

AR0833



8-Megapixel  
1/3.2-inch  
BSI CMOS Image Sensor

## High-speed image sensor optimized for DSC-Class Still Images and High-Definition (1080p) Video

- 1 World-class Low-light Performance**  
1.4µm BSI pixel leverages Aptina™ A-PixHS™ technology.
- 2 Camcorder-quality Full 1080p HD**  
Enables full horizontal field-of-view 1080p HD video at 30fps using scaling to minimize artifacts.
- 3 Low-latency Snapshots**  
Minimizes mode change and shot-to-shot latencies by operating at 30 fps in full resolution .
- 4 Fast, Compact AF Modules**  
Enables fast auto-focus modules as small as 8.5x8.5mm with z-height less than 5.9mm
- 5 Integrated VCM Driver**  
Reduces overall system cost by incorporating VCM driver functionality directly in the sensor. .

## Applications

- Smart phones
- Tablets



## How to Buy

Production and sample quantities of Aptina products may be ordered through qualified distributors. See our Web site for details. You may also request access to NDA data sheets and other technical documentation by visiting our Web site.

# AR0833

## Features

- Supports: 8Mp30, 6Mp30, high-quality 1080p30 with EIS, 720p60 with EIS, WVGA 60 fps, VGA 120 fps. Optional on-chip high-quality Bayer scaler resizes 6Mp 30 fps HD video to 1080p30 (2Mp 30 fps).
- Programmable controls: gain, horizontal and vertical blanking, auto black level offset correction, frame size/rate, exposure, left-right and top-bottom image reversal, window size, and panning
- High quality Bayer scaling to maximize video sharpness and maintain full field-of-view
- 3D synchronization controls to enable stereo video capture
- Resampled binning to reduce jagged edge and artifacts typically found in binned images
- High dynamic range capability for both video and still images when paired with HDR-enabled imaging co-processors
- On-chip temperature sensor
- Context switching

## Specifications

### Imaging Array

- Optical Format: 1/3.2-inch (5.71mm)
- Active Array: 3264(H) x 2448(V)
- Imaging Area: 4.57mm(H) x 3.43mm(V)

### Output

- Interface: MIPI Serial I/F (1Gbps x 4 lanes)
- Data Format: 10-bit RAW

### Pixel

- Pixel Size: 1.4µm x 1.4µm (BSI)
- Dynamic Range: 65 dB

### Subsampling

- Binning: 2x2 (summing)
- Skipping: 1x, 2x, 4x, 8x (row)  
1x, 2x, 4x (col)
- Windowing: Programmable to any size
- Scaling: On-sensor digital scaler

### Gain

- Analog: Unity to 8x
- Digital: Unity to 7x

### Power

- Analog: 2.8V (nominal)
- Digital: 1.2V (nominal)
- I/O: 1.8V or 2.8V (nominal)

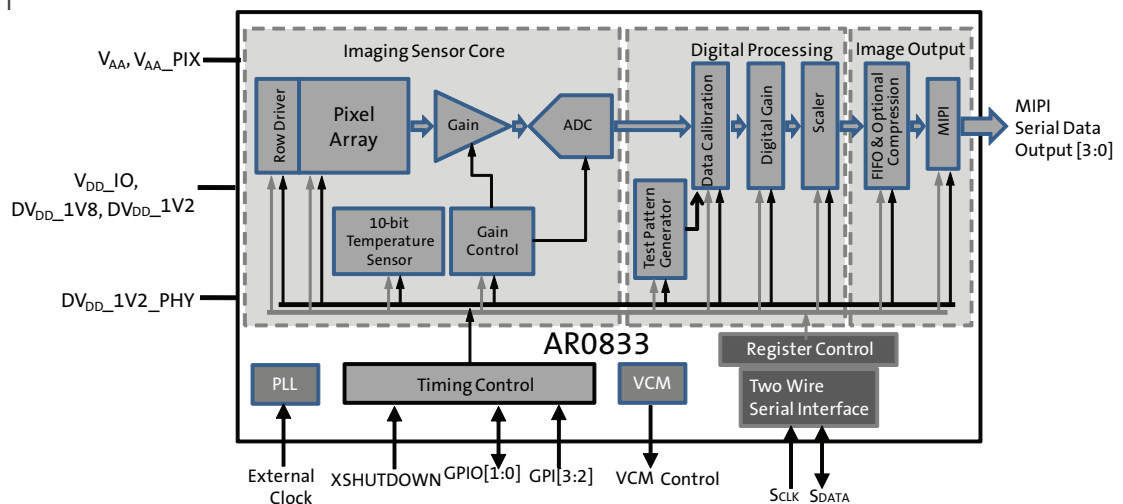
### Optics

- CRA: 29°

### General

- Die Size: 6.86mm x 6.44mm
- OTPM Size: 8 kilobits for customer use

## Block Diagram



[aptina.com](http://aptina.com)

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