

GMAX2424BSI

24 MP ROLLING SHUTTER IMAGE SENSOR

The **GMAX2424BSI** is a back-illuminated rolling shutter CMOS image sensor featuring a diagonal size of 17.47 mm and an effective resolution of 24.64 MP. It has a pixel size of 2.403 μm and offers high sensitivity, low noise, and high dynamic range. Combined with features such as global reset and low-power mode, the **GMAX2424BSI** presents an ideal choice for industrial inspection applications.

This sensor incorporates Sub-LVDS and MIPI interfaces, supporting a high data rate of up to 1.2 Gbps per lane, and delivers a maximum frame rate of 60 fps in 10 bit Sub-LVDS mode, 30 fps in 12 bit Sub-LVDS mode and 17 fps in 10 bit MIPI mode, providing an efficient and stable solution for high-speed industrial inspection and similar applications. The **GMAX2424BSI** is housed in a 176 pins ceramic LGA package. It is footprint-compatible with the GMAX3412 and GMAX3405 products, facilitating development efficiency.



Key Features and Benefits

- ▶ 2.4 μm Rolling Shutter Pixel
- ▶ High Dynamic Range and Sensitivity
- ▶ Footprint-Compatible with GMAX3405 and GMAX3412
- ▶ MIPI & sLVDS Data Interface

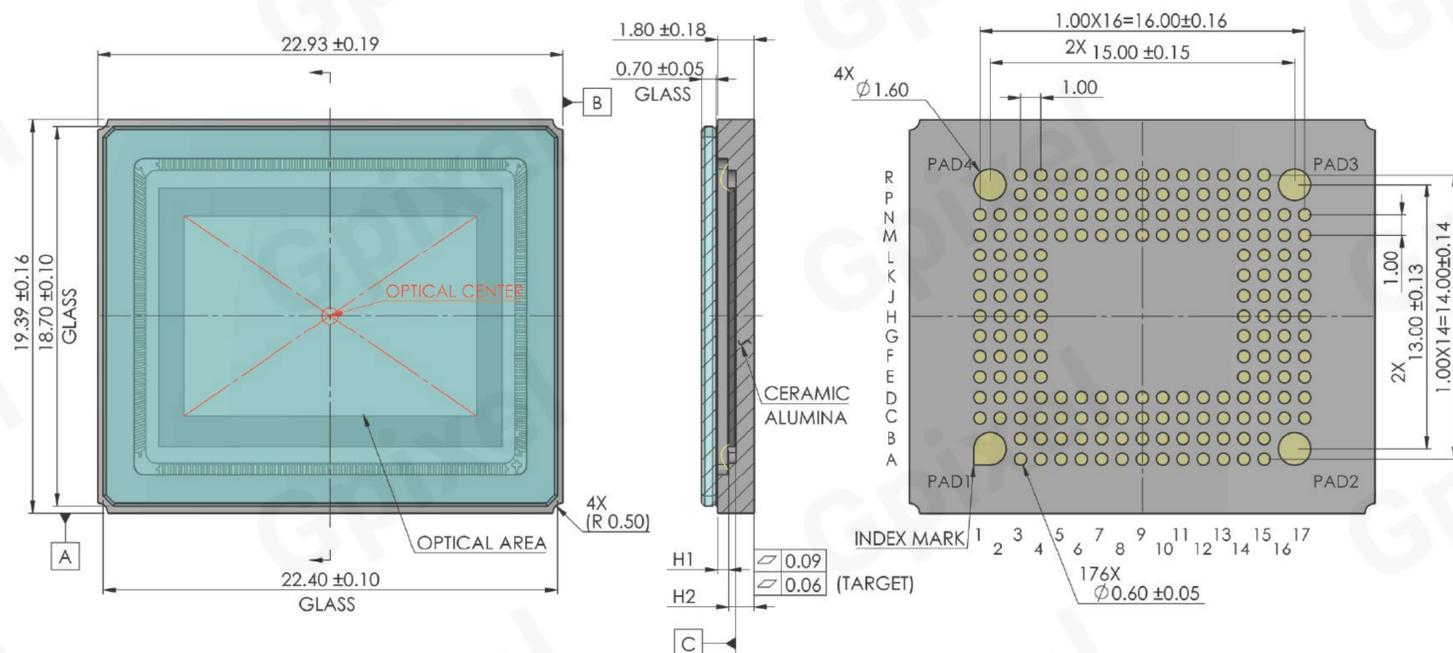
Application

- ▶ Automation Inspection
- ▶ Metrology
- ▶ Life Sciences
- ▶ Logistics and Barcode Reading

Specifications

Nr of Active Pixels	6016 (H) x 4096 (V)	Optical Format	1.1"
Pixel Size	2.4 μm x 2.4 μm	Photosensitive Area	14.4 mm x 9.8 mm
Shutter Type	Rolling Shutter	Angular Response	>20° (90% response)
Peak QE	91.9% (510 nm)	Full Well Capacity	12.1 ke ⁻ (12 bit & 10 bit)
Temporal Noise	1.3 e ⁻ (12 bit, Analog gain 16.0x) 2.0 e ⁻ (10 bit, Analog gain 8.0x)	Max. SNR	40.8 dB
Dynamic Range	73 dB (12 bit, Analog gain 1.0x) 67 dB (10 bit, Analog gain 1.0x)	ADC	12/10 bit
Max Frame Rate	60 fps (STD, Sub-LVDS, 10 bit) 30 fps (STD, Sub-LVDS, 12 bit) 17 fps (STD, MIPI, 10 bit)	Channel Multiplexing	14/12/10/8/6/4 (Sub-LVDS) 4/2 (MIPI)
Output Format	14 pairs of Sub-LVDS 4 lanes of MIPI	Max. Data Rate	16.8 Gbps
Chroma	Mono, RGB Color	Power Consumption	< 0.63 W
Supply Voltage	2.9 V and 3.3 V (pixel) 2.9 V (analog) 1.8 V – 3.3 V (IO) 1.2 V (digital)	Package	176 pins LGA (22.93 mm x 19.39 mm)

Package Drawing



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