SWIFT-EI

The SWIFT-EI is the world's first SWIR detector to feature a state-of-the-art read-out integrated circuit (ROIC), enabling low size, weight, power, and cost (SWaP-C). It supports VGA image format for SWIR imaging, multi-spot ALPD (asynchronous laser pulse detection), and a rapid imaging frame rate of up to 1,600 frames per second.

The revolutionary ROIC introduces an independent neuromorphic imaging stream for event detection, which greatly expands capabilities in target detection and classification.
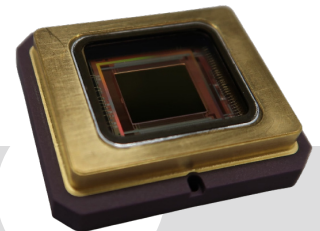
Ideal for cutting-edge, low SWaP-C applications, the SWIFT-EI can be integrated into a variety of air platforms, missiles, vehicles, and handheld devices, making it extraordinarily versatile. With SWIFT-EI, SCD's customers always have the advantage of being the FIRST TO SEE.

Main Features

- High frame rate standard imaging with a global shutter.
- High frame rate Low Light Level (LLL) imaging with a global shutter
- Dedicated channel for 3rd Generation Asynchronous Laser Pulse Detection (ALPD) up to 50KHz.
- Separate channel for Event Detection.
- Digital interface for streamlined connectivity.

Applications

- Multi spot detection (support of PRF decoding)
- Hostile Fire Indication (HFI)
- Fast sorting & screening
- Hyperspectral applications
- Robotics & machine vision
- Simultaneous Location and Mapping (SLAM)
- Situational awareness
- Platform stabilization

Format & pitch	640x512, 10µm @ SIM 320x256 with binning @ LNIM, ALPD, Event
Spectral range	0.6-1.7 (VIS-SWIR)
Quantum efficiency	> 80% at 1550nm
Dark current	~ 1fA @ 280K
Operation modes & maximum FR at full window	SIM only: 800 F/s @ 13 bit resolution 1600 F/s @ 11 bit resolution SIM with Detection: 200 F/s @ 13 bit resolution LNIM: 2000 F/s @ 11 bit resolution ALPD: 50KHz Event: 25KHz
Size	25x22x6.1 mm
FPA power dissipation	200mW-500mW operation mode dependent
Video output	4 lane JESD204B