

GMAX Series

LARGE PIXEL GLOBAL SHUTTER IMAGE SENSORS

GMAX HIGH SENSITIVITY

The GMAX High Sensitivity family consists of CMOS image sensors ranging from 1.6 MP to 12.7 MP with a pixel size $\geq 3.4 \mu\text{m}$ yielding over 9 ke^- full well capacity. All sensors include Red Fox NIR enhancement technology, which increases the quantum efficiency to an industry-leading 15% at 940 nm. Optical formats range from 1/3" to 4/3", ideal for c-mount based systems. The high FWC, dynamic range, and low fixed pattern noise of these sensors make them prime candidates for medical imaging, inspection, automation, and robotics. [GMAX3413](#) and [GMAX3809](#) have $\geq 2:1$ aspect ratios, making them ideal sensors for intelligent traffic systems. [GMAX4002](#), [GMAX3405](#), [GMAX3412](#) include industry-standard sLVDS and additional MIPI interfaces allowing integration into embedded and non-FPGA based systems.



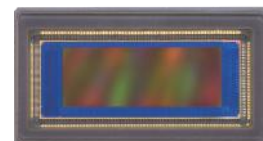
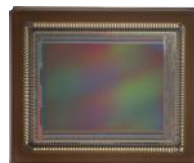
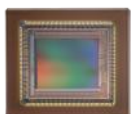
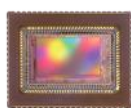
Product Family Features

- ✓ Large pixel size for high full well capacity / SNR
- ✓ Multislope HDR (GMAX3405, GMAX3412)
- ✓ Industry standard sub LVDS outputs with channel multiplexing
- ✓ MIPI interface (GMAX4002, GMAX3405, GMAX3412)

Applications

- ✓ Medical Imaging
- ✓ Automation & Inspection
- ✓ Traffic & Transportation

Gpixel Sensor Specifications



GMAX4002 2.5MP
GMAX4002W 1.6MP

GMAX3405 5MP

GMAX3809 8.8MP

GMAX3412 12MP

GMAX3413 12.7MP

	GMAX4002 2.5MP GMAX4002W 1.6MP	GMAX3405 5MP	GMAX3809 8.8MP	GMAX3412 12MP	GMAX3413 12.7MP
Pixel	4.0 μm GS	3.4 μm GS	3.8 μm GS	3.4 μm GS	3.4 μm GS
Opt. Format	4002: 1/1.68" 4002W: 1/3"	2/3"	1.1"	1.1"	4/3"
Resolution	4002: 2048 x 1200 4002W: 1312 x 1200	2446 x 2048	4096 x 2160	4096 x 3072	5900 x 2160
Chroma	NIRopt RGB	NIRopt RGB	NIRopt RGB	NIRopt RGB	NIRopt RGB
FWC_{max}	11.6 ke ⁻	8.7 ke ⁻	10.5 ke ⁻	9.0 ke ⁻	8.6 ke ⁻
Noise_{min}	2.6 e ⁻	1.6 e ⁻	3.3 e ⁻	1.8 e ⁻	2.1 e ⁻
DR_{max}	68.0 dB	66.9 dB	70.7 dB	67.9 dB	71.4 dB
QE_{max}	72% @ 550 nm	75% @ 540 nm	62% @ 540 nm	75% @ 540 nm	60% @ 540 nm
Frame Rate @ADC	LVDS: 344 @ 10b, 198 @ 12b MIPI: 166 @ 10b	LVDS: 164 @ 10b, 100 @ 12b MIPI: 73 @ 12b	64 fps @ 12 bit	LVDS: 128 @ 10b, 60 @ 12b MIPI: 30 @ 12b	32 fps @ 12 bit
Power	<500 mW	<800 mW	<1000 mW	<1500 mW	<1400 mW
Interface	8/4/2/1 sLVDS @ 1.2G 4/2/1 MIPI @ 1.2G	12/10/8/6/4/2/1 sLVDS @ 800M 4 MIPI @ 1.2G	8/4 sLVDS @ 960M	16/14/12/10/8/4/2/1 sLVDS @ 1.2G 4 MIPI @ 1.2G	8/4 sLVDS @ 960M
Package	16.6x12.9 mm 74p LCC	17.4x16.0 mm 176p LGA	27.0x18.0 mm 163p LGA	22.9x19.4 mm 176p LGA	32.7x18.0 mm 163p LGA
Availability	ES & EVK	ES & EVK	EVK & MP	ES & EVK	ES & EVK

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