High Speed sCMOS Camera
Dhyana9KTDI

2022 V1

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Dhyana 9KTDI – 9K Line Scan BSI TDI Camera

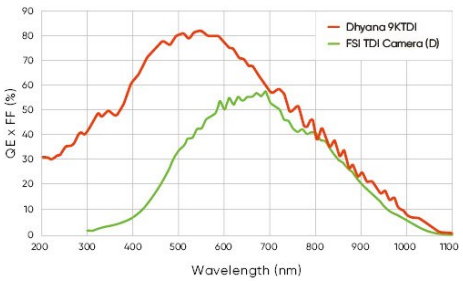
The Dhyana 9KTDI adopts a new generation of back-illuminated TDI CMOS technology, with a spectral response capability of 200-1100nm, which can be used in the fields of ultraviolet, visible and near-infrared imaging; TDI technology brings extremely high SNR in low light applications, and the high-speed line frequency of up to 510kHz@9K can greatly improve the visual detection efficiency.

Feature

- 82%@550nm Peak QE
- 5μm x 5μm Pixel Size
- 9072 Resolution
- 510kHz@9K
- CoaXPress2.0

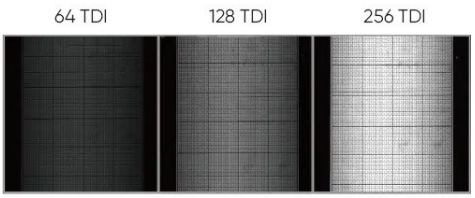
82% High QE/Wide spectrum

The Dhyana 9KTDI adopts back-illuminated sCMOS technology and has a wide spectral response capability of 200nm-1100nm. Combined with 256-level TDI and cooling technology, it can be better used in low-light imaging fields such as ultraviolet, visible light and near-infrared.



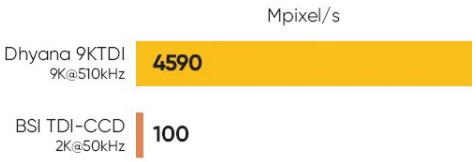
256 TDI Stage Provides High SNR

The Dhyana 9KTDI supports 16~256 levels of TDI (time delay integration) imaging, which can increase the signal integration per unit time to obtain images with a higher signal-to-noise ratio under limited lighting conditions.



High Throughput up to 510kHz @ 9K

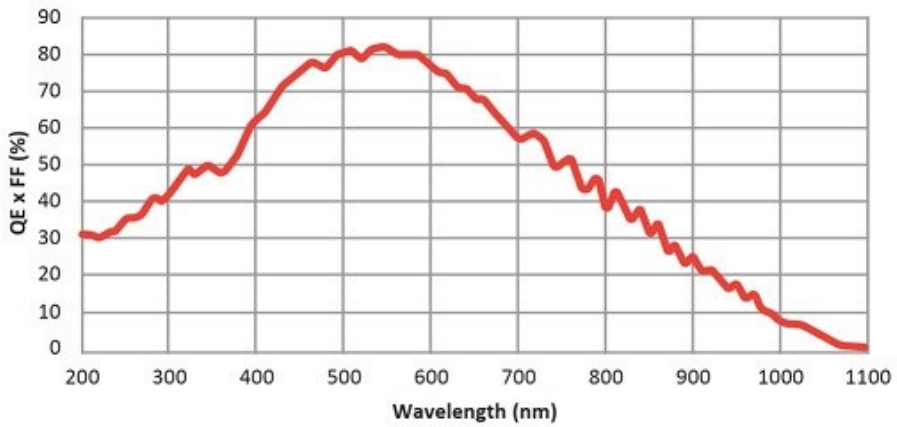
The Dhyana 9KTDI is equipped with the latest CXP-12 high-speed interface. The 9K@510kHz line frequency means a data throughput of 4590Mpixel per second, which is almost 6 times that of the current mainstream 8K line scan cameras and more than 50 times that of the back-illuminated TDI-CCD cameras.



