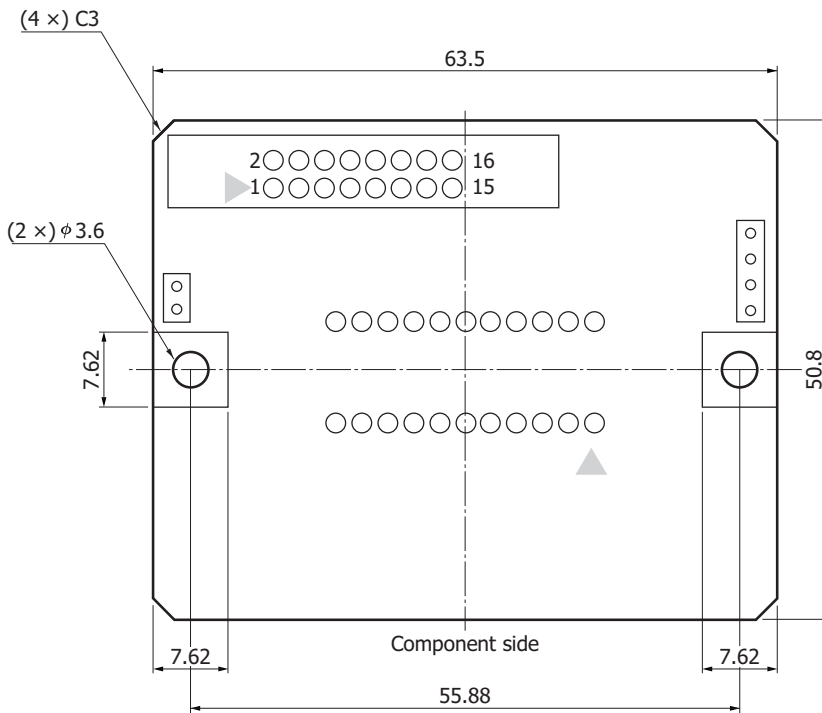
* No condensation

Timing chart



KACCC0119EB

Dimensional outlines (unit: mm)



Note: Mount the connector on the component side.

KACCA0086EB

Pin connections

Pin no.	Terminal name	Description
1	A.GND	Analog ground
2	+12 V or +15 V	Power supply
3	A.GND	Analog ground
4	-12 V or -15 V	Power supply
5	A.GND	Analog ground
6	Data Video	Analog video signal output; positive polarity
7	A.GND	Analog ground
8	A.GND	Analog ground
9	D.GND	Digital ground
10	\overline{EOS}	Digital output signal indicating end of scan; negative logic
11	D.GND	Digital ground
12	Trigger	Digital output signal for A/D conversion; positive logic
13	D.GND	Digital ground
14	CLK	Digital input signal for operating the circuit at the rising edge
15	D.GND	Digital ground
16	Start	Digital input signal for initializing the circuit; positive logic. Interval of these pulses equals the integration time of the sensor.

Related information

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

- Precautions
- Notice

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

Product specifications are subject to change without prior notice due to improvements or other reasons. This document has been carefully prepared and the information contained is believed to be accurate. In rare cases, however, there may be inaccuracies such as text errors. Before using these products, always contact us for the delivery specification sheet to check the latest specifications.

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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

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

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

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: Torshamnsgatan 35 16440 Kista, Sweden, Telephone: (46) 8-509-031-00, Fax: (46) 8-509-031-01

Italy: Hamamatsu Photonics Italia S.r.l.: Strada della Moia, 1 int. 6, 20020 Arese (Milano), Italy, Telephone: (39) 02-93581733, Fax: (39) 02-93581741

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