SIONYX

PRODUCTION CAMERA CORE

MONOCHROME + COLOR

1-INCH 1280 X 1024 EXTREME LOW LIGHT CMOS CAMERA

MODEL NUMBERS
MONOCHROME XRB-1350
COLOR XRB-1351

The SIONYX XRB-1350 / 1351 camera core provides a fully integrated embedded vision ready component that features our Gen2 extreme low light imaging sensor and FPGA integrated onto a PCB with easy user connectivity via flex ribbon cable. This module comes fully loaded with SIONYX's proprietary and fully optimized image processing algorithms to ensure the maximum capability in user performance results. The FPGA executes a real time image pipeline with auto exposure, contrast, gain and tone mapping/gamma algorithms. The XRB-1350 / 1351 delivers the industry's smallest Size, Weight, and Power (SWAP) combination with unprecedented near infrared sensitivity. SIONYX enables unassisted night vision imaging and detection in the 700nm – 1,100 nm range to advance industrial vision at a low price point.
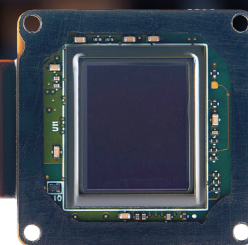
APPLICATIONS

- INDUSTRIAL VISION
- FLUORESCENCE MICROSCOPY
- MEDICAL DIAGNOSTICS
- SILICON CHARACTERIZATION
- DAY / NIGHT SURVEILLANCE
- WEAPON SITES + TARGETING
- SEE SPOT
- VEHICLE SITUATION AWARENESS
- ROBOTIC + UAV NAVIGATION
- NIGHT VISION

KEY PERFORMANCE PARAMETERS - Aerospace

SENSOR	SIONYX XQE-1350 / XQE-1351 1.3MP CMOS
MINIMUM ILLUMINATION	0.5 mLux AT 60 FPS AND F 1.28
MOONLESS NIGHT PERFORMANCE	TO BELOW MOONLESS STARLIGHT
OPTICAL FORMAT	1-INCH (15.6 mm), 9.5 MICRON PIXEL SIZE
AUTO EXPOSURE RANGE	14 uSEC TO 0.5 SEC
HOT/DARK PIXELS	< 0.039%
VIDEO OUTPUT	MIPI CSI2 - 4 LANE - 400 MHz
VIDEO TYPE	UNCOMPRESSED 10 BIT MONOCHROMATIC
	16 BIT YUV422 COLOR
IMAGE LATENCY	< 120 MICROSECOND
SHUTTER TYPE	PROGRESSIVE, ROLLING
VIDEO RESOLUTION	1280 X 1024
FRAME RATE (FPS)	120, 90, 60, 45, 30 OR 2 MINIMUM
CONNECTOR	FLEX CABLE WITH HIROSE 48P HEADER
	(0.4mm PITCH / 1.5mm HEIGHT)
COMM PART	UART SERIAL AND I2C
IR CUT FILTER	MANUAL FILTER (NOT INCLUDED)
OPERATING & STORAGE TEMPERATURE	-40°C TO +65°C | -55°C TO +125°C
POWER SUPPLY	3.3, 1.8, + 1.2 VDC
POWER CONSUMPTION	1.1W TYPICAL
DIMENSIONS (MM)	23.75 mm X 23.75 mm
	(TYPICAL, CAMERA CORE BOARD) + FLEX CABLE
WEIGHT	< 7g

MODEL NO.   TYPE

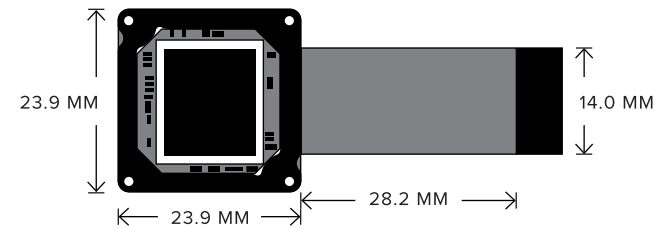| MODEL NO.	TYPE
XRB-1350	MONOCHROME LOW LIGHT SENSOR BOARD MODULE
XRB-1351	COLOR LOW LIGHT SENSOR BOARD MODULE
430-00009	C-MOUNT LENS ACCESSORY FOR CAMERA CORE
XRB-1350S	MONOCHROME LOW LIGHT SENSOR BOARD COMMERCIAL MODULE
XRB-1351S	COLOR LOW LIGHT SENSOR BOARD COMMERCIAL MODULE

For commercial scientific / industrial application orders please specify the "S" model number.
[Note: Commercial Operating & Storage temperature -20°C to 55°C \| -40°C to 105°C, Hot/Dark Pixels < 0.39%]

FEATURES + BENEFITS

- 2nd Gen SIONYX low light technology delivers 0.5 mLux performance
- Daytime safe operation is user friendly and ensures long term reliability
- 2D noise reduction for improved image clarity
- MIPI CSI2 output interface for ease of integration in embedded systems
- Serial and I2C control interface for user flexibility
- Unmatched lower power consumption provides longer battery life
- Best Si CMOS QE 700nm - 1100nm enables new applications at low cost

All product specifications, and data, are subject to change without notice due to continuous quality improvement initiatives. Visit SIONYX.com for the most current data documentation.

XRB-1350 MODULE BOARD

23.9 MM
23.9 MM
14.0 MM
28.2 MM

C-MOUNT

32.0 MM
13.5 MM
37.0 MM
24.1 MM

SIONYX
DIGITAL NIGHT VISION