CMOS CAMERA MODULES

your BEST camera module partner

JAL-IRSW-OV4682 V1.0

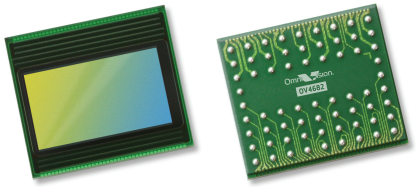
OmniVision OV4682 with IR Switch MIPI Interface Mise au point fixe 4MP M12 Module de caméra

Module de caméra No.	JAL-IRSW-OV4682 V1.0	
Capteur d'image	OV4682	IR SWITCH
EFL	2.8 mm	Input Voltage: 3.5V ~ 12V
F.NO	2.0	Operating Current: 88 ~ 300 mA
Pixel	2688 x 1520	Red Line: Positive
Angle de vue	130°	Black Line: Negative
Type d'objectif	1/3 pouce	
Dimensions de l'objectif	14.00 x 14.00 x 23.09 mm	Operation:
Taille du module	34.5 x 56.07 mm	ON: IR Active (Day Time)
Type de module	Mise au point fixe	OFF: IR Disable (Night Time)
Interface	MIPI	

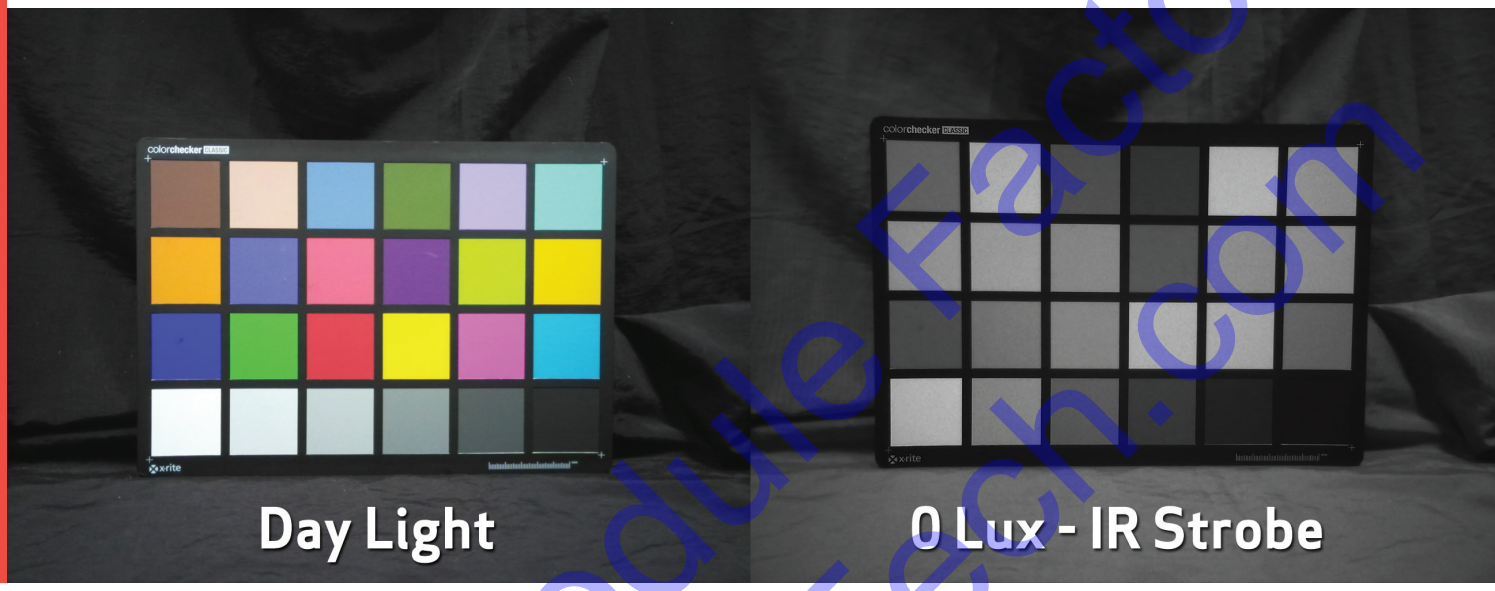
Référence du connecteur d'accouplement. FH12-24S-0.5SH

Connecteur d'accouplement sur la carte principale. Vendu séparément.

www.KaiLapTech.com sales@KaiLapTech.com Tel: (852) 6908 1256 Fax: (852) 3017 6778



OV4682 4MP product brief



Dual-Purpose RGB IR CameraChip™ Sensor Brings High Sensitivity and High Frame Rates to Mobile and Machine Vision Applications

lead free

available in a lead-free package

OmniVision's OV4682 is a 4-megapixel RGB infrared (IR) single sensor that captures high-resolution images and video as well as IR information. Its dual RGB and IR capabilities allow it to bring a host of additional features to mobile and machine vision applications, including gesture sensing, depth analysis, iris detection and eye tracking. By combining two capabilities into a single sensor, the OV4682 reduces the total cost for the system while also reducing the space required for multiple sensors.

The sensor's 2-micron OmniBSI-2™ pixel delivers excellent signal-to-noise ratio and IR sensitivity, and offers best-in-class low-light sensitivity with a 40 percent increase in sensitivity compared to the 1.75-micron OmniBSI-2 pixel. The OV4682's unique architecture and pixel optimization bring not only the best IR performance but also best-in-class image quality. Additionally, the sensor reduces system-level power consumption by optimizing RGB and IR timing.

