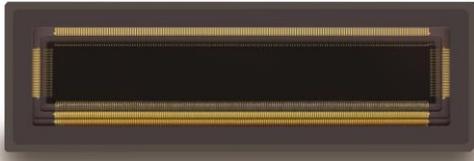


9072 x 288 (256+32) Stages BSI CMOS TDI Image Sensor

Preliminary and Confidential



Applications

- FPD Inspection
- PCB Inspection
- Wafer Inspection
- Fluorescence imaging
- Digital Pathology

SENSOR DESCRIPTION

GLT5009BSI is a Backside illuminated (BSI), Time delay integration (TDI), charge domain CMOS image sensor with 5µm pixels and 9k resolution. The sensor has two photosensitive bands, 256 stages and 32 stages respectively, enabling a high dynamic range (HDR) imaging mode.

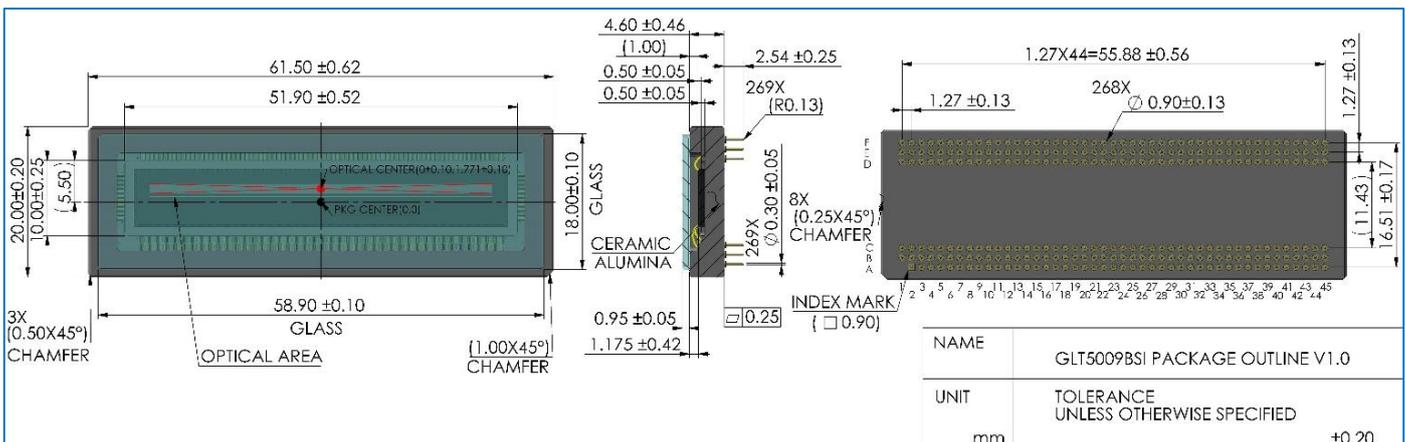
GLT5009BSI is designed to meet the needs of high speed and low light applications by maximizing sensitivity from the ultraviolet to the near infrared with state-of-art BSI scientific CMOS technology and up to 256 true TDI stages. It supports line rates up to 600 kHz using 10-bit single band mode and 300 kHz using 12-bit single band mode. The sensor also supports 10bit dual band mode, employing both 256 stages and 32 stages for HDR image construction. The sensor integrates several features to ease camera integration including an internal sequencer, channel multiplexing, and selectable scan direction.

GLT5009BSI is assembled in a 269-pin µPGA package for reliability and good heat dissipation.

SENSOR DESCRIPTION

| | | | |
|--------------------|---|----------------------|---|
| Resolution | 9072 (H) × (256 + 32) (V) | Image width | 45.36 mm |
| Pixel size | 5 µm × 5 µm | Binning | 1x2 Vertical charge binning |
| Pixel type | Charge Domain BSI TDI | TDI scan direction | Forward, Reverse |
| Full well capacity | > 16 ke ⁻ | Output interface | 86 x sub-LVDS (mux to 42/21/12/6/3) |
| Dark noise | <8 e ⁻ (12-bit single) <11 e ⁻ (10-bit single) | TDI stages selection | 256/252/248/240/224/192 /160/128/96/64/32/16/8/4 |
| Dynamic range | 66.0 dB (12-bit single) 63.2 dB (10-bit single) | Line rate | 300 kHz (12-bit single) 600 kHz (10bit single) |
| ADC | 10/12 bit | Max. Data rate | 72.58 Gbps |
| Chroma | Mono | Package | 269 pins µPGA |
| Power supply | 5 V / 1.8 V | Power consumption | <6 W (12-bit single) <9 W (10bit single) |

PACKAGE OUTLINE



Subject to change without notice. Please address all product inquiries to GPIXEL

Email: info@gpixel.com