

OEM Solution



Digital CMOS board level camera C13949-50U



The core of the C13949-50U 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 C13949-50U is the ideal camera for OEM scientific imaging. It is available to offer customization following your request. Please contact us for details.

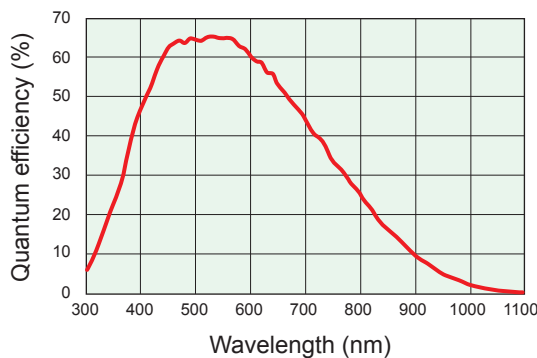
FEATURES

- Resolution: 12 megapixels (4096 × 3008)
- Readout noise: 2.3 electrons (typ.)
- Frame rate: 15 frames/s (Full resolution)
- Global shutter
- High sensitive in near infrared range

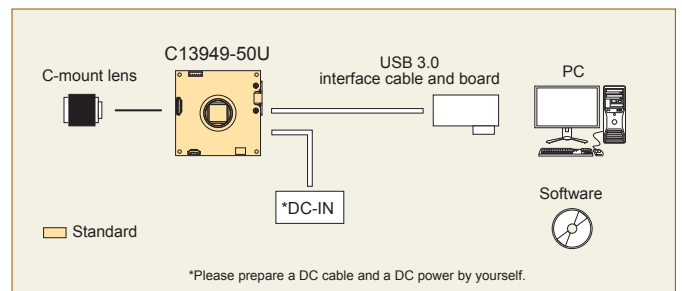
APPLICATIONS

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

SPECTRAL RESPONSE



SYSTEM CONFIGURATION



SPECIFICATIONS

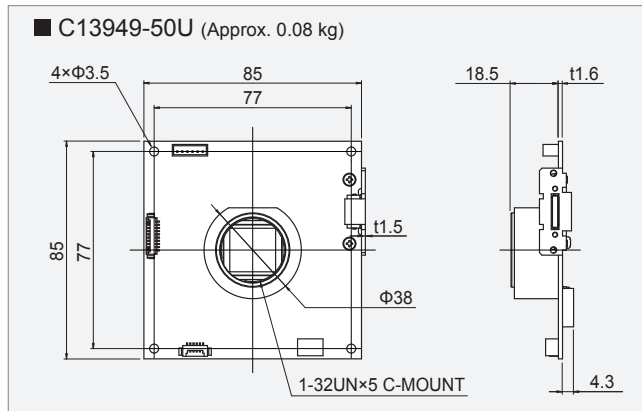
Product number	C13949-50U	
Imaging device	CMOS image sensor	
Effective number of pixels	4096 (H) × 3008 (V)	
Cell size	3.45 μm (H) × 3.45 μm (V)	
Effective area	14.13 mm (H) × 10.37 mm (V)	
Full well capacity typ.	10 500 electrons	
Analog gain	1× to 15.8× (240 steps)	
Dynamic range typ.*1	4565 : 1	
Frame rate (Internal trigger mode)	Full resolution	15 frames/s
	2×2 Binning	57 frames/s
	2×2 Binning, 4 Line Sub-array	1540 frames/s
Readout noise (rms) typ.	2.3 electrons	
Digital output	12 bit	
Exposure time	Internal trigger mode	25.45 μs to 1 s
	External trigger mode	25.45 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 output 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	DC+12 V	
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: Digital binning processing in the camera

DIMENSIONAL OUTLINES

(Unit: mm)



OPTIONS

- 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

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