

# SAPPHIRE series

## 25 Mpx CoaXPress

Preliminary



### Key characteristics

4.5 $\mu$ m <sup>2</sup>	5210 X 5210	73 fps
CMOS GS	35mm	<8.5W
<80mm <sup>2</sup>	<400g	52dB

- 25 Megapixel at 73+ fps
- OnSemi VITA25k sensor
- True Global Shutter CMOS
- Monochrome and Color
- PRNU and DSNU calibrated corrections
- Configurable 4 CXP3 to 4 CXP6 speed
- M12 I/O connector
- CoaXPress V1.1 compliant
- CoaXPress V1.0 compatible

### Description

The Sapphire 25 Mpx CoaXPress camera delivers 5120x5120 pixel resolution at over 73 fps based on 4.5 micron square pixels. The Sapphire cameras support both OnSemi Vita and Python 25 Mpx sensors. The Vita solution excels in shot noise performance (SNR) and frame speed at small ROIs whereas the solution with the new Python sensor offers the best performance on sensitivity, dynamic range and global shutter performance.

Adimec offers the Sapphire 25 Mpx CXP cameras in a low power compact outline design, not requiring forced cooling through a fan. This provides optimal design freedom for integrating optics and placement in inspection tools. Similar to our Q-12A180, the Sapphire is based on Adimec's new second generation CoaXPress V1.1 compliant 25 Gb/s CoaXPress Quad interface. This interface is also fully backward compatible to existing V1.0 frame grabbers.

# 25 Megapixel High speed Metrology Camera

## Specifications (target)

	S-25A80	S-25A70
Sensor	Python25k CMOS	Vita25k CMOS
Pixel size	4.5 μm x 4.5 μm with micro lenses	
Resolution	5120 (H) x 5120 (V)	
Optical sensor size	35mm	
	CoaxPress - V1.1 / V1.0	
Video Output	CXP3 or CXP6 1, 2, 4 lanes configurable	CXP6 or CXP3 2, 4 lanes configurable
Max frame rate (8bit 4x CXP6)	80 fps	73 fps
Dynamic range	59 dB linear	54 dB linear
Full Well*	9.5kel (max)	22kel (max)
Electronic shutter	Global shutter 7T (PLS <1/3000)	Global shutter 5T (PLS <1/700)
Image acquisition	Continuous / Controlled	
Output resolution	8 / 10 Bit	
Monochrome / Color	Monochrome / Color	
Power input	≤ 8.5 W	≤ 6.6 W
Power usage	< 10 W (TBD)	
Operating temperature	-10°C to +30°C or max housing temp 50°C	
Reliability	MTBF > 75,000 h @ 30°C	
Weight	< 400g excluding lens mount	
Lens mount	F-mount (Optional: TFL-II, M42, T2 or EF)	
Compliance	CE, ROHS	

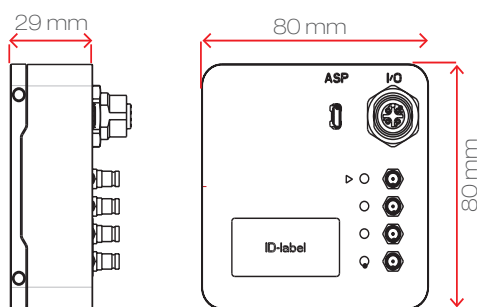
\* specification OnSemi

## Functionality

	Standard	Optional
Defect pixel correction	√	√
Manual white balance	-	√
One push AWB	-	√
ROI (single, multi band-WOI)	√	√
Image flip	√	√
Frame counter	√	√
LUT	√	√
Analog Sensor Gain	√	√
Digital fine gain (1x to 32x)	√	√
Automatic black level control	√	√
PRNU and DSNU calibrations	√	√
Non-volatile calibration data storage	√	√
Programmable I/O	√	√

√: Standard O: Optional -: Not available

## Dimensions



## Customization

All models of the SAPPHIRE series are customizable to fit specific system outline, functionality or performance requirements.

Please contact us about your possibilities.

**For maximum image quality, performance, and reliability in demanding applications - Choose Adimec**

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