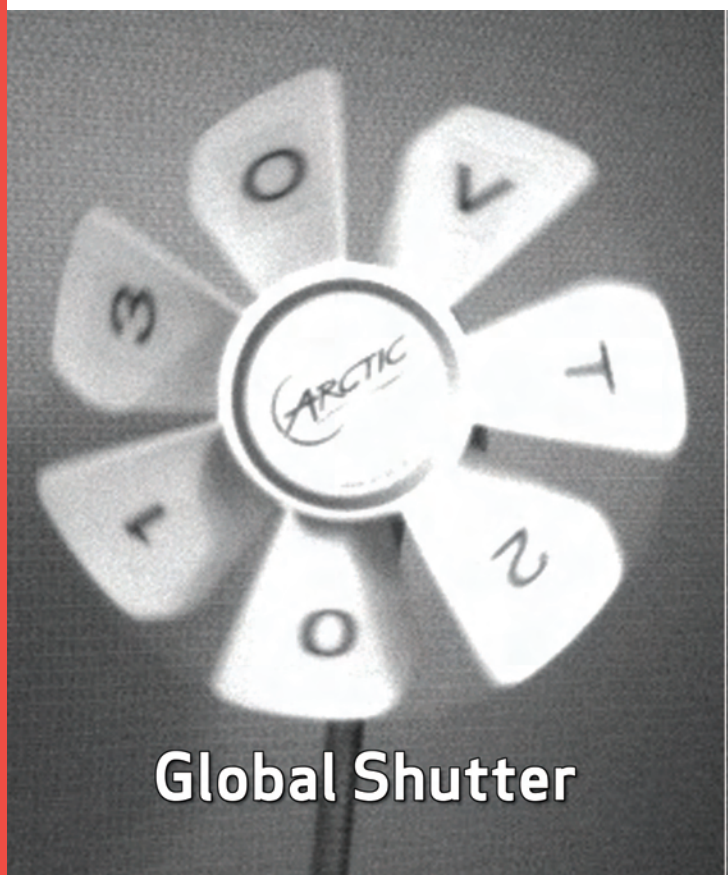
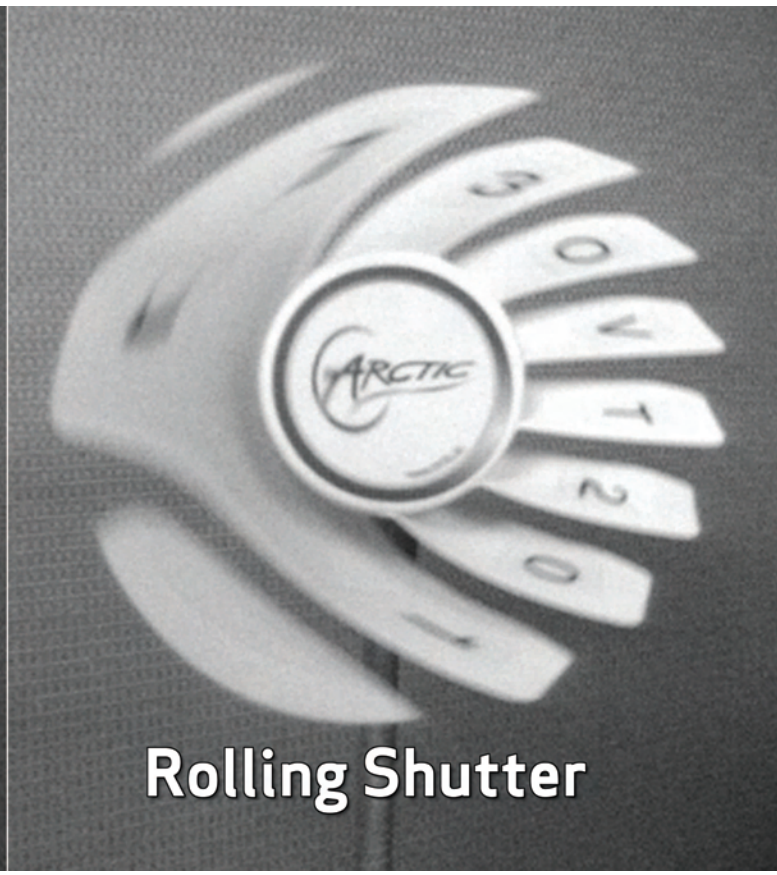


OVM6211 400 x 400 product brief





lead free

available in a lead-free package

Compact Global Shutter CameraCubeChip™ Brings Computer Vision to Mobile Devices, Notebooks and Wearables

OmniVision's high performance OVM6211 offers a number of advanced features, including gesture recognition, eye tracking and motion detection in the industry's smallest global shutter package. Its advanced functionality, easy adoption and compact form-factor make it an ideal camera solution for advanced space-constrained devices, such as smartphones, tablets, notebooks and wearables.

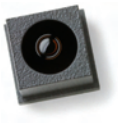
Featuring a 3-micron OmniPixel3-GS™ global shutter pixel, the OVM6211 is capable of capturing full resolution (400 x 400 pixels) video at 120 fps and features two low-power modes: light sensing mode and ultra-low power mode.

