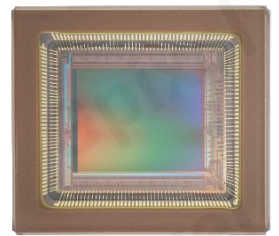


# GMAX3405 Product Flyer



## 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  $\mu\text{m}$  charge domain global shutter pixel, **GMAX3405** achieves a max full well capacity of 10 ke- and min dark noise of 1.5 e-, delivering max 68.8 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 I<sup>2</sup>C 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 $\mu\text{s}$ )
- One Time Programmable(OTP) Memory

### Applications

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

## Sensor Specifications

<b>Resolution</b>	2448 (H) x 2048 (V)	<b>Optical format</b>	2/3"
<b>Pixel size</b>	3.4 $\mu\text{m}$ x 3.4 $\mu\text{m}$	<b>Photo-sensitive area</b>	8.3 mm x 7.0 mm
<b>Shutter type</b>	Global shutter	<b>Peak QE</b>	75% @ 540nm, 33% @ 850nm
<b>Full well capacity</b>	10 $\text{ke}^-$ @ 12-bit and 1x PGA gain 8 $\text{ke}^-$ @ 10-bit and 1x PGA gain	<b>Max. Dynamic Range</b>	68.9 dB
<b>Dark noise</b>	3.6 $\text{e}^-$ @ 1x PGA gain 1.5 $\text{e}^-$ @ 16x PGA gain	<b>Max. SNR</b>	40.0 dB
<b>Parasitic Light Sensitivity</b>	-88 dB (@530 nm, F#8.9)	<b>Max. FPS</b>	164 fps @LVDS @ 10 bit 100 fps @LVDS @ 12 bit 73 fps @ MIPI @ 12 bit
<b>Output format</b>	12 pairs of Sub-LVDS 4 lanes of MIPI	<b>Channel multiplexing</b>	12/10/8/6/4/2/1 @ Sub-LVDS 4/2/1 @ MIPI
<b>ADC</b>	10/12 bit	<b>Max. Data rate</b>	9.6 Gbps @Sub-LVDS 4.8 Gbps @ MIPI
<b>Chroma</b>	Mono & Color	<b>Power consumption</b>	< 1.5 W
<b>I/O voltage</b>	3.6V for pixel, 3.3V for analog, 1.8V - 3.3V for IO, 1.2V for digital	<b>Package</b>	176 pins LGA 22.93 mm x 19.39 mm

## Ordering Information

### Sensor Part No.

#### GMAX3405-AVM-NLV-BUD

Monochrome, 164 fps @ 10bit LVDS, 100 fps @ 12bit LVDS, 73 fps @ 12bit MIPI, Demo grade

#### GMAX3405-AVC-NLV-BUD

Bayer RGB, 164 fps @ 10bit LVDS, 100 fps @ 12bit LVDS, 73 fps @ 12bit MIPI, Demo grade

### Demo kit Part No.

#### LBW-GMAX3405S-U3V

GMAX3405 demo kit, U3V interface.

## Contact Gpixel

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