

GMAX4002

2.4 MP GLOBAL SHUTTER IMAGE SENSOR

GMAX4002 is a 1/1.7" optical format image sensor with 2048 x 1200 effective pixels. Featuring an advanced charge domain global shutter pixel, GMAX4002 operates with true CDS for low noise and high dynamic range. Gpixel's Red Fox technology is employed to deliver enhanced QE for NIR applications.

GMAX4002 is configurable through I²C. It integrates both Sub-LVDS and MIPI interfaces, for frame rates of 229 fps and 166 fps respectively. GMAX4002 supports 2 x 2 on-chip binning to achieve higher sensitivity and faster frame rate. It includes an on-chip sequencer and OTP functions. Assembled with 74-pins CLCC package, GMAX4002 enables a cost-effective camera solution, easy integration and high-reliability mass production.



Key Features and Benefits

- ▶ NIR Enhanced
- ▶ Low Noise Global Shutter
- ▶ On-chip Sequencer
- ▶ MIPI and Sub-LVDS Data Interfaces
- ▶ One Time Programmable (OTP) Memory

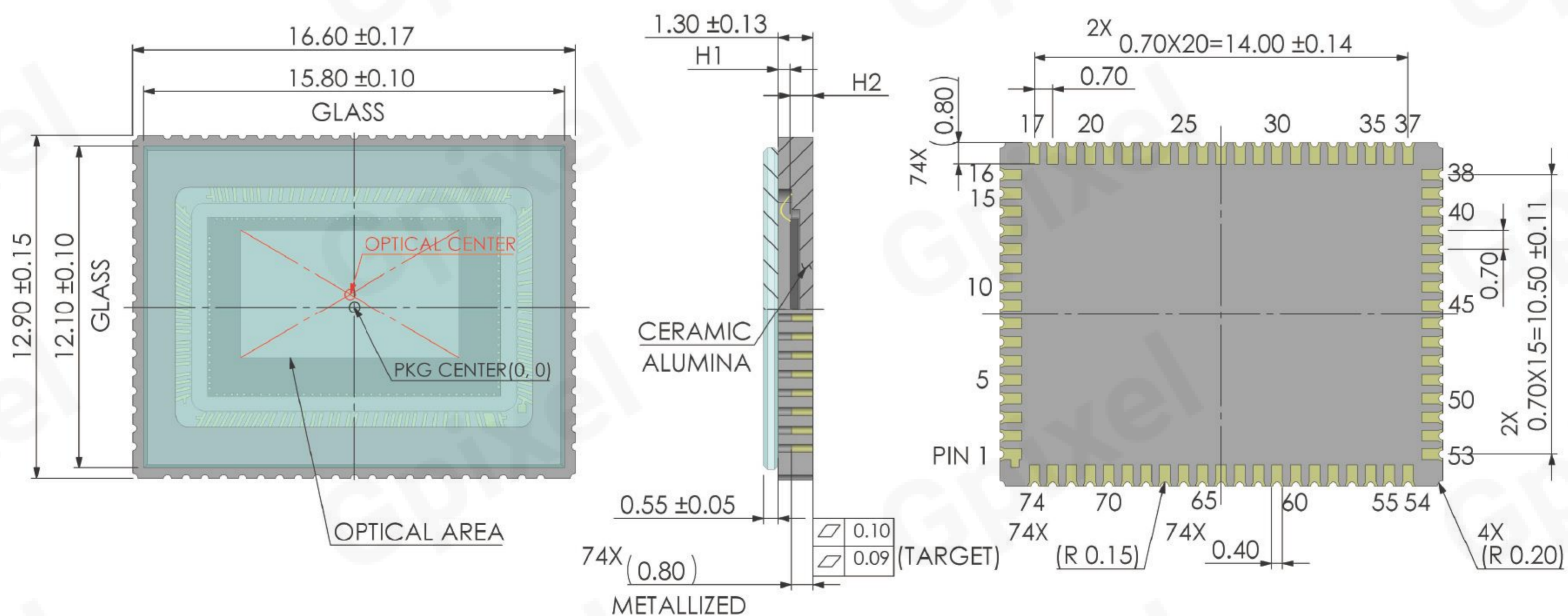
Application

- ▶ Machine Vision
- ▶ Logistics Bar Code Readers
- ▶ Motion Capture

Specifications

Nr of Active Pixels	2048(H) x 1200(V)	Optical Format	1/1.7"
Pixel Size	4 μm x 4 μm	Photosensitive Area	8.2 mm x 4.8 mm
Shutter Type	Global Shutter	Parasitic Light Sensitivity	<-92.0 dB
Peak QE	73.7% (550 nm)	Angular Response	> 15° (80% Response)
Full Well Capacity	11.6 ke ⁻ (12 bit,PGA gain 1.0x) 11.1 ke ⁻ (10 bit,PGA gain 1.0x)	Temporal Noise	2.6 e ⁻ (12 bit,PGA gain 3.8x) 3.0 e ⁻ (10 bit,PGA gain 3.8x)
Max. SNR	40.7 dB (PGA gain 1.0x)	Dynamic Range	68.0 dB (12 bit,PGA 1.0x) 64.4 dB (10 bit,PGA 1.0x)
Dark Current	8.3 e ⁻ /pixel/s (37 °C)	ADC	10/12 bit
Max Frame Rate	344 fps (10 bit,1.2G Sub-LVDS) 229 fps (10 bit,800M Sub-LVDS) 195 fps (12 bit,800M Sub-LVDS) 166 fps (12 bit,1.2G MIPI)	Output Format	8 ch Sub-LVDS 4 lanes MIPI
Power Consumption	< 0.5 W	Max. Data Rate	9.60 Gbps (Sub-LVDS) 4.8 Gbps (MIPI)
Supply Voltage	3.3 V (analog) 1.8 V – 3.3 V (IO) 1.2 V (digital)	Channel Multiplexing	8/4/2/1 (Sub-LVDS) 4/2/1 (MIPI)
Chroma	Bayer RGB or Mono	Package	74 pins CLCC (16.6 mm x 12.9 mm)

Package Drawing



Contact Gpixel

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