FASTVISION

FastCamera 215

The FastCamera 215 is a high-speed 1920x1080 pixel camera system based on a high-speed interline CCD. The camera includes a smart option of a Nexperia PNX1502/PNX1702 image processor/FPGA/memory subsystem which can process image data from the sensor in real time. Image data and results can be returned over it's Camera Link interface or the GigE Vision option. Programming tools allow this camera to be a customizable stand-alone image processing system for complex applications including object recognition, defect classification and customer imaging algortihms.

FastCamera 215 Key Features:

- **Resolution 1920(H)x1080(V)**
- **Interline Transfer CCD**
- **Pixel Size 5.5 um (H) x 5.5 um (V)**
- **64 frames per second**
- **Aspect Ratio 16:9**
- **Output Sensitivity 30 uV/e**
- **Synchronous or Asynchronous Trigger**
- **12 bit ADC**
- **Bayer pattern color or monochrome**
- **On board PNX1502/PNX1702 @ 300/500 MHz option**
- **256 MB in-camera memory**
- **Xilinx 700/1400K gate Spartan user programmable FPGA option**
- **FPGA mermory**
- **Full range of software tools**
- **User programmable in C/C++**
- **Camera Link Interface**
- **GigE Vision Interface Option**
- **2 TTL Outputs**
- **1 TTL trigger input**
- **Multiple optional user programmable RS485/RS422 I/O**

SMART CAMERAS FOR IMAGING

Modes of operation:

Hardware ROI and 2x2 and 4x4 binning. 40 MHz or 20 MHz pixel clock . Asynchronous or synchronous trigger and also free running. 85 MHz Camera Link interface with fixed exposure, external exposure control, or internal auto exposure control GigE Vision option.

The system can be provided with dedicated software to perform gauging, tooling, pattern matching or a user customisable application in the FPGA and processor option in the camera.   Thus providing a stand-alone system for real-time, flexible measurement and pattern analysis applications.

Applications:

Recording: Internal storage of 256 MB for image storage and processing. Compression is available for 2:1 lossless and 10:1 Lossy.

This intelligent camera system is optimal for production line machine inspection, production line fast real-time event detection, laboratory microscopy, corporate and military research.

