KLT

KLT-X3MF-OX03A10 V1.0

OmniVision OX03A10 MIPI Interfaccia Messa a fuoco fissa 2MP M12 Modulo telecamera

| Modulo telecamera n.	KLT-X3MF-OX03A10 V1.0
Sensore d'immagine	OX03A10
EFL	3.24 mm
F.NO	2.7
Pixel	1920 x 1080
Vista ad angolo	100°(D) 87°(H) 71°(V)
Tipo di lente	1/2.44 pollice
Dimensioni dell'obiettivo	14.00 x 14.00 x 23.32 mm
Dimensione del modulo	40.00 x 23.00 mm
Tipo di modulo	Messa a fuoco fissa
Interfaccia	MIPI

Connettore di accoppiamento Codice. DF30FC-30DS-0.4V

Connettore di accoppiamento sulla scheda principale.Venduto separatamente.

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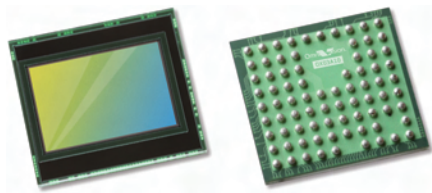
OX03A10 2.46MP product brief

available in a lead-free package

Industry-Leading Low-Light Performance and High Dynamic Range for a Wide Range of Automotive Applications

OmniVision's OX03A10 is a high-performance, low-power 3.2 micron OmniBSI™-2 image sensor designed for a wide range of advanced automotive imaging applications, including 360-degree surround view, rear view, blind-spot detection, e-mirror, and lane departure warning.

The 2.46 megapixel sensor uses OmniVision's proprietary Deep Well™ pixel technology to deliver industry-leading low-light sensitivity, and enables up to 90 dB of high dynamic range (HDR) from a single exposure without any decrease in signal-to-noise ratio and without motion artifacts. The OX03A10 also features dual-exposure HDR mode that can extend the sensor's dynamic range to more than 120 dB.

The OX03A10 can output multiple resolution formats, including 1920 x 1280 resolution video at 50 frames per second (fps) and 1920 x 1080 resolution video at 60 fps.

The sensor comes in an AEC-Q100 Grade 2-qualified 8.0 x 7.2 mm chip-scale package or 10.0 x 9.0 mm ball grid array package and has been developed according to ISO 26262 ASIL B requirements.

Find out more at www.ovt.com.
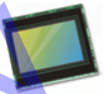
OX03A10

Applications

- Automotive
  - 360° Surround View System
  - Rear View Camera
  - Lane Departure Warning / Lane Keep Assist
  - Camera Monitoring System/e-mirror
  - Autonomous Driving

Product Specifications

- **active array size:** 1920 x 1280
- **power supply:**
  - **analog:** 3.3V
  - **digital:** 1.2V
  - **I/O pads:** 1.8V
- **power requirements:**
  - **active:** streaming @ 1280p50: 370 mW (with FuSa/ASIL off)
- **temperature range:**
  - **operating:** -40°C to +105°C sensor ambient temperature and -40°C to +125°C junction temperature
- **output interfaces:** up to 4-lane MIPI CSI-2
- **input clock frequency:** 6 - 36 MHz
- **lens size:** 1/2.44"
- **lens chief ray angle:** 19.7°
- **SCCB speed:** up to 1 MHz
- **scan mode:** progressive
- **shutter:** rolling shutter
- **max S/N ratio:** 45.4 dB

- **output formats:** single exposure HDR - 16-bit combined RAW, 12-bit (PWL) compressed combined RAW; dual exposure HDR - 16-bit combined RAW + 12-bit VS RAW, 12-bit (PWL) compressed combined RAW + 12-bit VS RAW
- **maximum image transfer rate:**
  - **1280p:** 50 fps
  - **1080p:** 60 fps
  - **1280p (with FuSa/ASIL on):** 40 fps
  - **1080p (with FuSa/ASIL on):** 45 fps
- **sensitivity:** 35,000 e-/Lux-sec (green pixel response at 530 nm illumination)
- **dynamic range:**
  - 90 dB single exposure HDR
  - >120 dB dual exposure staggered HDR
- **pixel size:** 3.2 µm x 3.2 µm
- **image area:** 6195.2 µm x 4147.2 µm
- **package cover glass type:** double sided anti-reflective (AR/AR) coating (without IRCF)
- **package dimensions:**
  - **a-CSP™:** 8034 µm x 7210 µm
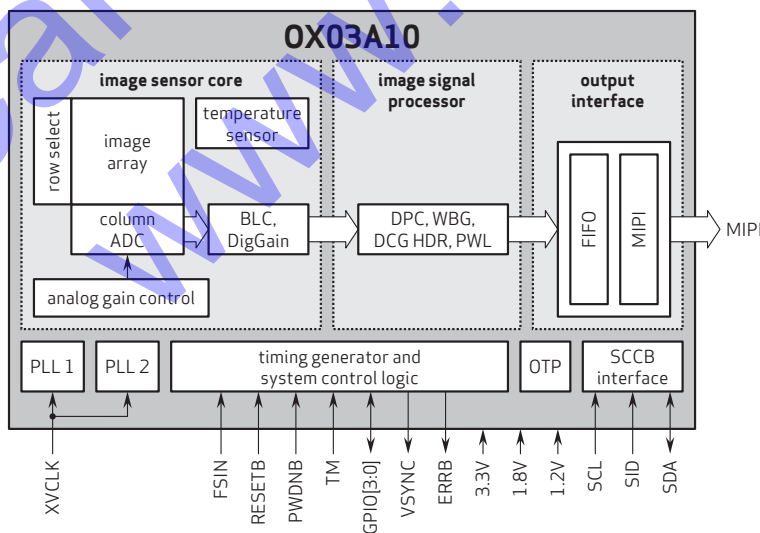 - **a-BGA™:** 10 mm x 9 mm

Ordering Information

- **OX03A10-E80Y-1E-Z** (color, lead-free)
  80-pin a-CSP™ packed in tray without protective film
- **OX03A10-E80Y-OE-Z** (color, lead-free)
  80-pin a-CSP™ packed in tape & reel wth protective film (TL)
- **OX03A10-E80Y-LE-Z** (color, lead-free)
  80-pin a-CSP™ packed in tray with protective film (TL)
- **OX03A10-E80Y-SE-Z** (color, lead-free)
  80-pin a-CSP™ packed in tape & reel wth protective film (BL)
- **OX03A10-E80Y-QE-Z** (color, lead-free)
  80-pin a-CSP™ packed in tray with protective film (BL)
- **OX03A10-B83Y-1E-Z** (color, lead-free)
  83-pin a-BGA™ packed in tray without protective film
- **OX03A10-B83Y-OE-Z** (color, lead-free)
  83-pin a-BGA™ packed in tape & reel with protective film
- **OX03A10-B83Y-LE-Z** (color, lead-free)
  83-pin a-BGA™ packed in tray with protective film

Product Features

- support for image size:
  - 1920 x 1280
  - 1920 x 1080
  - VGA
  - QVGA, and any cropped size
- high dynamic range
- high sensitivity
- image sensor processor functions:
  - defective pixel cancelation
  - HDR combination
  - automatic black level correction
  - PWL compression, etc.
- pixel data: 12b RAW RGB
- SCCB for register programming
- dedicated safety features for supporting minimum ASILB applications
- programmable GPIOs
- high speed serial data transfer with MIPI CSI-2
- external frame synchronization capability
- embedded temperature sensor
- one time programmable (OTP) memory

Functional Block Diagram

OmniVision

Version 1.2, October 2018