SIMTRUM

High Speed sCMOS Camera
Dhyana2100

2022 V1
For customized projects please Contact us:
info@simtrum.com

Dhyana2100 – 21MP High Speed sCMOS Camera

The Dhyana 2100 is designed to deliver the maximum speed and maximum resolution combination seen yet with an sCMOS sensor. Achieving an amazing 450 frames per second when running in full resolution of 5120 x 4096, it provides amazing high-speed data even with low-light signals.

Feature

- 450fpx@21MP
- CXP12 Data Interface
- 29.5mm Diagonal FOV
- Global Shutter
- Genicam™ Compliant
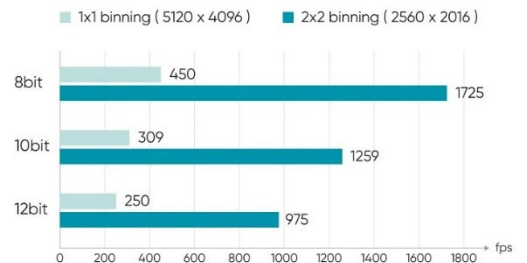- Air & Liquid Cooling

High Speed at High Resolution

Achieving 450 frames per second at 21 million pixels resolution, it allows the observation of fine details without distortion. The Dhyana 2100 achieves this while maintaining image quality standards with the global shutter.
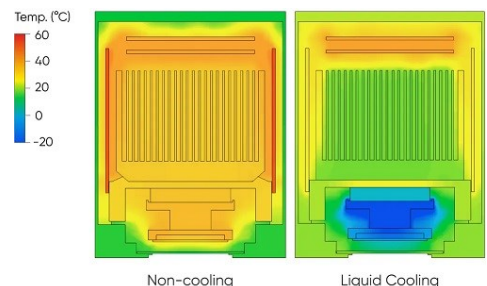
1725fps@5MP
Fast Binning Mode

It is designed for the detection of low signals at higher speed, not only with higher sensitivity and higher dynamic range, but also improving frame rate, achieving 1725 frames per second with a resolution of 5 million pixels.
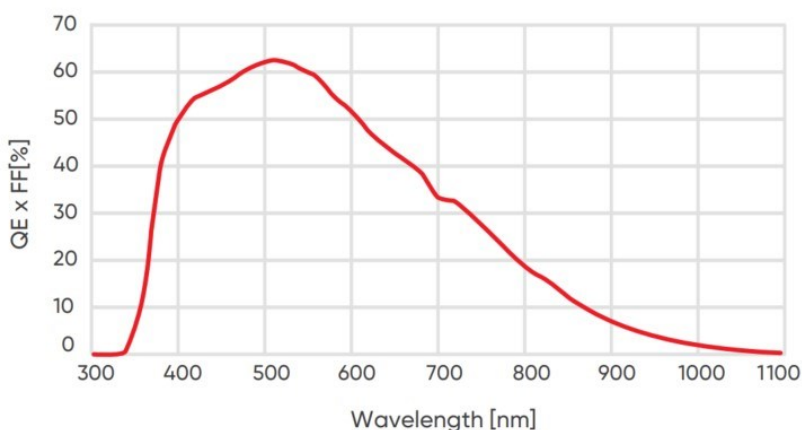
Advanced Cooling Technology

The Dhyana 2100 has two cooling methods, liquid, or air, ensuring low dark current and thermal stability. Cooling is essential when running large format cameras at speed due to the immense amount of heat being generated which can cause not only dark current but measurement variations across the sensor and also over time as sensor temperature changes.
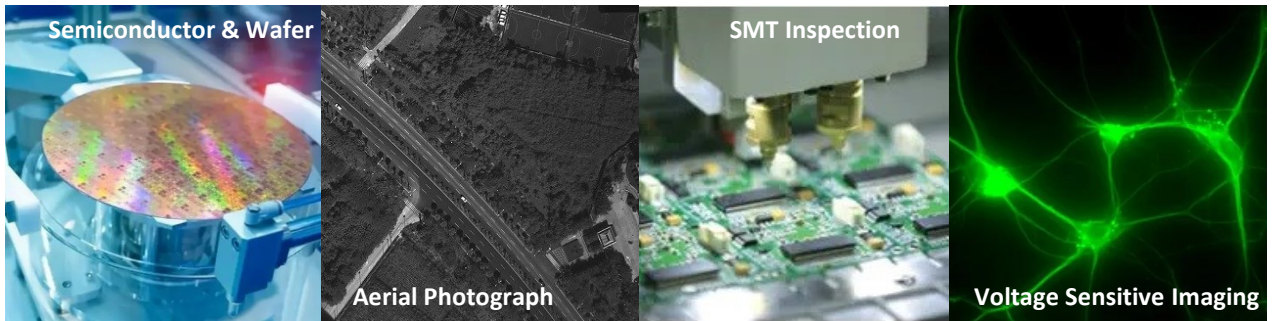
Specifications

Model	Dhyana 2100
Sensor Type	FSI CMOS
Sensor Model	Gpixel GSPRINT4521
Peak QE	63%@520nm
Color/Mono	Mono
Array Diagonal	29.5mm
Effective Area	23.04mm (H) x 18.43mm (V)
Resolution	5120 (H) x 4096 (H)
Pixel Size	4.5pm x 4.5pm
Full-Well Capacity	28ke- (12-bit Gain 0), 16.5ke- (12-bit Gain 2) 120ke- (binned)
Dynamic Range	68.8dB (12-bit Gain 2)
Frame Rate	450fps@8bit (CXP12 x 8); 300fps@10bit; 250fps@12bit; 225fps@8bit (CXP12 x 4)
Readout Noise	3.5e-@12bit
Shutter Type	Global
Exposure Time	4ps~10s
DSNU	2.0e-
PRNU	0.12%
Cooling Method	Air & Liquid
Max. Cooling Temperature	30°C below ambient
Dark Current	0.02e-/pixel/s@-10°C chip temperature
Binning	2x2, 4x4, 8x8
ROI	Support
Trigger Mode	Hardware & Software
Output Trigger Signals	Exposure start, Readout end
Trigger Interface	HIROSE
Data Interface	CXP12 (x4/x8)
Data Bit Depth	8bit/10bit/12bit
Optical Interface	M52/F-Mount/user Customization
Power Supply	DC 24V/6A
Power Consumption	s120W
Dimensions	95mm x 95mm x 140.5mm
Weight	1816g
Software	SamplePro
SDK	C/C++/C#
Operating System	Windows/Linux
Operating Environment	Temperature 0~40°C/Humidity 10~85%

Quantum Efficiency

Applications

- Semiconductor & Wafer
- Aerial Photograph
- SMT Inspection
- Voltage Sensitive Imaging

Semiconductor & Wafer

Aerial Photograph

SMT Inspection

Voltage Sensitive Imaging

Dimensions (Unit: mm)

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