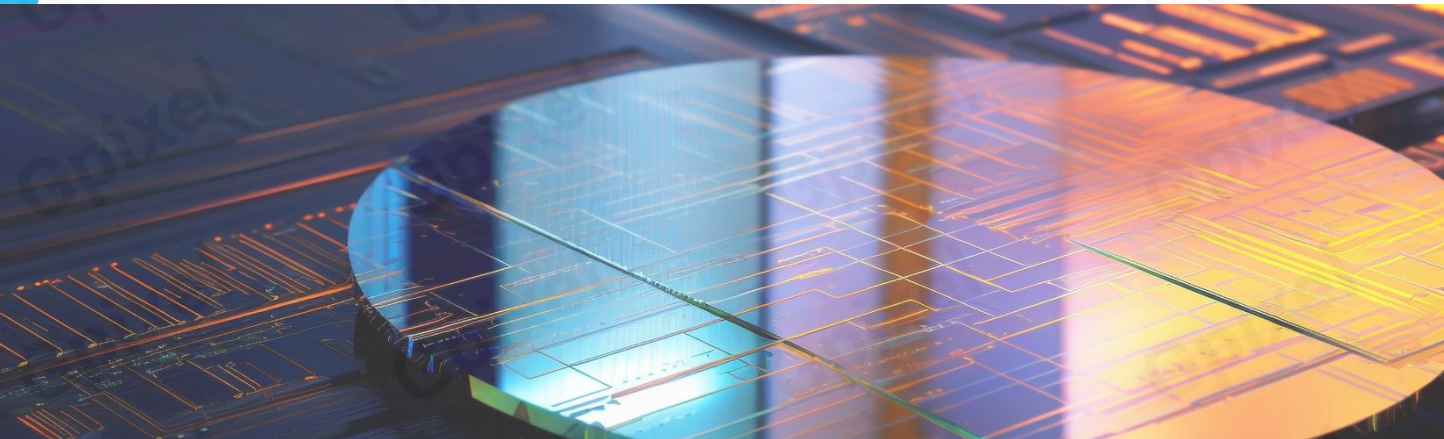


GLT5016BSI Product Flyer

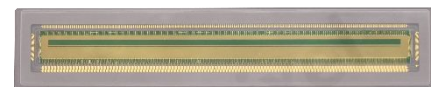


16416 × 256 STAGES BSI TDI CMOS IMAGE SENSOR

GLT5016BSI is a Backside illuminated (BSI), Time delay integration (TDI), charge domain CMOS image sensor with 5µm 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-pin 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

- 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

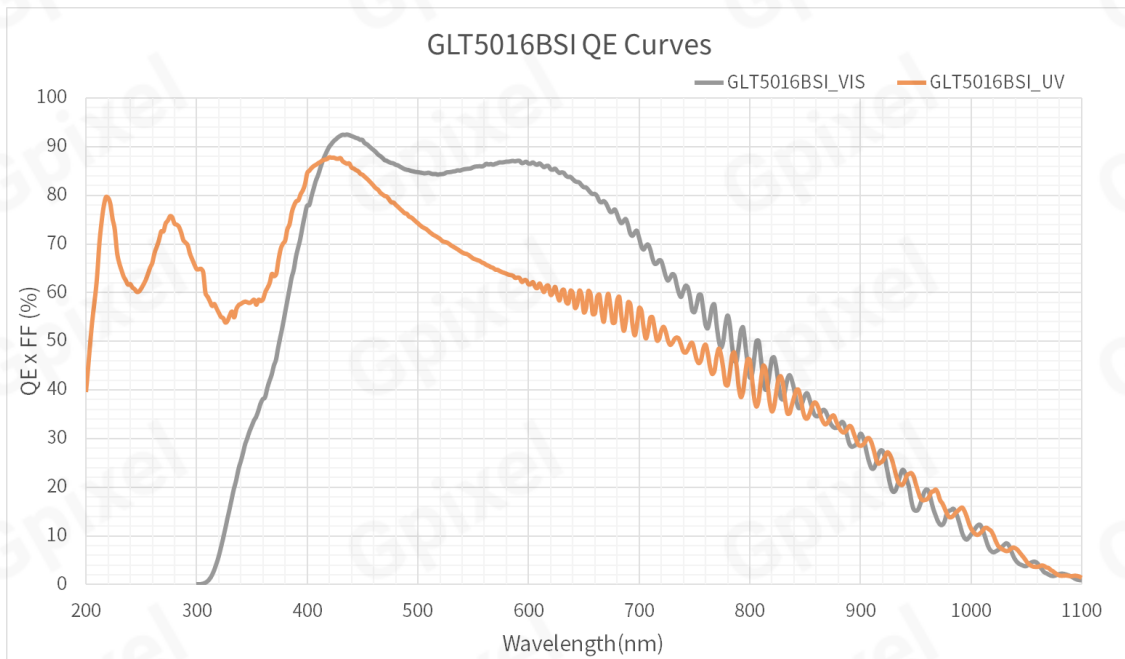
Applications

- FPD Inspection
- PCB Inspection
- Semiconductor Inspection
- High End Electronic Packaging Inspection
- Life Science Imaging
- Genomics

Sensor Specifications

Pixel size	5 μm x 5 μm	Chroma	Mono
Resolution	P1: 16416 pixels x 256 stages P2: 16416 pixels x 32 stages	Photo-sensitive area	P1: 82.08 mm x 1.28 mm P2: 82.08 mm x 0.16 mm
Full well capacity	15 ke ⁻	Temporal noise	7.7 e ⁻
Dynamic range	65.8 dB	Dark Current	1.0 ke ⁻ /pixel/s @ 16.5°C
Quantum efficiency	UV version 70.7% @ 266 nm, 87.8% @ 420 nm VIS version 92.4% @ 436 nm, 87.0% @ 590 nm	ADC depth	12 bit
Charge transfer efficiency (CTE)	≥ 0.99996	TDI stage	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	Power consumption	6.2 W
Data rate	103.68 Gbps	Channel multiplexing	108/96/72/48/36/24/12
I/O voltage	3.3 V (analog), 1.65 V (ADC), 1.6 V (digital)	Package	μPGA 415 pins (98.08 mm x 19.00 mm)

Quantum Efficiency



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