

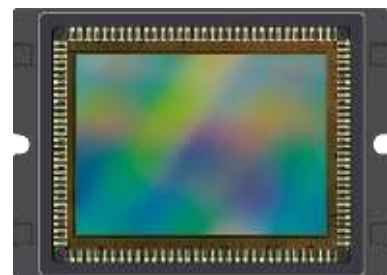
# GMAX4651 Product Flyer



## 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  $\mu\text{m}$  charge domain global shutter pixel. Using the advanced 65nm CIS process, it provides 18  $\text{ke}^-$  FWC, 7.6  $\text{e}^-$  median dark noise and more than 65dB 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. **GMAX4651** 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  $\mu\text{m}$  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	8424 x 6032	Optical format	35mm Full Frame
Pixel size	4.6 $\mu\text{m}$ $\times$ 4.6 $\mu\text{m}$	Photo-sensitive area	38.75 mm x 27.7 mm
Shutter type	Global shutter	Quantum efficiency	67%@510nm
Full well capacity	18ke <sup>-</sup>	Shutter efficiency	1/40000
Dark noise	7.6e <sup>-</sup> @PGA x5	Dark current	6e <sup>-</sup> /p/s @ 45°C
Dynamic range	65.5@PGA x3.5 64.3@PGA x5	Frame rate	30fps
Output interface	24 pairs of sub-LVDS	Channel multiplexing	24/14/8/6/4
ADC	12bit	Max. Data rate	21 Gbps
Chroma	Mono & Color	Power consumption	< 2.8W
I/O voltage	1.8V - 3.3V	Package	238 pins PGA 58,6 mm x 42,0 mm

## Ordering Information

### Sensor Part No.

**GMAX4651-BVM-NPT-BU1**  
30fps, 12bit, mono, Grade 1

**GMAX4651-BVM-NPT-BU2**  
30fps, 12bit, mono, Grade 2

**GMAX4651-BVC-NPT-BU1**  
30fps, 12bit, color, Grade 1

**GMAX4651-BVM-NPT-BR2**  
30fps, 12bit, mono, Grade 2, Removable glass

### EVK Part No.

**EVA-4651-NF12**, USB interface, single stacked PCB boards

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