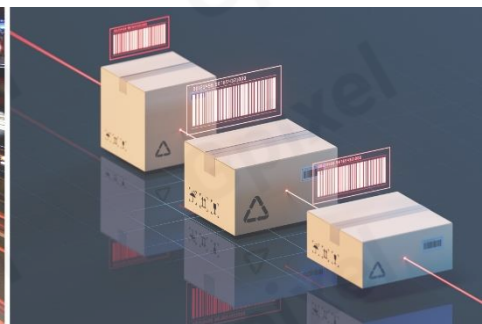


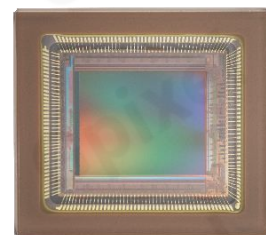
GMAX3405 Product Flyer



5MP GLOBAL SHUTTER CMOS IMAGE SENSOR

GMAX3405 is a 2/3" optical format CMOS image sensor with 2448 x 2048 effective pixels with frame rates up to 164/100 fps in 10/12-bit mode with sub LVDS interface and 73 fps over the 4 alternative MIPI D-PHY channels. Based on a high-performance 3.4 μm charge domain global shutter pixel, **GMAX3405** achieves a max full well capacity of 8.5 ke⁻ and min dark noise of 1.6 e⁻, delivering max 66.9 dB linear dynamic range. **Red Fox technology** delivers QE of 75% @ 540 nm, and a NIR QE of 33% @ 850 nm. **GMAX3405** is housed in 176 pin ceramic LGA package, 17.6 mm x 15.8 mm outer dimensions, and pin-compatible to **GMAX3412**.

GMAX3405 is configurable through I2C or SPI, and supports features such as multislope HDR and short exposure time modes making it an ideal solution for an easy integration into cost-sensitive applications in machine vision, industrial bar code reading, logistics, and traffic.



Key Features

- 5MP resolution
- Charge domain electronic global shutter
- High speed and good PLS and angular response
- NIR enhance
- Multi-slope HDR
- ultra-short exposure time (1 μs)
- One Time Programmable(OTP) Memory

Applications

- Machine Vision
- Logistics Bar Code Readers
- Intelligent Traffic System (ITS)

Sensor Specifications

Resolution	5 MP - 2448 (H) x 2048 (V)	Optical format	2/3"
Pixel size	3.4 μm \times 3.4 μm	Photosensitive area	8.3 mm x 7.0 mm
Shutter type	Global shutter	Parasitic Light Sensitivity	< - 88 dB (angular dependence)
Peak QE	75% @ 540 nm	Angular response	> 15° (80% response)
Full well capacity	8.7k e- @ 12-bit, PGA gain x1.0 8.4k e- @ 10-bit, PGA gain x1.0	Temporal noise	1.6 e- @ 12-bit, PGA gain x16.8 3.0 e- @ 10-bit, PGA gain x2
Max. SNR	39.3 dB @ 12-bit, PGA gain x1.0 39.2 dB @ 10-bit, PGA gain x1.0	Dynamic Range	66.9 dB @ 12-bit, PGA gain x1.0 64.0 dB @ 10-bit, PGA gain x1.0
Dark Current	6.5 e-/pixel/s @ 35 °C	ADC	10/12 bit
Maximum frame rate	164 fps @ 800M Sub-LVDS, 10bit 100 fps @ 800M Sub-LVDS, 12bit 73 fps @ 1.2G MIPI, 12 bit	Output format	12 pairs of Sub-LVDS 4 lanes of MIPI
Power consumption	< 0.8 W	Max. Data rate	9.6 Gbps @Sub-LVDS 4.8 Gbps @MIPI
Supply voltage	3.6 V for pixel 3.3 V for analog 1.8 V – 3.3 V for IO 1.2 V for digital	Channel multiplexing	12/10/8/6/4/2/1 @ Sub-LVDS 4 @ MIPI
Chroma	Bayer RGB, Mono	Package	176 pins LGA 17.6 mm x 15.8 mm

Ordering Information

Sensor Part No.	Description
GMAX3405-AVM-NLV-BUD	Monochrome, Normal speed, 164 fps @ 10bit 12 x Sub-LVDS, 100 fps @ 12bit 12 x Sub-LVDS, 73 fps @ 12bit 4 x MIPI, Demo grade
GMAX3405-AVC-NLV-BUD	Bayer RGB, Normal speed, 164 fps @ 10bit 12 x Sub-LVDS, 100 fps @ 12bit 12 x Sub-LVDS, 73 fps @ 12bit 4 x MIPI, Demo grade