Security and Surveillance Camera Products

Aptina
IMAGING

Providing exceptional vision for security applications

NETWORK CAMERAS

Aptina™ sensors enable a wide range of high quality network cameras from VGA, 720p, 1080p to 5MP high-resolution and above. These products combine exceptional low-light performance, industry-leading high dynamic range, and excellent near-IR performance, giving highest quality HD video, with flexible interfaces compatible with leading image processors.

VGA		ASX340CS
720P	HDR	MT9M034*, AR0140CS*
	Linear	AR0130CS
1080P	HDR	AR0331CS
	Linear	AR0330CS
High-Resolution		MT9P006, MT9J003, MT9F002

*Aptina image co-processors, AP0100CS & AP0101CS, are designed to work with MT9M034 and AR0140CS for HDR network cameras

CCTV CAMERAS

Aptina image sensor, co-processor, and SoC products empower CCTV cameras with outstanding low-light performance and high dynamic range. Reference designs using Aptina imaging co-processors are available to accelerate time-to-market.

480 TVLs - 649 TVLs		ASX340CS, MT9V138
650 TVLs - 720 TVLs	HDR	MT9M034 + AP0100CS
	Linear	AR0130CS + AP0100CS

Aptina is a world leading provider of CMOS imaging solutions for security and surveillance markets, with a rich portfolio of image sensor, co-processor, and SoC products for network and CCTV cameras.

Aptina Security and Surveillance Product Specifications

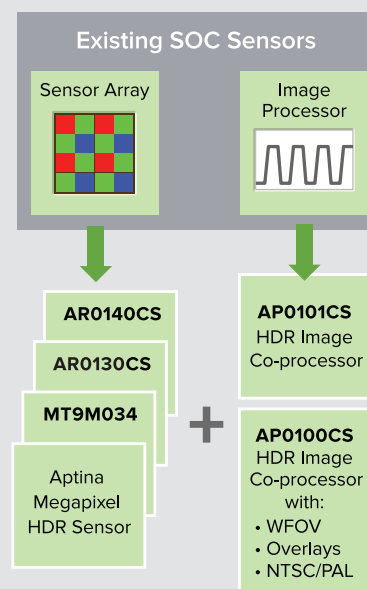| PRODUCT	ASX340CS	MT9M024/34	AR0130CS	AR0140CS	AR0330CS	AR0331SR	MT9P006
Application(s)	CCTV	CCTV, Network	CCTV, Network	CCTV, Network	Network	Network	Network
Optical Format	1/4"	1/3"	1/3"	1/4"	1/3"	1/3"	1/2.5"
Resolution	VGA	1.2 MP	1.2 MP	1.1 MP	3.5 MP	3.1 MP	5 MP
Frame Rate	60 fps	1.2 MP 45 fps, 720p60	1.2 MP 45 fps, 720p60	1.1 MP 45 fps, 720p60	1080p60 + 20%EIS	3.1 MP 30 fps, 1080p60	5 MP 15 fps, 720p60
Pixel Size	5.6 µm	3.75 µm	3.75 µm	3.0 µm	2.2 µm	2.2 µm	2.2 µm
Pixel Technology	DR-Pix™	DR-Pix™	DR-Pix™	DR-Pix™	A-Pix™	A-Pix™	A-Pix™
Shutter Type	ERS	ERS	ERS	ERS	ERS, GRR	ERS, GRR	ERS, GRR
CFA	Color	Color	Color, Mono	Color	Color	Color	Color
CRA (Degree)	0	0	0	0	0, 12, 21	0	7
HDR		YES		YES		YES with ALTM	
Dynamic Range	74.8 dB	115 dB	83.5 dB	96 dB	69.5 dB	100 dB	67.7 dB
Signal-to-Noise	46 dB	43.9 dB	43.9 dB	41 dB	39 dB	39 dB	38.5 dB
Responsivity	16.5 V/lux-sec	5.48 V/lux-sec	5.5 V/lux-sec	4.0 V/lux-sec	2.0 V/lux-sec	1.9 V/lux-sec	1.8 V/lux-sec
Input Clock	27 MHz	6-50 MHz	6-50 MHz	6-50 MHz	6-27 MHz	6-48 MHz	6-96 MHz
Output Clock	27 MHz	74.25 MHz (parallel), 148.5 MP/s (HiSPi™)	74.25 MHz	74.25 MHz (parallel), 148.5 MP/s (HiSPi™)	96 MP/s (parallel), 196 MP/s (HiSPi™)	74.25 MHz (parallel), 148.5 MP/s (HiSPi™)	96 MP/s
Interface	NTSC/PAL or 8-bit parallel	4-lane HiSPi™, 12-bit parallel	12-bit parallel	4-lane HiSPi™, 12-bit parallel	2-lane MIPI, 12-bit parallel	4-lane HiSPi™, 12-bit parallel	12-bit parallel
Operating Temp.	–30ºC to +70ºC	–30ºC to +70ºC	–30ºC to +70ºC	–30ºC to +85ºC	–30ºC to +70ºC	–30ºC to +85ºC	–30ºC to +70ºC
Package(s)	7.5x7.5mm 63-ball iBGA	9x9mm 56-ball iBGA, 10x10mm 48-pin iLCC	10x10mm 48-pin iLCC, 11.43x11.43mm 48-pin PLCC	9x9mm 64-ball iBGA	11.43x11.43mm 48-pin CLCC, 6.3x6.6mm CSP	9.5x9.5 mm 64-ball iBGA, 10x10 mm 48-pin iLCC	10x10 mm 48-pin iLCC

Above table does not include all of Aptina security and surveillance image products.