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FASTCAMERA SERIES
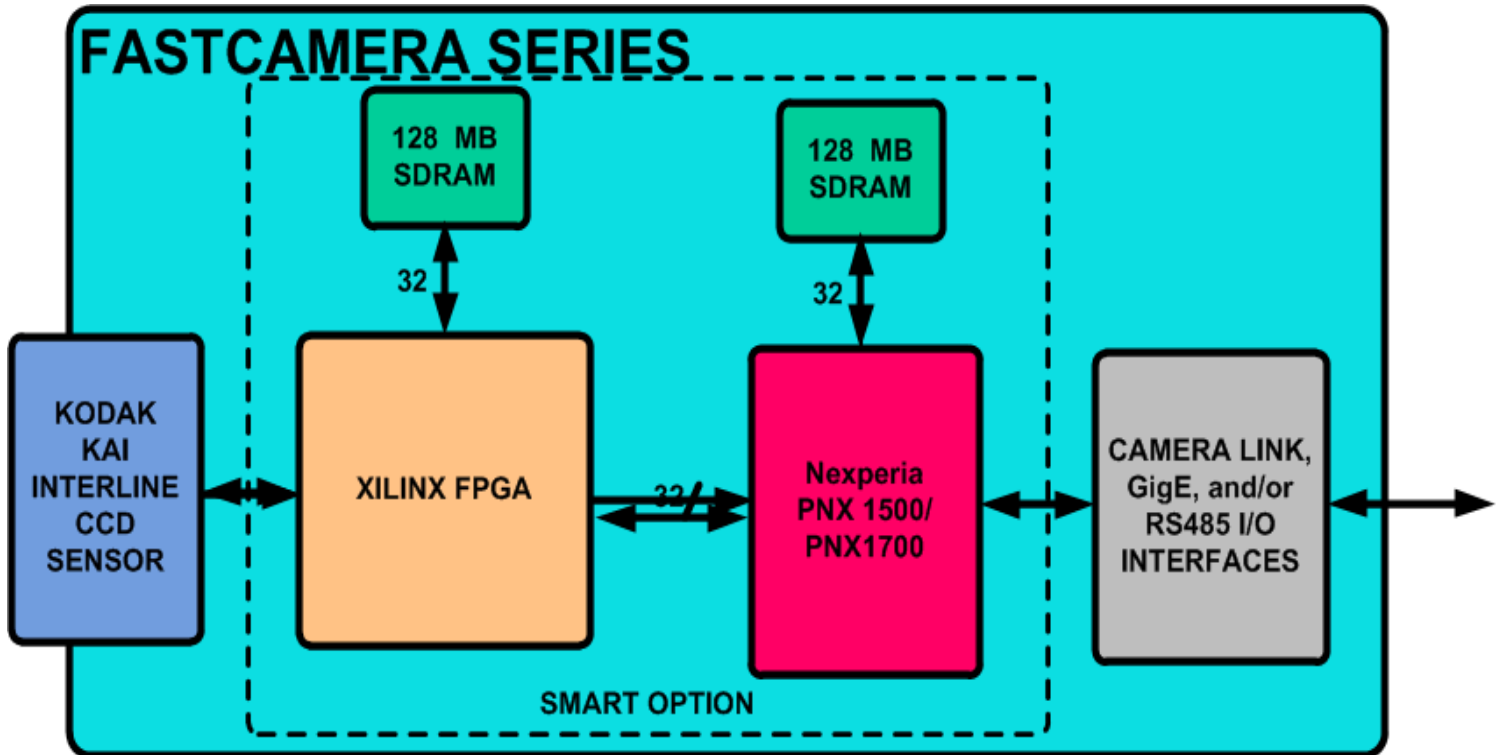
PHYSICAL SPECIFICATIONS
- 63mm x 63mm x 43mm standard
- 63mm x 63mm x 57mm smart option
- 12 Pin Hirose Power Connector
- Camera Link port
- External Trigger In and Out (sync/async modes)
- 0 to 50 Degree C operating
- Weight 300 grams
- Power < 8 Watts
- C Mount Lens

SENSOR SPECIFICATIONS
- Resolution 1920(H)x1080(V)
- Interline Transfer CCD
- Pixel Size 5.5 um (H) x 5.5 um (V)
- Active area 10.56mm (H) x 5.94mm (V)
- Aspect Ratio 16:9
- Output Sensitivity 34 uV/e
- Antiblooming x300
- Vertical smear 100 db typical
- Charge transfer efficency 99.999%
- Dark Current at Photodiode < 200 eps
- Photometric Sensitivity: Mono 3.61 V/lux-sec, Color 1.17(B), 1.54(G), 0.65(R) V/lux-sec
- Charge Capacity @ 40 MHz - 20,000 electrons
- Readout Noise @ 40 MHz - 12 electrons
- Dynamic Range @ 40 MHz - 64 dB
- Maximum Pixel Clock Speed 40MHz
- 12 bit ADC

IN-CAMERA PROCESSING OPTIONS
- Nexperia PNX1502/PNX1702 @ 300/500 MHz option
- Xilinx user programmable Spartan FPGA option
- FPGA memory
- Customer Programmable (C/C++)
- Image averaging (32 bit)
- By pixel gain and offset calibration
- Programmable ROI (via serial port)
- Image sub-sampling
- Convolution filtering
- Binarization with dynamic threshold
- VHDL customizable processing
- Processor provides Programmable Logic Controller Functions
- Super Framing for expanded dynamic range
- Blobs
- Real time image JPEG compression . Real time loss-less compression

OUTPUT SPECIFICATIONS
- 85 MHz Camera Link output
- GigE Vision Option
- 2 TTL Outputs
- 1 TTL trigger input
- Multiple user definable RS422/RS485 chan-