

# GMAX3809 Product Flyer



## 3.8UM 9MP GLOBAL SHUTTER IMAGE SENSOR

**GMAX3809** fits 4096(H) x 2160(V) (9 MP) resolution into a 1.1" image format with low noise, charge domain Global Shutter pixels running at 65 fps at 12-bit ADC resolution per pixel. **GMAX3809's** 3.8  $\mu\text{m}$  pixel achieves a full well capacity of 11.5 ke<sup>-</sup> and noise of 3.6 e<sup>-</sup>, delivering over 70 dB linear dynamic range. Similar to other GMAX products, the advanced pixel technology brings a Parasitic Light Sensitivity of -92 dB and excellent angular response (> 15° @ 80% response). Gpixel's Red Fox technology is employed to deliver a NIR-enhanced QE of 30% at 850 nm for excellent performance in intelligent traffic systems.

**GMAX3809** is configurable through SPI or I<sup>2</sup>C and supports on-chip color offset calibration, LED flicker mitigation, multiple region HDR and OTP functions. **GMAX3809** is housed in a 163-pin ceramic LGA package with outer dimensions of 27.1 mm x 17.9 mm and an LGA pad pattern optimized for reliable solder connections. The sensor assembly includes a double side AR coated cover glass lid.

### Key Features

- Configure through SPI or I<sup>2</sup>C
- On-chip color offset calibration
- LED flicker mitigation
- Multiple region HDR
- One Time Programmable(OTP) Memory

### Applications

- Intelligent Traffic System (ITS)
- Machine Vision

## Sensor Specifications

Resolution	4096 x 2160	Optical format	1.1" (17.6mm)
Pixel size	3,8 $\mu\text{m}$ × 3,8 $\mu\text{m}$	Photo-sensitive area	15.6 mm × 8.2 mm
Shutter type	Global shutter	Quantum efficiency	> 60.8% @ 550 nm > 30% @ 850 nm
Full well capacity	11,5 ke <sup>-</sup> (x 1 Gain)	Shutter efficiency	1/40000
Dark noise	3,6 e <sup>-</sup>	Angular response	> 15 ° (80% response)
Dynamic range	70.1 dB	Frame rate	65 fps
Output interface	8 pairs of sub-LVDS	Channel multiplexing	8/4
ADC	12 bit	Max. Data rate	7.68 Gbps
Chroma	Mono & Color	Power consumption	<1 W
Power supply	3.3V / 1.8V / 1.2V	Package	163 pins LGA

## Ordering Information

### Sensor Part No.

**GMAX3809-AVC-NLT-BUD**  
65fps, 12bit, color, Grade D

**GMAX3809-AVC-NLT-BUE**  
65fps, 12bit, color, Grade E

### EVK Part No.

**EVA-GMAX3809**, USB interface, 3 stacked PCB boards

## Contact Gpixel HQ

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