

# InGaAs camera C12741-03-02



The C12741-03-02 is an InGaAs camera with sensitivity in the near infrared region from 950 nm to 1700 nm.

It has a USB 3.0 interface port which supports 14 bit image acquisition and exposure time adjustment. This makes the C12741-03-02 ideal for use in a wide range of applications including internal inspection of silicon wafers and devices, laser beam alignment and evaluation of solar cells.

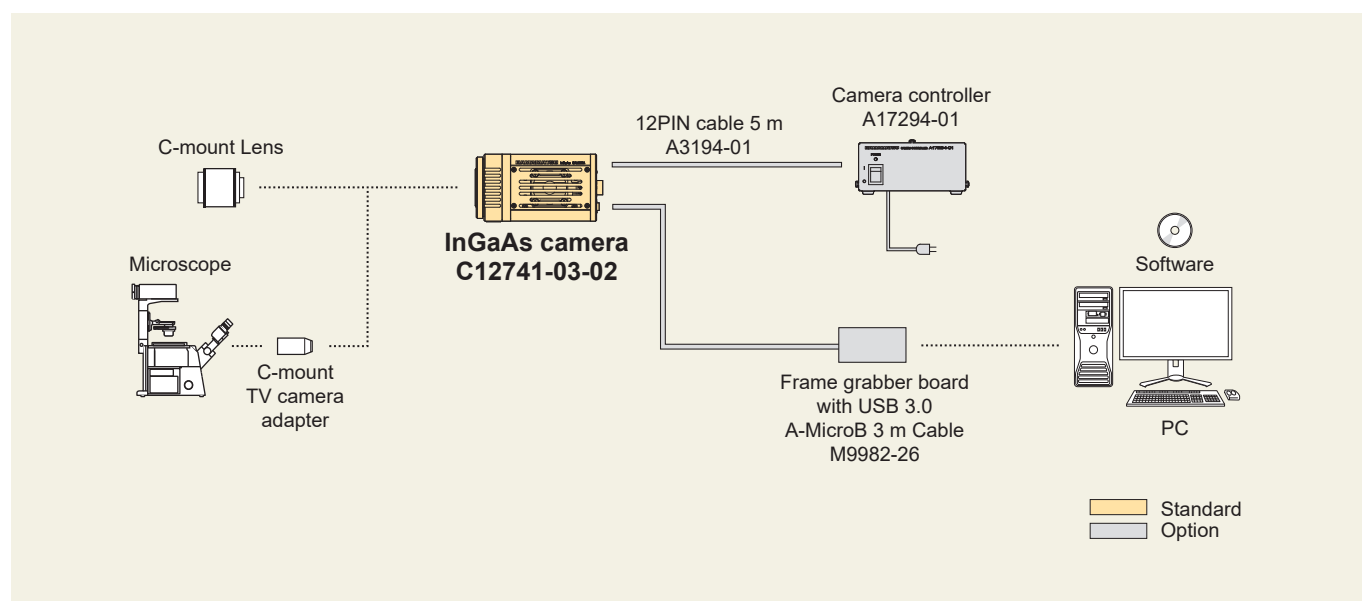
## Features

- High sensitivity in the near infrared region
- 640 × 512 pixels
- Low noise and high stability with cooling
- Frame rate of approx. 60 frames/s

## Applications

- Inspection of internal defects in Si wafers, chips, and MEMS
- Evaluation and analysis of optical communication devices such as IR beam profilers
- Evaluation of semiconductor materials such as solar cells
- Inspection of food and agricultural products
- Moisture detection
- Observation of cultural assets

## System Configuration



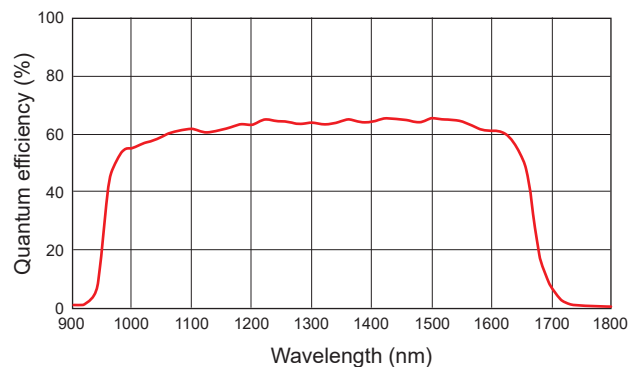
## Specifications

Product number	C12741-03-02
Imaging device	InGaAs sensor
Effective number of pixels	640 (H) × 512 (V)
Pixel size	20 μm (H) × 20 μm (V)
Effective area	12.8 mm (H) × 10.24 mm (V)
Cooling method	Peltier cooling
Cooling temperature	Forced-air cooled (Ambient temperature: +25 °C)
Frame rate	59.774 frames/s
Digital output	14 bit
Exposure time	16.7 ms to 1 s
External trigger input mode	Edge trigger, Level trigger, Start trigger
Trigger delay function	0 s to 1 s in 10 μs steps
Trigger input connector	SMA
Interface	USB 3.0 *1, EIA
Image processing functions	Background subtraction, Shading correction
Lens mount	C-mount
Connector	USB 3.0 microB type
Power supply	DC +12 V
Power consumption	Approx. 16 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)

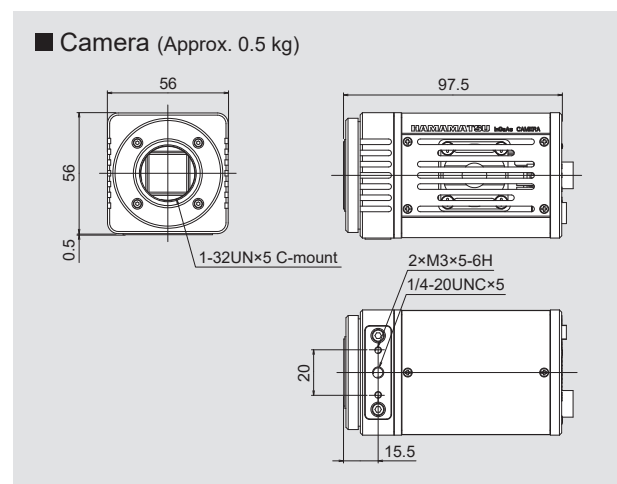
\*1 Equivalent to USB 3.1 Gen 1

As the characteristics of InGaAs sensor, uneven pattern where the brightness of the pixels is different from surrounding area may appear in the image, depending on the exposure time or ambient temperature.

## Spectral response



## Dimensional outlines (Unit: mm)



## Options

Product number	Product name
A17294-01	Camera controller
A3194-01	12PIN cable 5 m
M9982-26	Frame grabber board with USB 3.0 A-MicroB 3 m Cable

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  - The product described in this brochure is designed to meet the written specifications, when used strictly in accordance with all instructions.
  - The spectral response specified in this brochure is typical value and not guaranteed.
  - Specifications and external appearance are subject to change without notice.
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