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GRENCHEN

Recherche Kamera Modul
Sprint 3

Recherche für Kamera Modul

Welche Kamera eignet sich für die Messung der Lichtverschmutzung?

- Recherche für Kamera Modul: Klein, uP-Ansteuerbar, Lichtempfindlich evt. CCD

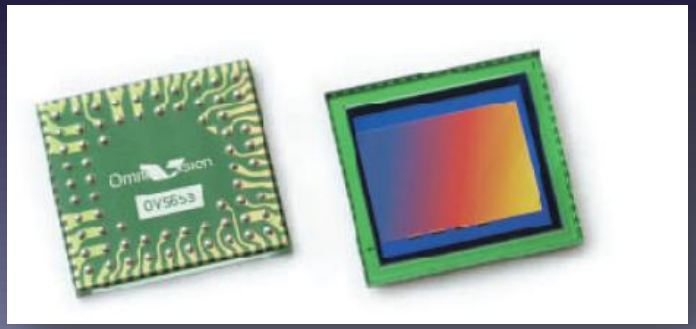
LI-CAM-OV5653-P33

Lichtempfindliche CMOS Kamera

- 1/3.2" 1080p CMOS HD Digital Imager
- Active imaging pixels: 2592 H x 1944 V
- Pixel size: 1.75µm x 1.75µm
- 10-bit digital output with line and frame synchronization
- Support 1080 @ 30fps on Leopardboard 368
- **Simple two-wire serial interface**
- Superior low-light performance
- Low noise CMOS imaging technology that achieves CCD image quality
- Direct interface to TI IP camera
- Interface to Leopardboard 36x with LI-VCAMADPATER board
- High resolution standard M12 lens
- **Price 169.0 $**
- https://www.leopardimaging.com/LI-CAM-OV5653-P33.html

OV5653 Chip

Chip Spezifikation



Product Specifications

- active array size: 2592 x 1944
- power supply:
  - core: 1.5V ±5% (with embedded 1.5V regulator)
  - analog: 2.6 - 3.0V (2.8V typical)
  - I/O: 1.8V/2.8V
- power requirements:
  - active: 150 mA
  - standby: 40 µA
- temperature range:
  - operating: -30°C to 85°C junction temperature
  - stable image: 0°C to 65°C junction temperature
- output formats: 8/10-bit RAW RGB output
- lens size: 1/3.2"
- lens chief ray angle: 11.2° non-linear
- input clock frequency: 6 - 27 MHz
- max S/N ratio: 37 dB
- dynamic range: 69 dB @ 8x gain
- maximum image transfer rate:
  - QSXGA (2592x1944): 15 fps
  - 1080p: 30 fps
  - 720p: 60 fps
  - VGA (640x480): 90 fps
  - QVGA (320x240): 120 fps
- sensitivity: 1300 mV/lux-sec
- shutter: rolling shutter
- maximum exposure interval: 1968 x t_{ROW}
- pixel size: 1.75 µm x 1.75 µm
- dark current: 8 mV/sec @ 50°C junction temperature
- image area: 4592 µm x 3423 µm
- package dimensions: 6505 µm x 6005 µm

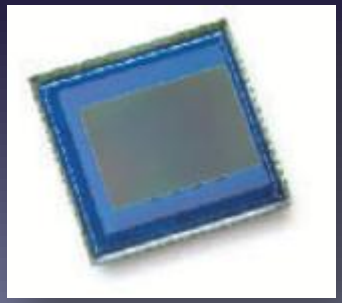
ArduCam 5MP: OV5642

Arduino CMOS Kamera

- active array size: 2592 x 1944
- **Open source project www.ArduCAM.com supported**
- power supply: core: 1.5VDC + 5% (internal regulator)
  analog: 2.6 ~ 3.0V, I/O: 1.7 ~ 3.0V
- output formats : (8-bit): YUV(422/420) / YCbCr422,
- RGB565/555/444, CCIR656, 8-bit compression data,
- 8/10-bit raw RGB data
- lens size: 1/4”
- input clock frequency: 6 ~ 27 MHz, shutter: rolling shutter,
- maximum image transfer rate:
  5 megapixel (2592×1944): 15 fps (and any size scaling down from 5 megapixel), 1080p (1920×1080): 30 fps
  720p (1280×720): 60 fps, VGA (640×480): 60 fps, QVGA (320×240): 120 fps
- scan mode: progressive, pixel size: 1.4 µm x 1.4 µm, image area: 3673.6 µm x 2738.4 µm
- **Price 26 $**
- http://www.arducam.com/camera-modules/5mp-ov5642/
- http://www.uctronics.com/mega-pixel-camera-module-ov5642-1080p-jpeg-output-p-1420.html

OV5642 Chip

Chip Spezifikation



Product Specifications

- active array size: 2592 x 1944
- power supply:
  - core: 1.5 V ±5% (internal regulator)
  - analog: 2.6 ~ 3.0 V
  - I/O: 1.71 ~ 3.0 V
- power requirements:
  - active: 270 mA
  - standby: 25 µA
- temperature range:
  - operating: -30°C to 70°C
  - stable image: 0°C to 50°C
- lens size: 1/4"
- lens chief ray angle: 24° non-linear
- input clock frequency: 6 ~ 54 MHz
- shutter: rolling shutter
- maximum image transfer rate:
  - 5 megapixel (2592x1944): 15 fps (and any size scaling down from 5 megapixel)
  - 1080p (1920x1080): 30 fps
  - 720p (1280x720): 60 fps
  - VGA (640x480): 60 fps
  - QVGA (320x240): 120 fps
- sensitivity: 680 mV/(lux-sec)
- S/N ratio: 36 dB
- dynamic range: 68 dB
- pixel size: 1.4 µm x 1.4 µm
- image area: 3673.6 µm x 2738.4 µm
- package dimensions: 6945 µm x 6695 µm
- die dimensions: 6960 µm x 6710 µm