

Digital CMOS board level camera C13752-50U



The core of the C13752-50U camera is the scientific image sensor, an advanced CMOS detector that simultaneously achieves high resolution, fast readout speeds and low noise. With its small size, board-level design and simple, low-cost integration using USB 3.0, the C13752-50U is the ideal camera for OEM scientific imaging.

It is available to offer customization following your request. Please contact us for details.

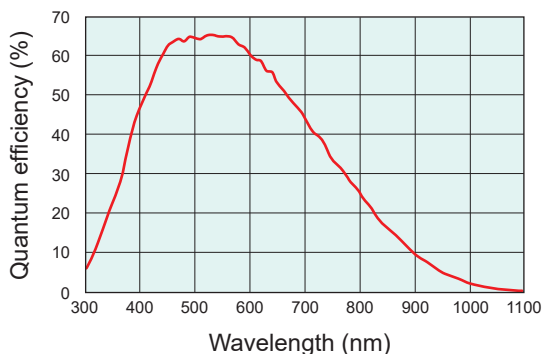
FEATURES

- Resolution: 3.0 megapixels (2048 × 1544)
- Readout noise: 2.3 electrons (Typ.)
- Frame rate: 65 frames/s (Full resolution)
- Global shutter

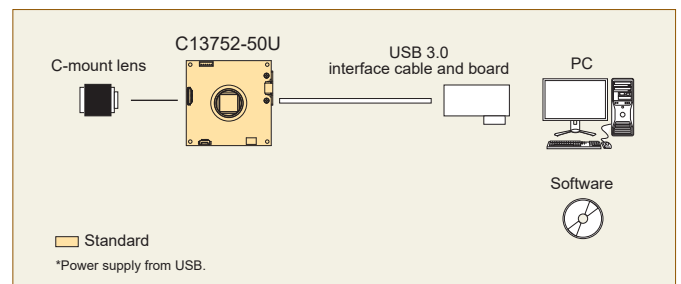
APPLICATIONS

- Fluorescence imaging
- DNA sequencing
- CTC detection
- X-ray I.I. readout
- X-ray CT

SPECTRAL RESPONSE



SYSTEM CONFIGURATION



SPECIFICATIONS

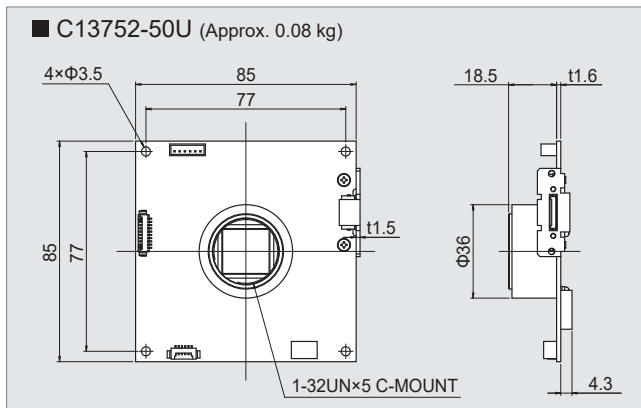
Type number	C13752-50U	
Imaging device	CMOS image sensor	
Effective number of pixels	2048 (H) × 1544 (V)	
Pixel size	3.45 μm (H) × 3.45 μm (V)	
Effective area	7.06 mm (H) × 5.32 mm (V)	
Full well capacity (Typ.)	10 500 electrons	
Analog gain	1× to 15.8× (240 steps)	
Dynamic range (Typ.) *1	4565 : 1	
Frame rate (Internal trigger mode)	Full resolution	65 frames/s
	2×2 Binning	206 frames/s
	2×2 Binning, 4 Line Sub-array	3981 frames/s
Readout noise (rms Typ.)	2.3 electrons (Analog gain 1×)	
Digital output	12 bit	
Exposure time	Internal trigger mode	19.70 μs to 1 s
	External trigger mode	19.70 μs to 1 s (Edge trigger, Start trigger) 1 ms to 1 s (Level trigger, Synchronous readout trigger)
External trigger input mode	Edge trigger, Level trigger Synchronous readout trigger, Start trigger	
Trigger delay function	0 s to 10 s in 1 μs steps	
Trigger output	Programmable timing outputs Trigger ready output Global exposure timing output Low output, High output	
Binning *2	2×2	
Sub-array	Yes	
Interface	USB 3.0	
Lens mount	C-mount	
Connector	USB 3.0 microB type	
Power supply	Bus Power / DC+8 V to DC+30 V	
Power consumption	Approx. 4.5 W	
Ambient operating temperature	0 °C to +40 °C	
Ambient operating humidity	30 % to 80 % (with no condensation)	
Ambient storage temperature	-10 °C to +50 °C	
Ambient storage humidity	90 % max. (with no condensation)	

*1: Calculated from the ratio of the full well capacity and the readout noise.

*2: Vertical 2 pixels are added inside the CMOS image sensor, and horizontal 2 pixels are added digitally inside the camera.

DIMENSIONAL OUTLINES

(Unit: mm)



OPTIONS

- Board camera case A12599-02
- External trigger cable SMA-BNC 5 m A12106-05
- External trigger cable SMA-SMA 5 m A12107-05
- External trigger cable 5 m A11892-05

- Product and software package names noted in this documentation are trademarks or registered trademarks of their respective manufacturers.
- Subject to local technical requirements and regulations, availability of products included in this promotional material may vary. Please consult your local sales representative.
- Information furnished by HAMAMATSU is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions. Specifications and external appearance are subject to change without notice.

©2020 Hamamatsu Photonics K.K.

HAMAMATSU PHOTONICS K.K. www.hamamatsu.com

Systems Division

812 Joko-cho, Higashi-ku, Hamamatsu City, 431-3196, Japan, Telephone: (81)53-431-0124, Fax: (81)53-433-8031, E-mail: export@sys.hpk.co.jp

U.S.A.: Hamamatsu Corporation: 360 Foothill Road, Bridgewater, NJ 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, UK, 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.: 1201 Tower B, Jiaming Center, 27 Dongsanhuan Beilu, Chaoyang District, 100020 Beijing, P.R. 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, Section 2, Gongdao 5th Road, East District, Hsinchu, 300, Taiwan R.O.C. Telephone: (886)3-659-0080, Fax: (886)3-659-0081 E-mail: info@hamamatsu.com.tw

Cat. No. SCAS0118E04
AUG/2020 HPK
Created in Japan