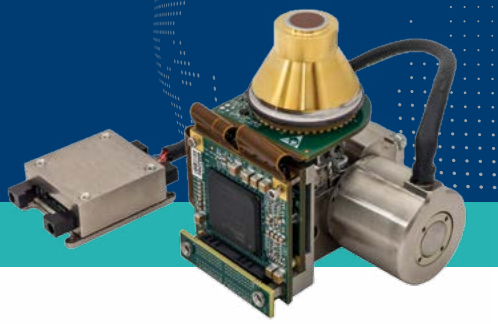
Mini Blackbird SXGA

Low SWaP-C HD MWIR Video Core, 1280 x 1024 SXGA Format, 10µm pixel pitch, HOT XBn sensing technology



General Description

Mini Blackbird SXGA is a state of the art HD MWIR core optimized for low SWaP-C applications. The Mini-Blackbird integrates SCD's advanced technology of XBn in a 10µm pixel size.

SCD's proven XBn technology enables HOT (High Operating Temperature) FPA operation at 150K without compromising on the detectors overall performance.

The detectors proximity electronics include a full video core with image processing capabilities providing a very low weight (<350 gr) and very low power consumption (total power is about 5W at room temperature).

Applications

- Light small tactical payloads for mini UAVs, Drones, Search & Rescue helicopters
- Ground Surveillance
- Persistent surveillance
- Long/Medium Range Surveillance & Targeting
- Hand Held systems
- Armored Sights

Detector Key Features

- HD Format: 1280 x 1024 at 10µm pitch
- HOT Sensing material - XBn technology (150K operating Temperature)
- Digital ROIC
- Compact and Ruggedized Dewar
- Low SWaP Stirling cooler
- High image quality
- Frame rate: Raw digital output at up to 90 Hz (full window size); Fully processed data at 60Hz

Integrated Video Processing Key Features

- Non Uniformity Correction (NUC)
- Bad-Pixel Replacement (BPR)
- Automatic Exposure / Gain Control (AGC)
- Dynamic Range Compression (DRC)
- Auto Focus support (Q-Factor)
- Digital Zoom
- Graphic overlay support
- Pseudo-color Look-Up-Tables
- Spatial & Temporal Noise Reduction
- Option for 1280x720 XGA Video Format by windowing

Typical Performance

Parameter	Value
Detector type	HOT XBn Array
FPA spectral range	3.6÷4.2 µm (1-4.2µm available on request)
Format	1280 × 1024
Pitch	10 µm
Size	Length (optical axis) – 80 mm
Weight	Weight < 350gr
Power consumption (at 23C at 60Hz)	Cooler <2.5 W Proximity electronics <2.5W
Integration modes	ITR, IWR
Integration capacitors and their Floor Noise (FN) *	0.3Me- ; FN = 80e-
	0.5Me- ; FN = 120e- (ITR mode only)
	2.0Me- ; FN = 340e-ITR/500e- IWR
	3.5Me- ; FN = 1200e- (ITR mode only)
Maximum Frame Rate	90 Hz (full window, raw image)
Video Output	Camera Link® Digital output
Digital Signal Resolution	13 bit
Readout Mode	Normal / 2 x 2 Binning
Readout direction	Bottom-up / Left-Right
Windowing	Flexible: at 2 row steps
NETD (2Me- Cap.)	< 25mK @ 70% well fill capacity
Local Residual Non Uniformity	< 0.04% STD/DR @ 10-80% well fill capacity
F Number	F/3.4, F/4 (others available on request)
Cooler Options	K580 / SX-020 / RM1S

* ITR and IWR modes are possible unless otherwise noted. Floor noise is specified in IWR mode. Floor noise in ITR mode is equal or lower than IWR mode.

Specifications are subject to change without notice

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