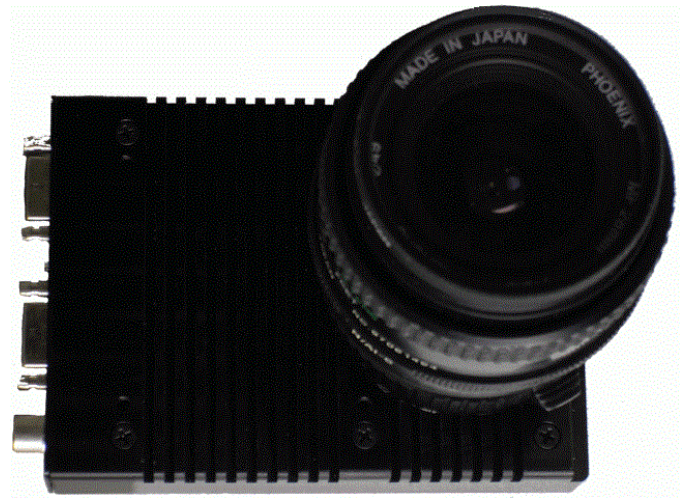




FastCamera 300

The FastCamera 300 is a high-speed 3 megapixel digital camera system, using a CMOS imager with an electronic global shutter. This camera has the option of a high-speed, scalable, integrated FPGA, image processor, and memory subsystem which enables stand-alone high speed in camera image processing and extended storage. Options include back thinned versions with high QE in the visible and NIR range, ruggedized, Camera Link output. When integrated with a high powered frame grabber /coprocessor board, the resulting system capabilities can be expanded by adding processors and memory on the board according to the needs of the user.



Modes of operation:

The system supports a wide range of custom user selected ROIs and operating modes with a 1 usec shutter. Camera Link output modes are available. Optional Bayer pattern color, back thinned and ruggedized. The system can be provided with dedicated software to perform gauging, tooling and pattern matching in the camera. Thus providing a standalone system for real-time, flexible measurement and pattern analysis applications.

FastCamera 300 Key Features:

• High resolution

- 2048 X 1536 resolution (3.146 Mpixel)
- 5.0 μm (H) X 5.0 μm (V) per pixel
- 10.24 mm (H) x 7.68 mm (V) 4:3 sensor active area
- HDTV 2/3" ROI optical format (11.00mm)
- 9.6 mm (h) x 5.4 mm (v) 16:9 sensor active area

• Variable speed

- 1 fps to 180 fps at 2048x1536 (4 Ports)
- 1,2 or 4 port operation (one port 1/4 speed)
- Up to 648 Mega pixels/sec. (4 ports)

• High sensitivity and dynamic range

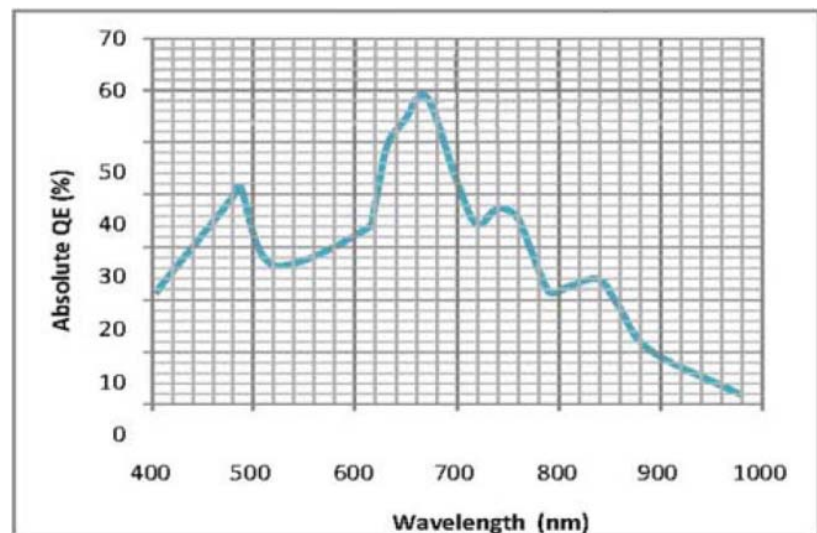
- 66 to 492 μV /electron selectable
- < 6 electrons rms noise rolling shutter
- < 8 electrons rms noise global shutter
- 1.4 Volt full scale range
- >62 dB dynamic range single read, global shutter
- >70 dB dynamic range single read, rolling shutter
- >120 dB w/High Dynamic Range (HDR) extension

• Excellent Image Quality

- 12 Bit Distributed A/D
- Up to 22 Bit with dual gain sampling
- Allows for all pixels to be sampled at high and low gain for extreme dynamic range in one exposure
- Correlated Multi-Sampling(CMS) – for reduced noise
- Dual exposure on alternate rows for HDR
- 12 bit LUT to control output and compress video

