

## AR0821CS

# 8.3 Mp Rolling Shutter CMOS Digital Image Sensor

## Product Overview

For complete documentation, see the data sheet.

AR0821CS is a 1/1.7inch CMOS digital image sensor with a 3848 H x 2168 V activepixel array. This advanced sensor captures images in either linear or high dynamic range, with rollingshutter readout. AR0821 is optimized to deliver highquality performance in both lowlight and challenging lighting conditions. It is supported by a 2.1 m DRPix™ BSI pixel from **onsemi** and embedded HDR (eHDR) technology that delivers greater than 140 dB. The sensor includes advanced functions such as inpixel binning, windowing, summing, and both video and single frame modes to provide flexible Region of Interest (ROI), optimal bandwidth as needed by the application and low power consumption. These characteristics make the sensor very suitable for a variety of applications including scanning, dashcams, autonomous mobility, and inspection & quality control.

### Features

- Industry Leading Embedded High Dynamic Range (eHDR)
- BSI Pixel with High Linear Full Well
- Low Operational Power
- Built-In Statistics Engine
- Multiple Functional Modes - Binning, Scaling, Summing, Windowing, Context Switching, Trigger

### Benefits

- Superior Image Quality in challenging light conditions with widest dynamic range
- High SNR & QE delivering high quality images even in lowlight conditions
- Higher Power Budget to Processing Engines, enables higher performance-power ratio
- Offloads Image Processor Loads, provides scene details aiding quick decision making
- Application-specific Image Output Selection with performance/power/bandwidth optimizations

### Applications

- Aerial Imaging
- Machine Vision
- Smart Homes/Security
- Scanning
- Commercial Surveillance

### End Products

- Autonomous Guided Vehicles (Drones)
- Machine Vision Cameras
- ID, MRZ Scanners
- Retail Analytics Cameras
- Video Doorbells

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
AR0821CSSC18 SMEA0-DPBR			Active	CMOS	8.3	60	1/1.7 inch	Electronic Rolling	2.1 x 2.1	MIPI	Color	IBGA-95
AR0821CSSC18 SMEA0-DPBR1			Active	CMOS	8.3	60	1/1.7 inch	Electronic Rolling	2.1 x 2.1	MIPI	Color	IBGA-95
AR0821CSSC18 SMEA0-DRBR			Active	CMOS	8.3	60	1/1.7 inch	Electronic Rolling	2.1 x 2.1	MIPI	Color	IBGA-95
AR0821CSSC18 SMEA0-DRBR1			Active	CMOS	8.3	60	1/1.7 inch	Electronic Rolling	2.1 x 2.1	MIPI	Color	IBGA-95