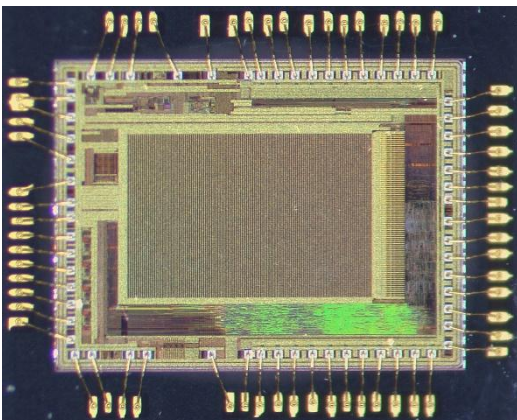


CHEETAH 80x120 Pixel Ultra High-Speed Imager

General description

Cheetah is an ultra-high speed, rolling shutter, imager capable of up to 260,000 frames per second (fps) operation. Cheetah is available in two variants: Visible range or extended IR operation (up to 950nm). The integration time and frame rate are programmable: At 80x120 pixels, the frame rate is up to 40k frames/sec; at 80x60 or 40x120, the frame rate is up to 77kfps; at 40x60 the frame rate is up to 134kfps, and at 40x30 the frame rate is up to 260,000 frames per second. Each pixel is converted to an 8-bit digital representation and output via proprietary parallel interfaces. Cheetah also includes an LED driver capable of up to 40mA continuous current (programmable) and PWM control. Multiple registers may be set using an SPI interface, including exposure time, interval between exposures, multi-picture exposure count or direct shoot, LED current, PWM duty cycle, etc. For higher current levels an external transistor may be used to buffer the current capability. All blocks required to create a high-speed camera are included including timing, power management, imaging, LED driver, and four configurable GPIO's capable of up to 100MHz operation.

Package illustration



Features

- **Ultra-High-Speed Imager**
 - Up to 80x120 resolution
 - Disable (50 nA typ.)
 - High IR sensitivity (>70%QE@850nm)
 - Up to 260,000 frame per second operation
- **Charge Domain Pixel Imager**
 - Direct pixel charge processing
 - Charge to digital conversion
 - Multi-count image capture
- **6.4x6.4x0.9mm 64 pin OLGA with window**
- **SPI Interface**
- **4 High Speed 8-bit parallel digital I/Os for pixel data output (32 I/Os total)**
- **On board power management**
- **On board Oscillator and PLL**
- **LED driver with continuous & PWM control**
- **Four configurable GPIO's**

Applications

- High speed machine vision
- Smart factory automation
- Positioning
- Proximity sensing
- Super resolution