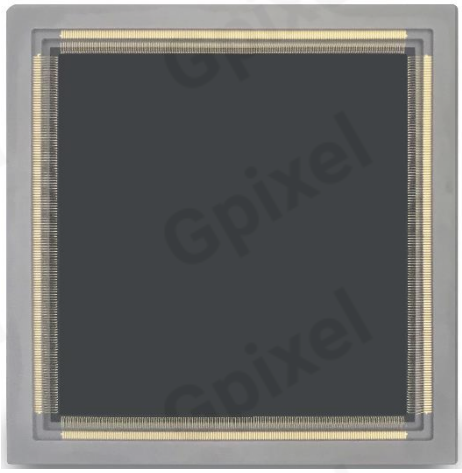
16.8MP BSI Scientific CMOS Image Sensor

SENSOR DESCRIPTION

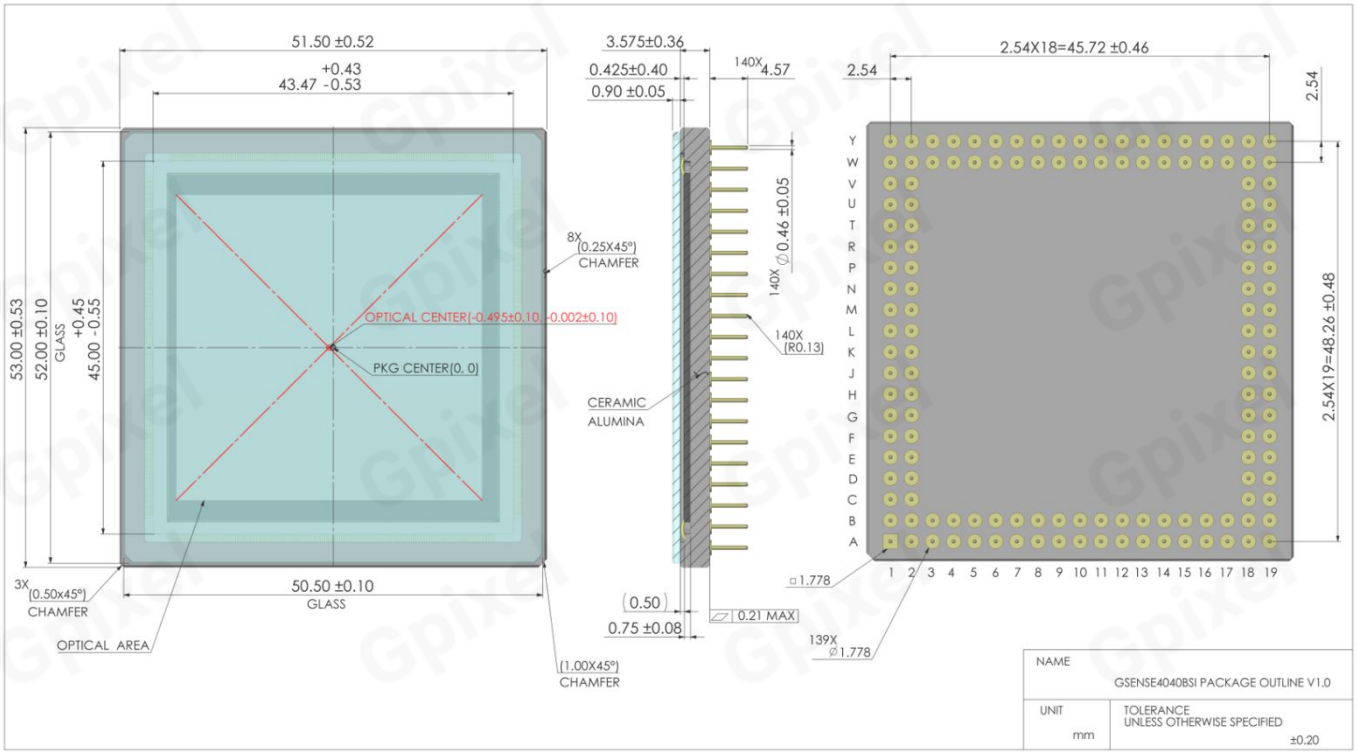


GSENSE4040BSI is a BSI CMOS image sensor of 16.8MP (4096 x 4096) resolution with 9 μm × 9 μm pixel size, and a photosensitive area of 36.8 mm x 36.8 mm (52 mm diagonal).

Using dual gain HDR operation mode, 85 dB is achieved with 39k e^- full well capacity and 2.3 e^- readout noise. 18 pairs of LVDS channels running at 600 MHz per channel support full-resolution imaging at a frame rate of 24 fps.

GSENSE4040BSI is assembled in 140-pin PGA ceramic package with a removable glass lid. This sensor is pin compatible with GSENSE4040FSI for fast and easy integration.

The combination of these features makes GSENSE4040BSI an ideal choice for astronomy and high-performance life science and scientific imaging applications.

SENSOR SPECIFICATION

Resolution	4096 (H) × 4096 (V)	Optical format	∅ 52 mm
Pixel size	9 μm × 9 μm	Photosensitive area	36.8 mm x 36.8 mm
Shutter type	Rolling Shutter	Peak QE	90% at 600 nm
Full well capacity	39 ke^-	Maxim SNR	46 dB
Readout noise	2.3 e^-	Dark current	0.04 e^-/s/pixel @ -40 C
Dynamic range	85 dB (intra-scene)	Frame rate	24 fps (HDR)
Output interface	18 x LVDS	Max. Data rate	10.8 Gbps
ADC	12 bit	Package	140-pin PGA
Chroma	Mono	Power Consumption	< 1.4W