Please contact **surveillance@aptina.com** for additional product information.

Aptina consistently drives innovation to serve the unique requirements for the security market. Using advanced Aptina A-Pix™ pixel technology to provide superior low light performance, and Aptina DR-Pix™ technology to increase dynamic range, Aptina enables crisp, clear images and streaming video for our customers' security solutions.

CO-PROCESSOR	AP0100CS	AP0101CS
Application(s)	CCTV, Network	Network
Sensors Supported	MT9M024/34, AR0130, AR0140CS	MT9M024/34 AR0140CS
Maximum Resolution	1.2 MP	1.2 MP
Frame Rate	1.2 MP 45 fps 720p60	1.2 MP 45 fps 720p60
Color Pipe Features	Demosaic	Demosaic
	Gamma correction	Gamma correction
	Auto white balance	Auto white balance
	Defect correction	Defect correction
	Noise reduction	Noise reduction
	Auto exposure	Auto exposure
	Flicker detection	Flicker detection
HDR with ALTM	YES	YES
Dewarp	Yes, Up to 190 degree	NO
Overlays	YES	NO
GPIOs	Up to 5	Up to 5
Sensor Interfaces	2-lane HiSPi™, 12-bit parallel	12-bit parallel
Output Interfaces	NTSC/PAL, 16-bit parallel	16-bit parallel
Input Clock	6 - 30 MHz	6 - 30 MHz
Output Clock	27 MHz (NTSC/PAL) 84 MHz parallel	84 MHz parallel
Operating Temp	–30ºC to +70ºC	–30ºC to +70ºC
Package	7x7mm 100-ball VFBGA	6.5x6.5mm 81-ball VFBGA

Introduction of Co-processors

Aptina's co-processor approach enables optimal imaging solutions. In traditional SoC approaches, the sensor and image processor use the same process technology. By isolating the image pipe from the sensor, the image processor can be designed using a more efficient technology giving higher performance with lower power consumption. With the image processor separate from the sensor, designers are now able to mix and match sensors with image processors rather than having to design with a new SoC.

Existing SOC Sensors

Sensor Array
Image Processor

AR0140CS
AR0130CS
MT9M034
Aptina Megapixel HDR Sensor

+

AP0101CS HDR Image Co-processor

AP0100CS HDR Image Co-processor with:
• WFOV
• Overlays
• NTSC/PAL

In addition to CCTV reference designs, doorbell cameras can also use the combination of the sensors and co-processors, e.g. AR0130CS + AP0100CS, and MT9M034 + AP0100CS.

GETTING STARTED WITH APTINA

1. Register on www.aptina.com.

   a. To register, visit our site, click on the top right button that states "Register".

   b. Submit your contact information. If you have an NDA please note this.

   c. Shortly, an Aptina representative will grant you access to Aptina website collateral.

2. If the sensor you are interested in is not on the website:

   a. Contact your local Aptina sales representative or distributor for information.

   b. Our distributors and sales representatives are listed on our main webpage under the section "How to Buy".

3. To evaluate, purchase an Aptina "Demo Kit" or "Headboard" from your distributor.

4. Please contact **surveillance@aptina.com** for more information.

Demo Kit

Demo Kit Contents Include:
1. Aptina headboard
2. Demo camera board with USB 3.0 connector
3. USB 3.0 cable
4. Tripod stand and camera tripod
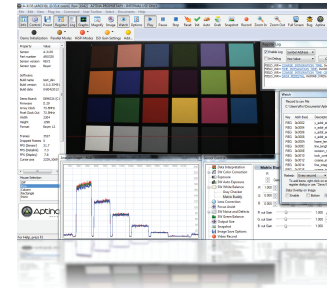
Headboard

Headboard Contents Include:
1. Aptina sensor
2. Lens mount and lens

DevSuite

DevSuite includes the tools for
1. Live image tuning
2. Real-Time register access
3. Image and video capture
4. Image analysis

About Aptina

Aptina is a global provider of intelligent imaging solutions. Aptina has created unique innovations with image sensor technologies such as Aptina Clarity+™ to deliver high-quality, rich images in challenging environments. Aptina patented imaging solutions are in leading consumer electronics devices like smartphones, tablets, laptops and digital cameras, as well as industry-specific solutions for automotive, surveillance, video conferencing, scanning, medical and gaming. Learn more at www.aptina.com.

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