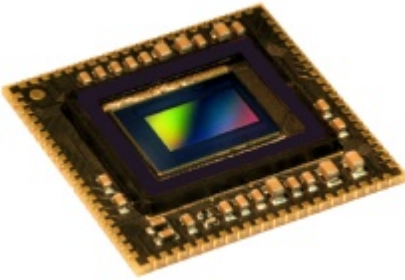


Thomson 9211A – High Definition (HD) CMOS Sensor



The THOMSON 9211A is a high performance, low power, 2/3" HD resolution (1920 x 1080 pixel) CMOS Image Sensor capable of capturing monochrome digital still or motion Images and suitable for many applications in the industrial area.

This CMOS sensor can be used in various scanning modes as interlaced, progressive, vertical scanning and others. Due to integrated ADCs it offers a high degree of flexibility for the end product with a minimum of external components. Main applications are high performance video cameras and high resolution measurement devices.

In the high dynamic range mode, the dynamic range of the sensor can be extended beyond 120dB by selecting the non-linear response curve.

Features

- CMOS image sensor of HD resolution (1920 x 1080 pixels)
- Dual On-chip 12-bit A/D-converters
- Digital clock input, frequency: 74,25 MHz (nominal), 111.375 MHz (maximum)
- Region of interest: horizontal subsampling by 32 column blocks and line wise vertical subsampling by external vertical scanning inputs.
- Variable pixel clock rate, flexible scanning schemes (interlace, progressive) by token input of vertical scanning inputs
- Square pixels 5µm
- µ-lens for improved sensitivity
- Programmable gain
- External line start input with programmable line start delay setting for synchronization.
- External offset inputs for dark level compensation
- Selectable readout mode
 - High speed analog double sampling
 - Correlated digital double sampling
- On-chip temperature sensor to allow temperature compensation
- 3 wire serial interface for control & status information
- Supply voltages; 3.3V for core interfaces, 1.8V for digital logic



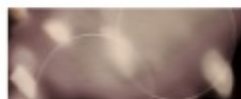
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Parameter	Typical Values
Array Format	
Total	2048H x 1148V
Active	1968H x 1108V
Effective Image Area	
Total	10.24mm x 5.74mm
Active	9.84mm x 5.54mm
Optical Format	2/3"
Resolution	1920 x 1080
Pixel Size	5µm x 5µm
Video Outputs	2 x 12-bit Digital
Frame Rate	24, 25, 30, 60, 90fps (at full resolution)
Dynamic Range	
Linear Mode	60 dB
Non-Linear Mode	> 120 dB
Electronic Shutter	Rolling Shutter

Parameter	Typical Values
Sensitivity	3,9 V / lux sec
Full well capacity	30000e
Quantum Efficiency	65%
Random Noise	11e
FPN (Fixed pattern noise) with DDS (Digital Double Sampling)	6e
PRNU	< 1,5 %
Supply Voltage	3,3V, 1,8V (@ 60fps)
Power Consumption	500mW (@ 60fps)
Operating Temperature	-20°C to +75°C (see Options section)
Package	See Options

Options

- LCC84 packaging (29.21mm x 29.21mm)
- Ceramic packaging (on request)
- (20mm x 35mm) µPGA 141
- Hermetically sealed solution perfectly suitable for medical applications
- Tested dice without package (on request)
- On-chip color filter option

Applications

- High-end Surveillance
- Industrial Vision
- Medical Imaging
- Automotive



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