

AR1335

CMOS Image Sensor, 13 MP, 1/3"



Product Overview

For complete documentation, see the data sheet.

The AR1335 is a 1/3.2-inch CMOS active-pixel digital image sensor with a pixel array of 4208H x 3120V. The AR1335 digital image sensor, features breakthrough 1.1µm pixel technology that delivers superior low-light image quality through leading sensitivity, quantum efficiency and linear full well. This allows image quality that rivals digital still cameras. With a sensor architecture focused on low power and a high Chief Ray Angle (CRA) for low Z-heights, the AR1335 is ideal for smartphone and other mobile device applications. It incorporates sophisticated on-chip camera functions such as windowing, mirroring, column and row skip modes, and snapshot mode. It is programmable through a simple two-wire serial interface. The AR1335 sensor can generate full resolution image at up to 30 frames per second (fps) and supports advanced video modes including 4K 30fps, 1080P 60fps and 720P 120fps.

Features

- 13MP CMOS sensor with advanced 1.1µm pixel BSI technology
 - Data interfaces: 2,3 and 4 lane MIPI
 - Bit-depth compression available for MIPI: 10-8 and 10-6 to lower bandwidth
 - 3D synchronization controls to enable stereo video capture
 - 6.8 kbits one time programmable memory (OTPM)
 - 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
 - Two on-die phase-locked loop (PLL) oscillators for super low noise performance
 - On-chip temperature sensor
 - Bayer pattern horizontal down-size scaler
 - Simple two-wire fast-mode+ serial interface
- For more features, see the data sheet

Applications

- Mobile
- 4K video capture
- High resolution still capture

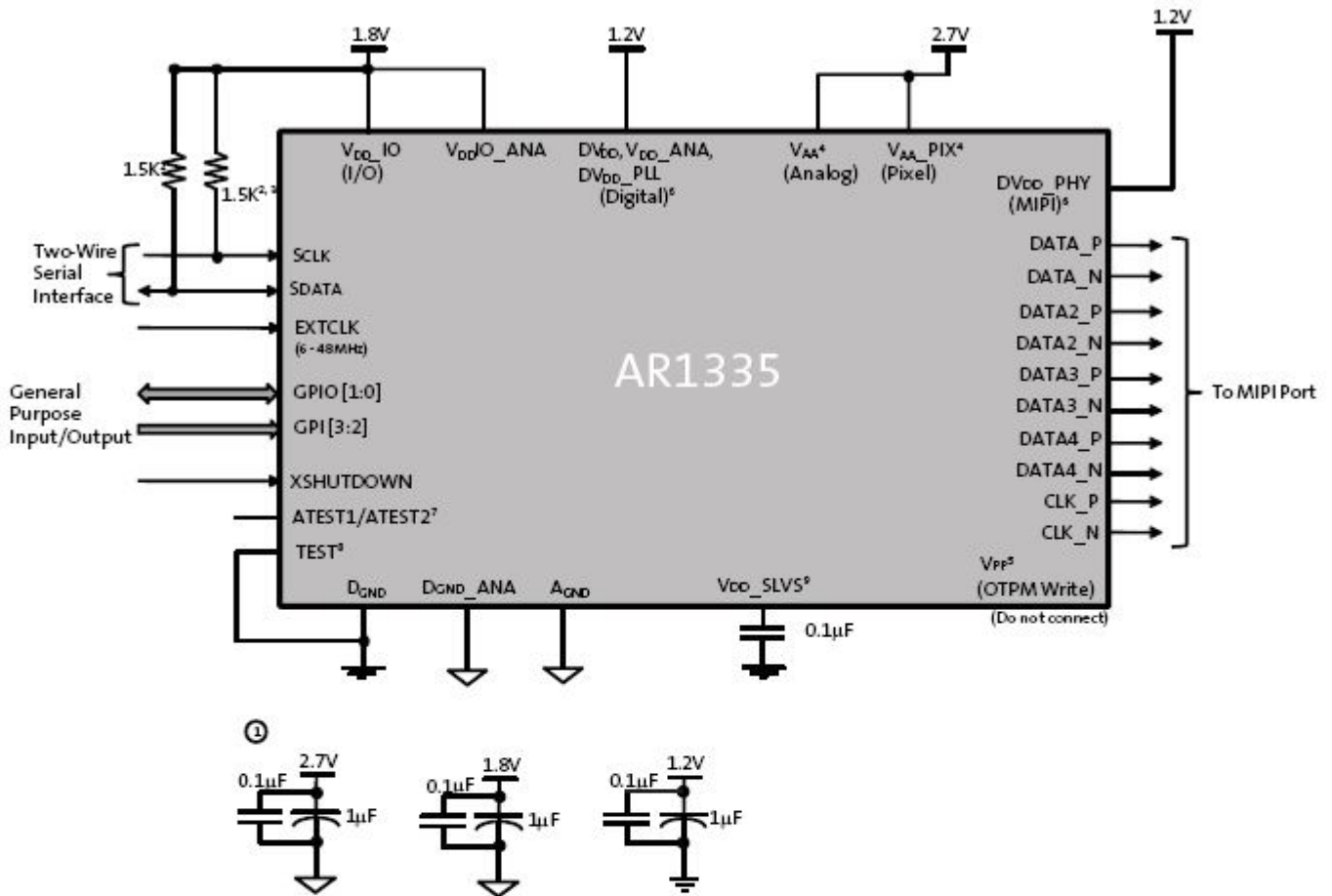
End Products

- Smart Phone
- Digital Still Camera
- PC Camera
- Consumer devices

Part Electrical Specifications

| Product | Pricing (\$/Unit) | Compliance | Status | Type | Megapixels | Frame Rate (fps) | Optical Format | Shutter Type | Pixel Size (µm) | Output Interface | Color | Package Type |
|-------------------------|-------------------|--------------------------------|--------|------|------------|------------------|----------------|--------------------|-----------------|------------------|-------|--------------|
| AR1335C5SSC11 SMKA0-CP2 | | Pb H | Active | CMOS | 13 | 30 | 1/3.2 inch | Electronic Rolling | 1.1 x 1.1 | MIPI | RGB | ODCSP-63 |
| AR1335C5SSC32 SMD20 | | Pb H | Active | CMOS | 13 | 30 | 1/3.2 inch | Electronic Rolling | 1.1 x 1.1 | MIPI | RGB | |

Application Diagram



- For connectivity above:
- Notes:
1. All power supplies should be adequately decoupled; recommended cap values are:
 - 2.7V: 1.0µF and 0.1µF
 - 1.2V: 1.0µF and 0.1µF
 - 1.8V: 1.0µF and 0.1µF
 2. Resistor value 1.5kΩ is recommended, but may be greater for slower two-wire speed.
 3. This pull-up resistor is not required if the controller drives a valid logic level on SCLK at all times.
 4. VAA and VAA_PIX must be tied together.
 5. Internal charge pump is used for OTPM programming.
 6. Digital and MIPI supply can be tied together.
 7. ATEST1/AATEST2 must be left floating.
 8. TEST pin must be tied to DGND.
 9. VDD_SLVS must be connected to DGND through a bypass cap (0.1µF).