

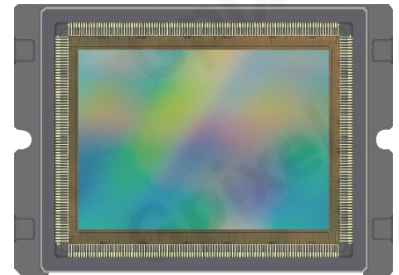
GMAX4651 Product Flyer



51MP GLOBAL SHUTTER IMAGE SENSOR

GMAX4651 is a 51 Megapixel (8424 x 6032) full frame(35mm) global shutter image sensor designed using the latest 4.6 μm charge domain global shutter pixel. Using the advanced 65nm CIS process, it provides 18 ke^- FWC, 7.6 e^- median dark noise and more than 65.5 dB intra-scene dynamic range. With the light pipe technology, sensor achieves $>67\%$ QE @510nm and 1/40,000 shutter efficiency.

GMAX4651 delivers 30fps in single gain operation mode running at 864Mbps. **G**MAX4651 is assembled with 238 pins PGA ceramic package and the optical center is fully aligned with the package mechanical center. The unique features make it an ideal solution for demanding imaging applications like machine vision, 8K broadcasting and high-end industrial inspections.



Key Features

- 4.6 μm Global Shutter pixel
- 35mm Full Frame of optical format
- High data throughput up to 21 Gbps
- Optical center = package mechanical center
- High speed and Good PLS

Applications

- High Resolution Industrial Inspection
- Machine Vision
- 8K Broadcasting

Sensor Specifications

Resolution	51 MP - 8424 (H) x 6032 (V)	Optical format	35 mm full frame
Pixel size	4.6 μm x 4.6 μm	Photosensitive area	38.8 mm x 27.8 mm
Shutter type	Global shutter	Parasitic Light Sensitivity	< - 92 dB (angular dependence)
Peak QE	67.1% @ 510 nm	Angular response	> 15° (80% response)
Full well capacity	18.0k e ⁻ @ PGA gain x3.5	Temporal noise	7.6 e ⁻ @ PGA gain x5
Max. SNR	65.5 dB @ PGA gain x3.5	Dynamic Range	65.5 dB @ PGA gain x3.5
Dark Current	6 e ⁻ /pixel/s @ 45 °C	ADC	12 bit
Maximum frame rate	30 fps	Output format	24 pairs of Sub-LVDS
Power consumption	<2.8 W	Max. Data rate	20.74 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	24/14/8/6/4
Chroma	Bayer RGB, Mono	Package	238 pins PGA 58.6 mm x 42.0 mm

Ordering Information

Sensor Part No.	Description
GMAX4651-BVM-NPT-BU1	Monochrome, Sealed glass lid, Normal speed, 30 fps @ 12bit 24 x Sub-LVDS, Grade 1
GMAX4651-BVM-NPT-BU2	Monochrome, Sealed glass lid, Normal speed, 30 fps @ 12bit 24 x Sub-LVDS, Grade 2
GMAX4651-BVC-NPT-BU1	Bayer RGB, Sealed glass lid, Normal speed, 30 fps @ 12bit 24 x Sub-LVDS, Grade 1
GMAX4651-BVM-NPT-BR2	Monochrome, Removable glass lid, Normal speed, 30 fps @ 12bit 24 x Sub-LVDS, Grade 2