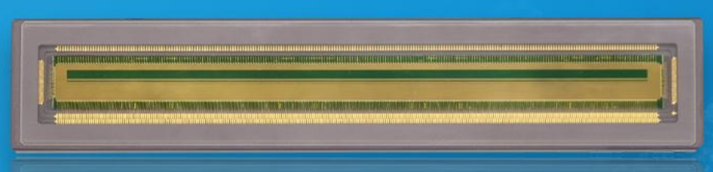


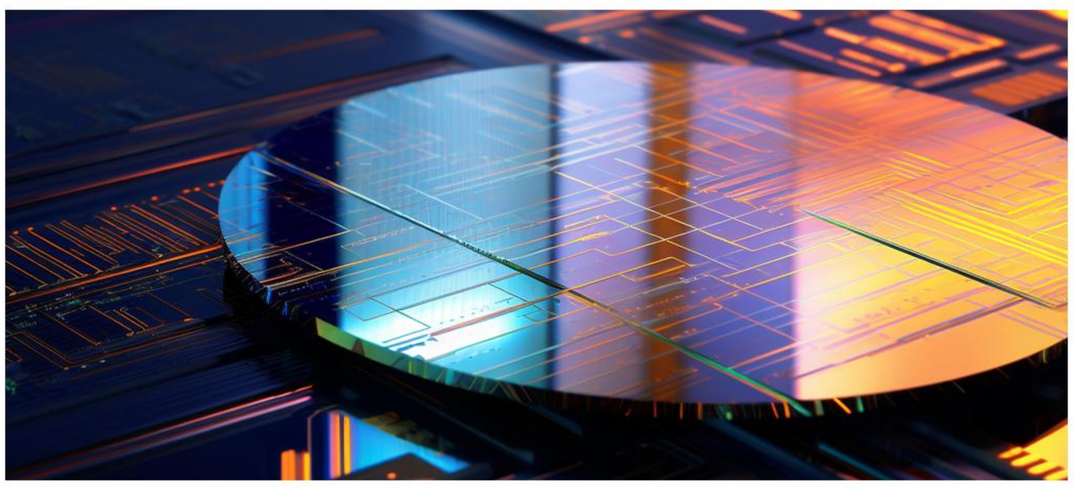
GLT5016BSI

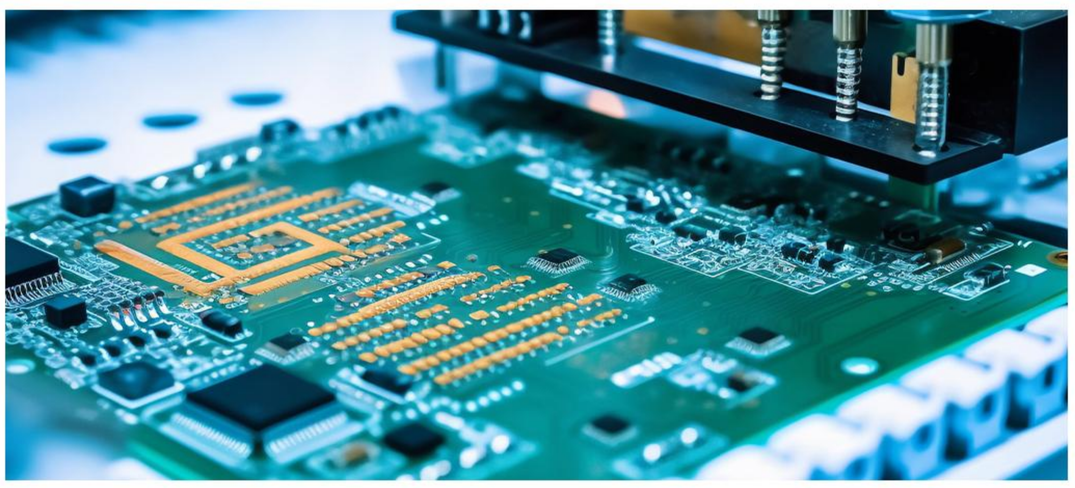
16k BSI TDI (TIME DELAY INTEGRATION) LINE SCAN IMAGE SENSOR

GLT5016BSI is a Backside illuminated (BSI), Time delay integration (TDI), charge domain CMOS image sensor with 5 µm pixels and 16416 effective resolutions. The sensor has two photosensitive bands, 256 stages and 32 stages respectively enabling a high dynamic range (HDR) imaging mode, which is designed to meet the needs of high speed and low light applications by maximizing sensitivity with state-of-art BSI scientific CMOS technology.