The OV4682 records full-resolution 4-megapixel video in a native 16:9 format at 90 frames per second (fps), with a quarter of the pixels dedicated to capturing IR. The 1/3-inch sensor can also record 1080p high definition (HD) video at 120 fps with electronic image stabilization (EIS), or 720p HD at 180 fps.

The OV4682 features a high-speed 4-lane MIPI serial output interface to facilitate the required high data transfer rate. It fits into an 8.5 x 8.5 mm module with a z-height of less than 6 mm.

Find out more at www.ovt.com.

OV4682

Applications

- Cellular Phones
- Tablets
- Digital Still Cameras (DSC)
- Digital Video Camcorders (DVC)
- PC Multimedia
- Security
- Gaming
- Gesture Detection

Ordering Information

- **OV04682-G04A-1D**
  (RGB-IR, chip probing, 200 µm backgrinding, reconstructed wafer with good die)

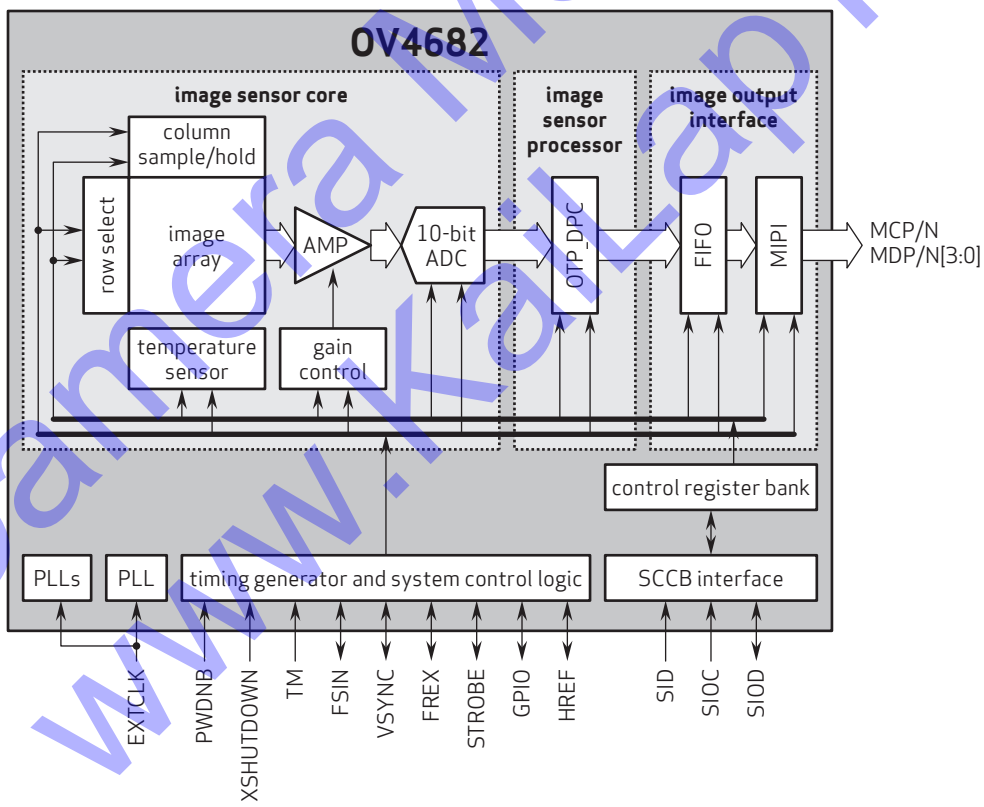
Product Features

- automatic black level calibration (ABLC)
- programmable controls for frame rate, mirror and flip, cropping, and windowing
- static defective pixel canceling
- supports output formats: 10-bit RAW RGB-IR (MIPI)
- supports horizontal and vertical subsampling
- supports images sizes: 4MP, 3MP, EIS1080p, 1080p, EIS720p
- fast mode switching
- support 2x2 binning, 4x4 binning, re-sampling filter
- standard serial SCCB interface
- up to 4-lane MIPI serial output interface
- embedded 4K bits one-time programmable (OTP) memory for part identification, etc.
- two on-chip phase lock loops (PLLs)
- programmable I/O drive capability
- built-in temperature sensor

Product Specifications

- **active array size:** 2688 x 1520
- **power supply:**
  - **core:** 1.1 - 1.3V
  - **analog:** 2.6 - 3.0V
  - **I/O:** 1.7 - 3.0V
- **power requirements:**
  - **active:** 163 mA (261 mW)
  - **standby:** 1 mA
  - **XSHUTDOWN:** <10 µA
- **temperature range:**
  - **operating:** -30°C to +85°C junction temperature
  - **stable image:** 0°C to +60°C junction temperature
- **output formats:** 10-bit RAW RGB data
- **lens size:** 1/3"
- **input clock frequency:** 6 - 64 MHz
- **lens chief ray angle:** 21° non-linear
- **maximum image transfer rate:**
  - **2688x1520:** 90 fps
  - **1920x1080:** 120 fps
  - **1280x720:** 180 fps
  - **672x380:** 330 fps
- **scan mode:** progressive
- **maximum exposure interval:** 1548 x T_{ROW}
- **pixel size:** 2 µm x 2 µm
- **dark current:** 4 mV/sec @ 60°C junction temperature
- **image area:** 5440 µm x 3072 µm
- **die dimensions:**
  - **COB:** 6600 µm x 5800 µm
  - **RW:** 6650 µm x 5850 µm

Functional Block Diagram



4275 Burton Drive
Santa Clara, CA 95054
USA

Tel: + 1 408 567 3000
Fax: + 1 408 567 3001
www.ovt.com

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