Docket #: S04-028

Optimization of Image Sensor Pixels

The efficient collection of incident photons (optical efficiency) and their conversion to measurable charge (quantum efficiency) are of critical importance to the performance of image sensors. We propose a method to increase the optical efficiency of image sensor pixels by optimizing the dimensions of the materials between the pixel surface and the silicon substrate so as to allow as many photons as possible through to the photodetector.

Applications

- Image sensing of visible- and infrared-range optical signals
- Image sensors
- Digital image capture devices
- Digital still cameras, digital video cameras, cell-phone cameras
- Sensitive image sensors for scientific applications

Advantages

- Increases pixel performance, optical efficiency
- Reduces pixel cross-talk
- Enables shrinking of pixel size while maintaining pixel performance

Patents

- Published Application: 2006-104564

Innovators

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