Specifications

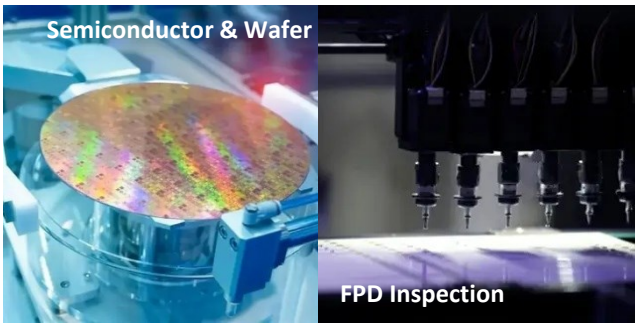
Model	Dhyana 9KTDI
Sensor Type	BSI sCMOS TDI
Sensor Model	Gpixel GLT5009BSI
Color/Mono	Mono
Array Diagonal	45.4mm
Resolution	9072
Pixel Size	5μm x 5μm
Effective area	45.36mm x 1.28mm
QE	82%@550nm；50%@350nm；38%@800nm
Max. Line Rate	300kHZ@12bit; 345kHZ@10bit; 510kHZ@8bit
Operation Mode	TDI/Area
TDI Stage	4/8/16/32/64/128/192/256
Scan Direction	Forward/Reverse/Trigger Control
CTE	≥0.99993
Data Bit Depth	12bit/10bit/ 8bit
Full-Well capacity	15.5ke-@12bit; 14ke-@10bit
Dynamic Range	68.7dB@12bit; 63.6dB@10bit
Readout noise	7.2e-@12bit; 11.4e-@10bit
DSNU:	1.5e-@12bit; 3.5e-@10bit
PRNU	0.30%
Binning	2x1; 4x1; 8x1
Data Interface	CoaXPress 2.0
Cooling Method	Air & Liquid cooling
Cooling temperature	40℃ below ambient
Dark Current	950e-/p/s@Chip temperature -10℃
ROI	Support
Trigger Mode	Trigger Input, Scan Direction Input
Output Trigger Signals	Strobe out
Trigger Interface	HR10A-7R-4S
Timestamp Accuracy	8 ns
Gain	Analog Gain: x2 ~ x8; Digital Gain: x0.5 ~ x10
Optical Interface	M72/User customization
Power Supply	12V/8A
Power Consumption	< 60W
Dimensions	86mm x 86mm x 109mm
Weight	1100g
Software	Samplepro/Matlab
SDK	GenICamTM
Operating System	Windows/Linux
Certification	CE/RoHS
Operating Environment	Working Environment: Temperature 0~40°C/Humidity 0~85% Storage Environment: Temperature 0~60°C/Humidity 0~90%

Quantum Efficiency

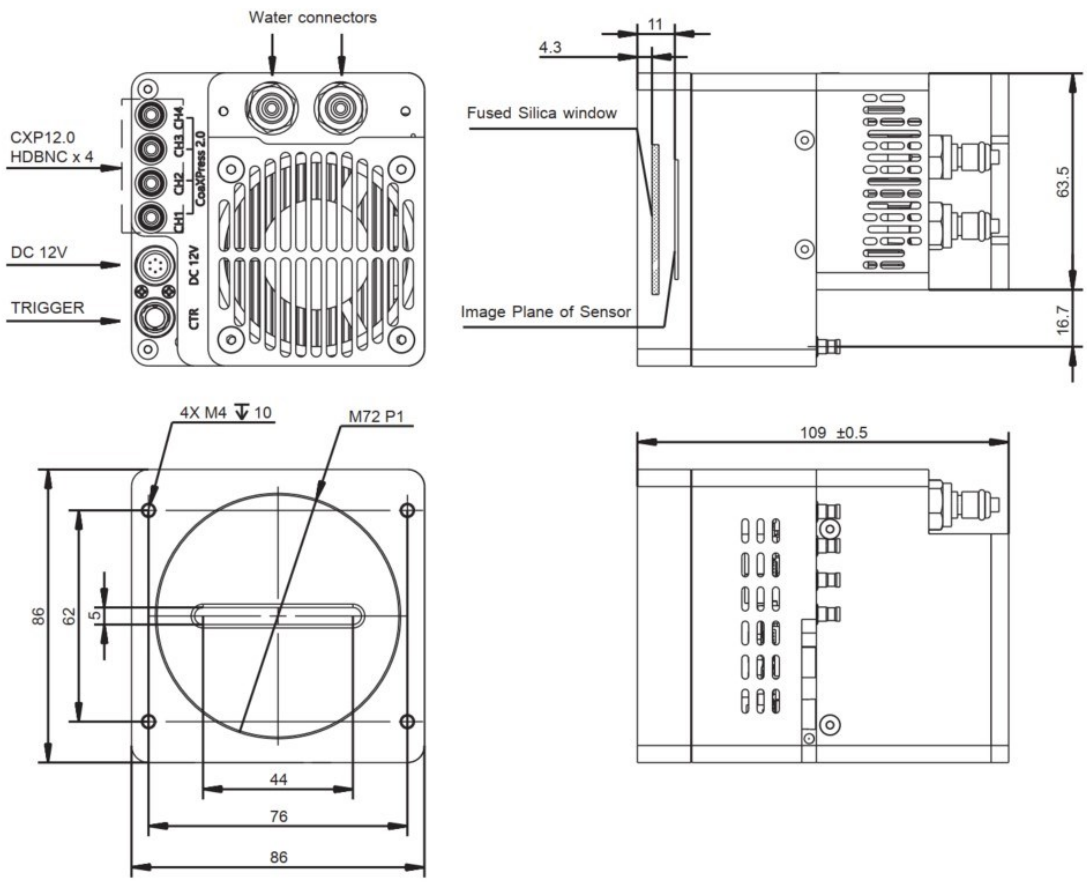


Applications

- Semiconductor & Wafer
- FPD Inspection



Dimensions (Unit: mm)



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