The OVM6211 CameraCubeChip™ will be available in two packages. The OVM6211-RADA is intended for human interface systems including eye tracking and will have a narrow field of view (FOV) at approximately 50 degrees. The OVM6211-RAHA is a complementary product intended for applications including gesture recognition and wearable devices and uses a lens with FOV wider than 90 degrees.

Find out more at www.ovt.com.

OmniVision

OVM6211



Applications

- Eye Tracking
- Wearable Devices
- Security and Surveillance
- Toys and Games

Product Features

- 3 µm global shutter pixel
- automatic black level calibration (ABLC)
- programmable controls for:
  - frame rate
  - mirror and flip
  - cropping and windowing
- supports output formats: 8/10-bit RAW
- supports images sizes:
  - 400 x 400
  - 200 x 200
  - 100 x 100
- fast mode switching
- supports horizontal and vertical 2:1 and 4:1 monochrome subsampling
- supports 2x2 monochrome binning
- standard serial SCCB interface
- programmable SCCB device ID
- one-lane MIPI serial output interface
- embedded 128 bits of one-time programmable (OTP) memory for part identification, etc.
- two on-chip phase lock loop (PLL)
- programmable I/O drive capability
- built-in 1.5V regulator for core
- PWM
- built-in strobe control
- ultra low power mode for ambient light sensor

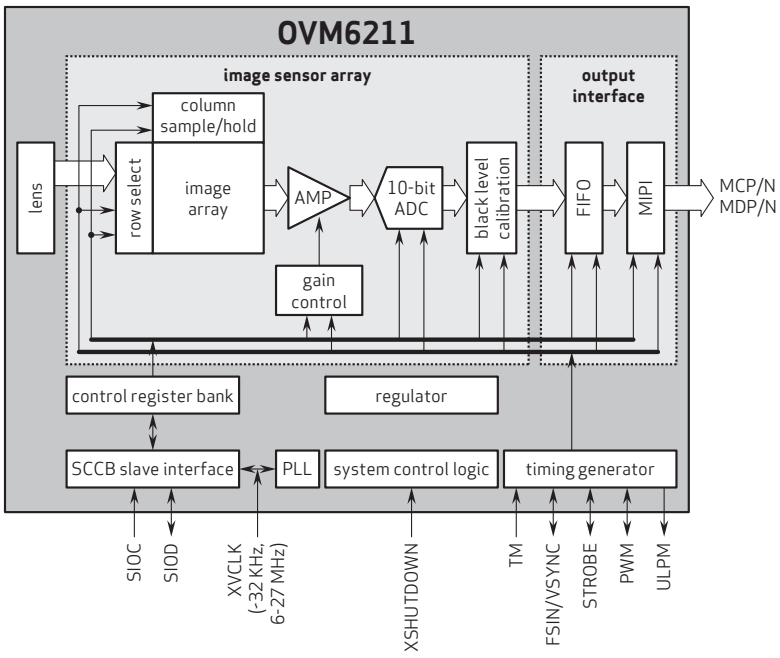
Ordering Information

- **OVM6211-RADA**
  (B&W, lead-free, CameraCubeChip™ with black coating, 50° FOV)
- **OVM6211-RAHA**
  (B&W, lead-free, CameraCubeChip™ with black coating, 90° FOV)

Product Specifications

- **active array size:** 400 x 400
- **power supply:**
  - **analog:** 2.6 - 3.0V
  - **core:** 1.5 VDC ±5%
  - **I/O:** 1.7 - 3.0V
- **power requirements:**
  - **active:** 85 mW @ 120 fps
  - **standby:** 15 µA for AVDD, 40/700 µA for DOVDD with/without input clock
  - **XSHUTDOWN:** 5 µA for AVDD, 5 µA for DOVDD
- **temperature range:**
  - **operating:** -30°C to +70°C junction temperature
  - **stable image:** 0°C to +50°C junction temperature
- **output formats:** 8/10-bit RAW
- **optical format:** 1/10.5"
- **input clock frequency:** 6 - 27 MHz
- **f no.:**
  - **RADA:** 3.1
  - **RAHA:** 2.4
- **max S/N ratio:** 37.5 dB
- **focal length:**
  - **RADA:** 1.681 mm
  - **RAHA:** 0.776 mm
- **dynamic range:** 66.5 dB @ 8x gain
- **maximum image transfer rate:**
  - **400 x 400:** 120 fps
  - **200 x 200:** 220 fps
  - **100 x 100:** 380 fps
- **sensitivity:**
  7190 mV/(µW.cm^{-2}.sec) @ 850 nm
  2800 mV/Lux-sec @ 530 nm
- **scan mode:** progressive
- **maximum exposure interval:** 434 x t_{ROW}
- **pixel size:** 3 µm x 3 µm
- **dark current:** 2000 e$^-$/s @ 50°C junction temperature
- **image area:** 1248 µm x 1248 µm
- **package dimensions (including ball height):**
  - **RADA:** 3230 x 3230 x 2450 µm
  - **RAHA:** 3230 x 3230 x 3920 µm

Functional Block Diagram



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