

Time-Gated Single-Photon Imager

DESCRIPTION

Time-resolved image sensor based on in-pixel SPAD and time gated photon counter implemented in the analog domain. Analog-to-digital conversion is implemented at column-level with an innovative self-referenced architecture that improves the pixel-to-pixel uniformity.

SPECIFICATIONS

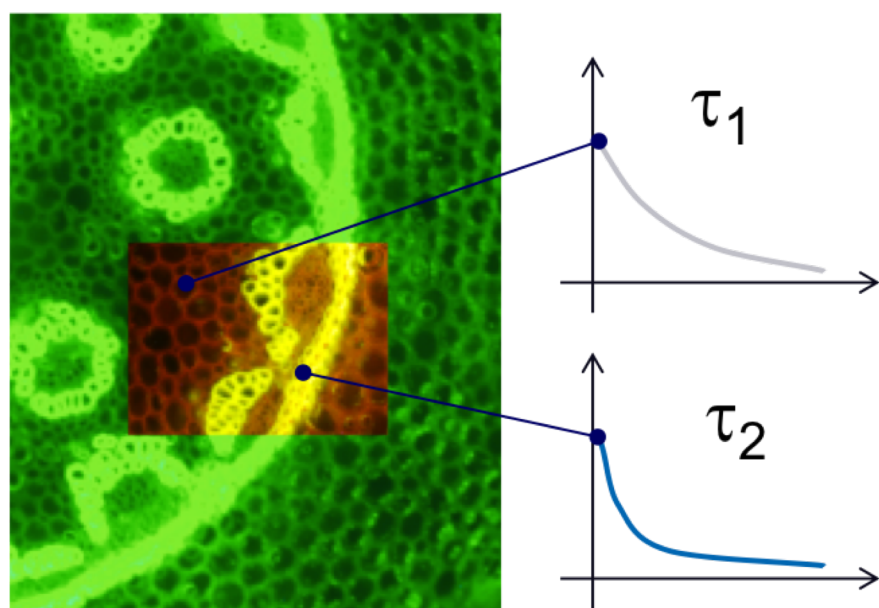
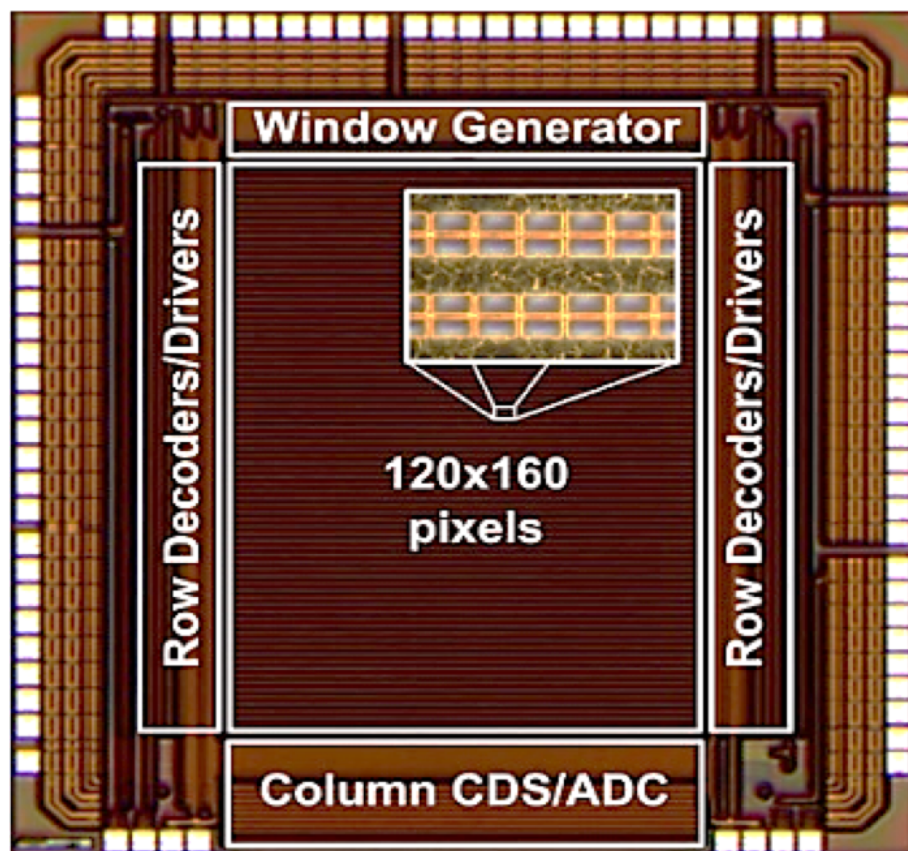
- Technology: CMOS 0.35 μm HV
- Pixel pitch: 15 μm
- Fill-factor: 21%
- Minimum time-gate: 750ps
- Array size: 120x160 pixels
- Die size: 3.4x3.6 mm²
- Digital output at 450 frames/s

ADVANTAGES & APPLICATIONS

- Smart materials
- Microsystems
- Other applications include Time-of-flight 3D imaging and high-sensitivity imaging of ultrafast phenomena.

STATUS

- TRL 4 - technology validated in lab.
- Patented technology (WO 2016/132329 A1).
- Fluorescence microscopy demonstrator available



Scientific imaging applications like fluorescence lifetime imaging microscopy (FLIM), Raman spectroscopy, time-resolved near-infrared spectroscopy.

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