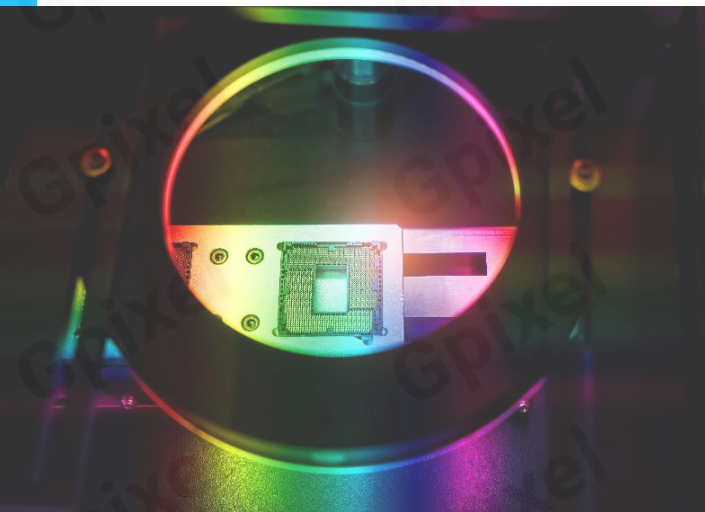
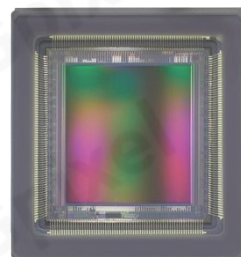


GMAX2518 Product Flyer



18MP GLOBAL SHUTTER IMAGE SENSOR

GMAX2518 has an optical format of 1" and features 18 MegaPixel (4508 × 4096) Global Shutter pixels based on the proven **GMAX** 2.5 μm architecture, operating with true correlated double sampling (CDS) for low read noise and high dynamic range. In addition, the dual light pipe technology provides excellent PLS and angular response, with 32pair of sub-LVDS each run at 960MHz, the sensor output with maximum 30.72 Gbps data, achieving maximum frame rate of 150 fps in 10-bit output and 64 fps in 12-bit output.



The sensor integrates an on-chip sequencer, programmable through SPI, and is designed to be fully pin compatible with **GMAX0505**, **GMAX2509** and **GMAX2505** to significantly shorten time to market for camera manufactures. **GMAX2518** will be assembled in a 19.5 x 20.8 mm 226-pins LGA ceramic package, which is mechanically compatible to fit into an industry standard 29 mm x 29 mm camera housing.

Key Features

- 2.5 μm Global Shutter pixel
- > 64% peak QE, < -80 dB shutter efficiency
- High data throughput up to 30.72 Gbps
- High speed and Good PLS
- Frame rate up to 139 fps @10-bit & 64 fps @12-bit
- Mechanically compatible with industry standard camera

Applications

- High Resolution Industrial Inspection
- Machine Vision
- Intelligent Traffic System (ITS)

Sensor Specifications

Resolution	18 MP - 4508(H) x 4096(V)	Optical format	1"
Pixel size	2.5 μm x 2.5 μm	Photosensitive area	11.3 mm x 10.2 mm
Shutter type	Global shutter	Parasitic Light Sensitivity	< - 80 dB (angular dependence)
Peak QE	64.0% @ 520 nm	Angular response	> 12° (80% response)
Full well capacity	8.0k e ⁻ @ PGA gain x1.0	Temporal noise	1.7 e ⁻ @ 12-bit, PGA gain x4 4.7 e ⁻ @ 10-bit, PGA gain x1.75
Max. SNR	39.0 dB @ PGA gain x1.0	Dynamic Range	66.9 dB @ 12-bit, PGA gain x1.75 61.9 dB @ 10-bit, PGA gain x1.75
Dark Current	6.5 e ⁻ /pixel/s @ 45 °C	ADC	10/12 bit
Maximum frame rate	139 fps @ 10 bit 64 fps @ 12 bit	Output format	32 pairs of Sub-LVDS
Power consumption	<1.2 W	Max. Data rate	30.72 Gbps
Supply voltage	3.3 V /1.3 V for analog 1.8 V - 3.3 V for IO 1.3 V for digital	Channel multiplexing	32/16/12/8/4/2
Chroma	Bayer RGB, Mono	Package	226 pins LGA 20.8 mm x 19.5 mm

Ordering Information

Sensor Part No.	Description
GMAX2518-AVM-HLT-AU1	Monochrome, High speed, 139 fps @ 10bit 32 x Sub-LVDS, Grade 1
GMAX2518-AVM-HLT-AU2	Monochrome, High speed, 139 fps @ 10bit 32 x Sub-LVDS, Grade 2
GMAX2518-AVM-NLT-AU1	Monochrome, Normal speed, 64 fps @ 12bit 16 x Sub-LVDS, Grade 1
GMAX2518-AVM-NLT-AU2	Monochrome, Normal speed, 64 fps @ 12bit 16 x Sub-LVDS, Grade 2
GMAX2518-AVC-HLT-AU1	Bayer RGB, High speed, 139 fps @ 10bit 32 x Sub-LVDS, Grade 1
GMAX2518-AVC-HLT-AU2	Bayer RGB, High speed, 139 fps @ 10bit 32 x Sub-LVDS, Grade 2
GMAX2518-AVC-NLT-AU1	Bayer RGB, Normal speed, 64 fps @ 12bit 16 x Sub-LVDS, Grade 1
GMAX2518-AVC-NLT-AU2	Bayer RGB, Normal speed, 64 fps @ 12bit 16 x Sub-LVDS, Grade 2