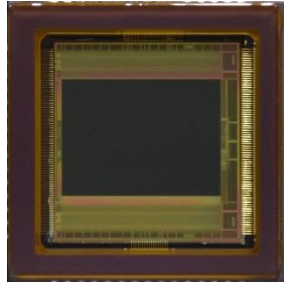


SXGA 1 INCH XQE CMOS IMAGE SENSOR



Applications

- Night Vision
- Day/Night Surveillance
- Weapon Sights
- Aerial ISR

Features

- SiOnyx 10 μ m XQE process technology
- Extremely high sensitivity (400 -1100nm)
- Capable of sub 1mLux imaging at 30fps and F1.4
- 1280 x 1024 SXGA resolution
- Rolling electronic shutter
- Low read noise
- High dynamic range
- Progressive scan readout
- Raw image data output
- 2 exposure HDR mode
- Column summing 1x2 binning for extreme low light SNR
- Region-of-Interest readout
- Flip & Mirror readout modes
- 12-bit parallel data interface
- I²C control interface
- Sensor temperature output

General Description

The SiOnyx XQE-1310 image sensor has been designed for high performance night vision applications. The sensor features SiOnyx's breakthrough ultralow light imaging technology enable new performance levels for digital night vision, security, scientific, machine vision, and laser imaging applications.

Key Performance Parameters

| Parameter | Data | |
|------------------------------------|--------------------------|--------------------|
| Optical Format | 1-inch (5:4) | |
| Optical Diagonal | 16.4mm | |
| Active Image Size | 12.8(H) x 10.2(V)mm | |
| Pixel Size | 10 x 10 μ m | |
| Active Pixels | 1280 x 1024 | |
| Total Active Pixels | 1,310,720 | |
| Total Light Sensitive | 1296 x 1040 | |
| Shutter Type | Rolling | |
| Shutter speed | 500msec to 23 μ sec | |
| Master Clock | 42.5 MHz | |
| Maximum Frame Rate | 40fps SXGA 60fps 720P | |
| Column Parallel ADC | 12 bits | |
| Read noise | $\leq 3 e^-$ RMS | |
| Parallel Data Interface | 85 MHz | |
| I ² C Control Interface | 400 KHz | |
| Native Dynamic Range | 72dB | |
| HDR | 2 exp/line | 108dB (30fps 720p) |
| | 2 exp/frame | 108dB (30fps 720p) |
| Supply Voltage | Digital | 1.8/3.3V |
| | Analog | 3.3V |
| Digital IO Level | 3.3/1.8V selectable | |
| Master Clock | 42.5 MHz | |
| Power Consumption | 420mW | |
| Operating Temperature | -20°C to +45°C | |
| Functional Temperature | -40°C to +85°C | |
| Versions | Color / Monochrome | |
| Packaging | 60 pin CLCC | |
| Package Size (CLCC) | 25x25mm | |
| Coverglass | Double AR Coated | |