GLT5016BSI Sensor integrates an on-chip sequencer, supports channel multiplexing and selectable 2 scan directions (Forward and Reverse). It is assembled in a 415 pins µPGA ceramic package for reliability and good heat dissipation.

GLT5016BSI comes in 2 spectrum variants: an UV-optimized with high QE below 300 nm and a visible and NIR range optimized version.





Key Features and Benefits

- True Charge Domain Time Delay Integration
- Back Side Illuminated (BSI) pixels
- High Sensitivity with QE of 70.7% (266 nm)
  (UV Version) and up to 92.4 % (440 nm)(VIS version)
- High Speed: up to 500 kHz
- HDR Read Out
- On-chip Binning

Applications

- Automation & Inspection
- Life Sciences
- Microscopy
- Microluminescence Imaging

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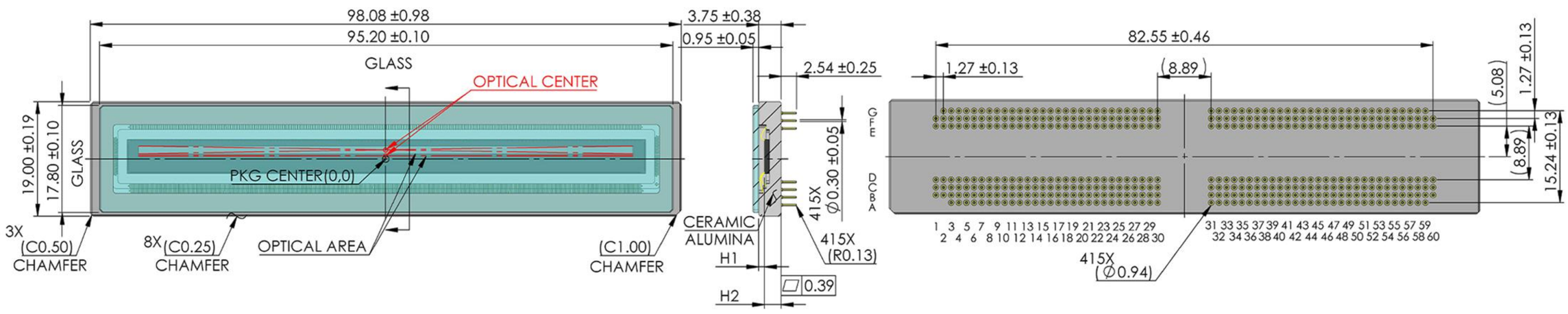
Specifications

Nr of Active Pixels	P1: 16416(H) pixels x 256(V) stages P2: 16416(H) pixels x 32(V) stages	Optical Format	82.08 mm
Pixel Size	5 µm x 5 µm	Full Well Capacity	16.3 ke⁻ (P1,10 bit,single band) 15.2 ke⁻ (P1,12 bit,single band)
Temporal Noise	7.5 e⁻(P1,12 bit,single band) 15.3 e⁻(P1,10 bit,single band)	Dynamic Range	60.5 dB (P1,10 bit,single band) 66.1 dB (P1,12 bit,single band)
Dark Current	0.97 ke⁻/pixel/s (P1 10/12 bit,single band,15 ℃)	Peak QE	UV version: 70.7% (266 nm), 87.8% (420 nm) VIS version: 92.4% (436 nm), 87.0% (590 nm)
ADC	12 bit	CTE	⩾0.99996
Optional TDI level	P1: 256/252/224/192/128/64/32/4 P2: 32/30/28/24/16/8/4/2	Anti-blooming	x50
Max Line Rate	500 kHz	Output Format	108 ch Sub-LVDS
Chroma	Mono	Power Consumption	⩽ 6.3 W (P1,10 bit,500 kHz line rate) ⩽ 6.6 W (P1,12 bit,500 kHz line rate)
Max. Data Rate	103.68 Gbps	Channel Multiplexing	108/96/72/48/36/24/12
Supply Voltage	3.3 V (analog) 1.65 V (ADC) 1.6 V (digital)	Package	µPGA 415 pins (98.08 mm x 19.00 mm)

Package Drawing



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