

Product Information

"Avocet"

154dB High Dynamic Range (HDR) Automotive CMOS Image Sensors

MLX75411-MLX75412-MLX75413

The MLX75411-12-13 "Avocet" CMOS image sensors feature 1024x512 pixels, high sensitivity and 154dB extended high dynamic range (HDR). The MLX75412 includes automatic exposure (AE), automatic frame-by-frame HDR control and optimized screen viewing algorithms. The MLX75413 includes "Nightbrite" HDR color processing.

Applications

- Driver assistance: lane departure warning, automatic high beam control, forward collision warning, pedestrian detection, etc.
- Night vision and Color Night Vision
- 360degree Around View and HDR Rear View
- Day/night surveillance camera
- Fleet management and Fleet safety camera's
- Stereovision

Features

- 1024x512 pixels
 - 1/3" Optical format for full 1024 x 512 resolution
 - 1/4" Optical format for windowed 640 x 480 resolution
- Monochrome, RGBG, RGBi, RCCC
- Digital 12 bit output (monochrome) and RGB888 (color)

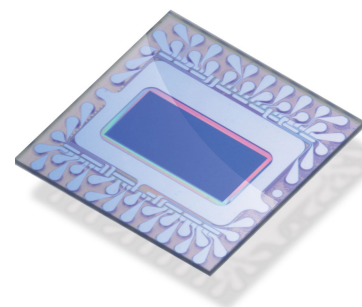
Outperform

- 154dB High Dynamic range
- Superior low-light sensitivity
- Automotive operating temperature range -40°C...+125°C
- On-Chip algorithms (MLX75412)
 - "Autobrite" automatic frame-by-frame HDR control
 - "Autoview" dynamic contrast enhancement
- Off-Chip algorithms (MLX75413)
 - "Nightbrite" HDR color processing

Easy-to-use

- MLX75412 (monochrome) and MLX75413 (color) for full automatic cameras

Melexis
Microelectronic Integrated Systems



Automotive ICs

RF & RFID

Intelligent Drivers
and Actuators

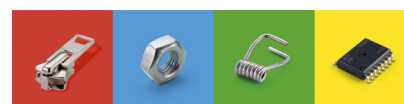
Light Sensors

Hall ICs

Bus ICs

Silicon MEMS

IR Temperature



Small things make a big difference.

Advanced Features

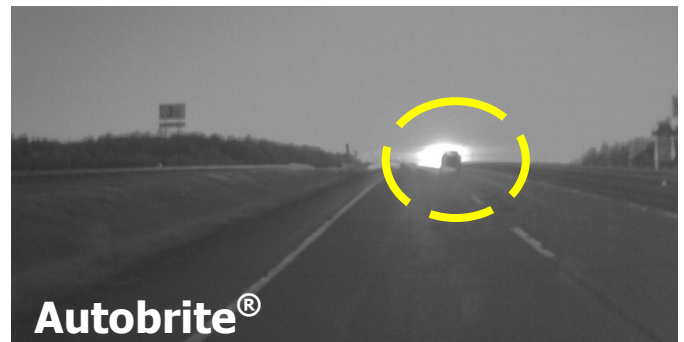
- Pixel Size
- Frame rate at full resolution
- Maximum pixel rate @ internal clock rate
- Input clock range
- Exposure time range at full resolution at full speed
- Serial Command Interface
- Video Interface
- Signal Processing
- Scanning Modes

5.6μ
60 Hz
54Mps @ 54MHz
20MHz to 54MHz

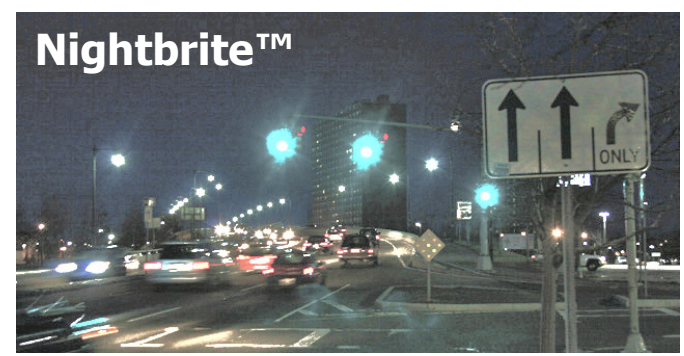
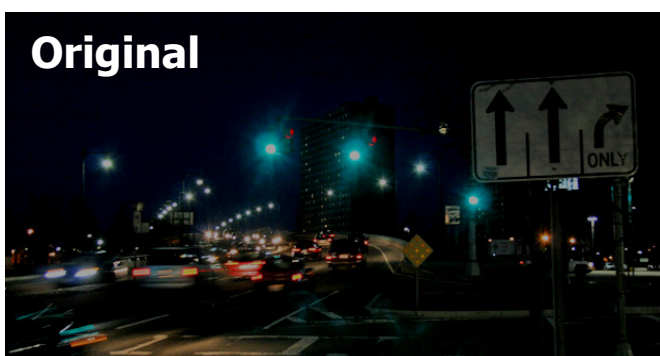
1 μs—33 ms
I²C

Standard 8/10/12bit parallel
with programmable HSYNC/VSYNC
Defect pixel interpolation, FPN
correction, DC offset correction,
Dynamic contrast enhancement,
Algorithm Sharpening
Progressive, Subwindow,
Master/Slave operation

154dB Wide Dynamic Range



MLX75413 Color Night Vision



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