• Multiple operating modes

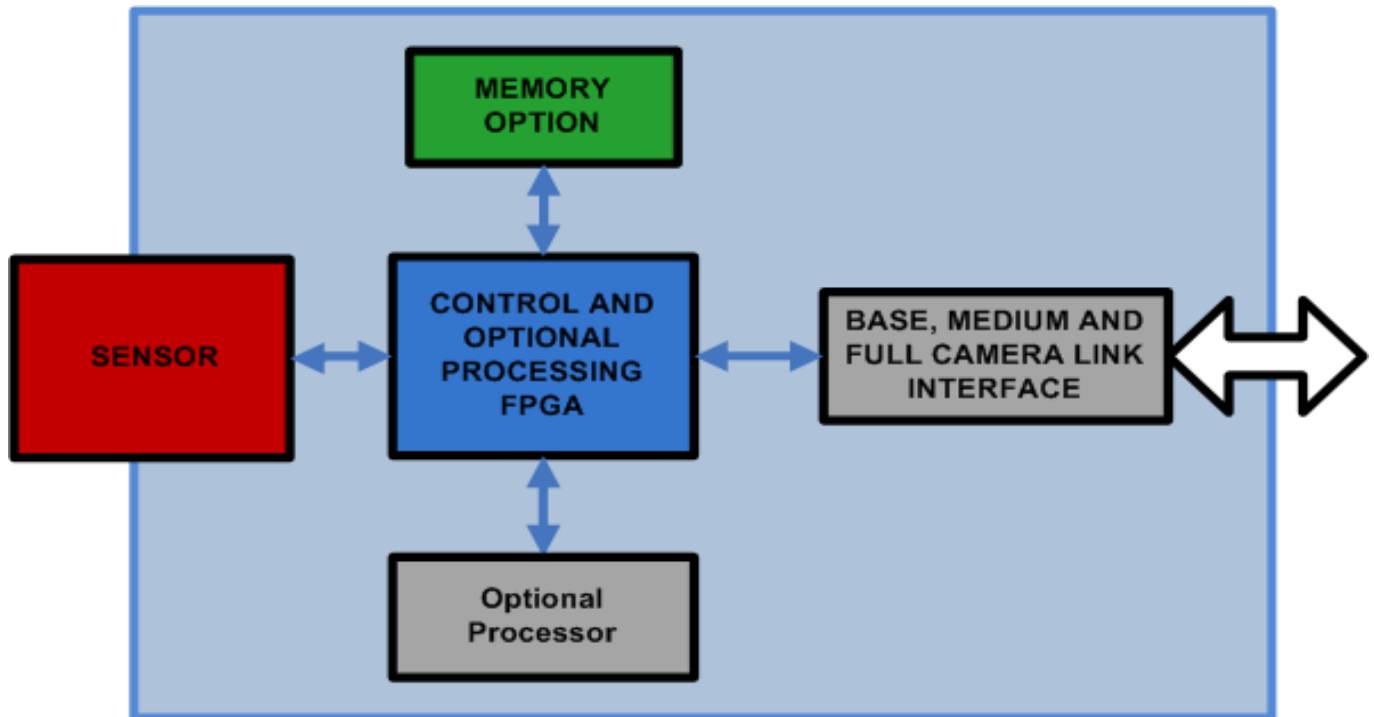
- Rolling Shutter or Global shutter
- High Dynamic Range Enhanced mode
- Region Of Interest (ROI)
- Binning within column- digital
- Single, Dual, or Quad data rate



SMART CAMERAS FOR IMAGING



FASTVISION FastCamera 300



IN-CAMERA PROCESSING OPTIONS

- Image averaging
- By pixel gain and offset calibration
- Programmable ROI (via serial port)
- Image sub-sampling
- Convolution filtering
- Binarization with dynamic threshold
- VHDL customizable processing
- Optional programmable processor
- Processor option provides programmable logic controller functions
- Super framing (Multiple exp/image)
- Customer programmable (C/C++, OpenCL)

SENSOR OPTIONS

- Monochrome with or w/o Micro-lens
- Bayer Pattern Color
- Back Side Illumination
- UV Enhanced QE Delta Doped
- Glass / Fused Silica / No Window

OUTPUT SPECIFICATIONS

- Base, Medium or Full Camera Link
- Camera Link™ interface supported

PHYSICAL SPECIFICATIONS

- 107 mm x 98 mm x 19 mm
- 6 Pin Hirose Power Connector
- +5 Volt Input 4Watts (w/o CPU)
- External Trigger In and Out
- 0 to 50 Degree C operating
- Weight < 310 grams

FPGA AND MEMORY OPTIONS

- Spartan 6 Xilinx FPGA
- High speed buffer memory

CAMERA CONTROL INTERFACE

- FastCamera 300 uses RS-644 serial communication as specified in the Camera Link™ standard
- The RS-644 serial connection in the Camera Link™ interface is used to issue commands to the camera for changing modes and parameters

SMART CAMERAS FOR IMAGING