

## AR2020

# Image Sensor, 20 MP, Rolling Shutter, Hyperlux™ LP

## Product Overview

For complete documentation, see the data sheet.

AR2020, belongs to **onsemi's** Hyperlux LP product family, it's a 1/1.8inch Back-Side Illuminated (BSI) Stacked CMOS digital image sensor with a 5120 x 3840 activepixel array. This advanced sensor captures images in either linear or enhanced Dynamic Range (eDR) modes, with a rollingshutter readout. The AR2020 is architected & designed to deliver highquality performance consuming very low power. It is supported by a 1.4  $\mu$ m BSI pixel from **onsemi** and delivers excellent performance in lowlight & NIR wavelengths. The features of the AR2020 provides a powerful data capturing device at the edge that can be programmed through several options to deliver optimal bandwidth at very low power.

## Features

- Lowest Power Consumption among Comparable Offerings in the Industry
- Enhanced NIR Response in 850nm & 940nm Wavelength
- SmartROI
- Wake on Motion (WOM)
- Multiple Subsampling Modes - Binning, summing, Skipping, Windowing
- Multiple Functional Modes - Global Reset Release (GRR), Trigger, Context Switching
- enhanced Dynamic Range (eDR) & Line Interleaved HDR (LI-HDR) Modes

## Applications

- Videoconferencing
- Virtual & Augmented Reality
- Machine Vision
- Retail Analytics
- Biometrics

## End Products

- VC Endpoints, Webcam
- Video Doorbells
- AR/VR/XR Headsets
- Machine Vision Cameras
- Retail In-store Cameras

## Part Electrical Specifications

| Product                | Status | Compliance                                                                          | Type | Megapixels | Frame Rate (fps) | Optical Format | Shutter Type                                | Pixel Size (µm) | Output Interface | Color      | Package Type     | Case Outline | MSL Type | MSL Temp (°C) | Container Type | Container Qty. |
|------------------------|--------|-------------------------------------------------------------------------------------|------|------------|------------------|----------------|---------------------------------------------|-----------------|------------------|------------|------------------|--------------|----------|---------------|----------------|----------------|
| AR2020CSCC13 SMD20     | Active |    | CMOS | 20         | 60               | 1/1.8 inch     | Electronic Rolling and Global Reset Release | 1.4 x 1.4       | MIPI             | RGB        | -                |              | NA       | 0             | MTFRM          | 1              |
| AR2020CSCC13 SMD20-RC1 | Active |    | CMOS | 20         | 60               | 1/1.8 inch     | Electronic Rolling and Global Reset Release | 1.4 x 1.4       | MIPI             | RGB        | -                |              | NA       | 0             | MTFRM          | 1              |
| AR2020CSCC13 SMTA0-DP  | Active |    | CMOS | 20         | 60               | 1/1.8 inch     | Electronic Rolling and Global Reset Release | 1.4 x 1.4       | MIPI             | RGB        | PBG A78 13x1 0.5 | 117C V.PDF   | 4        | 245           | JTRAY          | 1330           |
| AR2020CSCC13 SMTA0-DP2 | Active |  | CMOS | 20         | 60               | 1/1.8 inch     | Electronic Rolling and Global Reset Release | 1.4 x 1.4       | MIPI             | RGB        | PBG A78 13x1 0.5 | 117C V.PDF   | 4        | 245           | JTRAY          | 50             |
| AR2020CSCC13 SMD20     | Active |  | CMOS | 20         | 60               | 1/1.8 inch     | Electronic Rolling and Global Reset Release | 1.4 x 1.4       | MIPI             | Monochrome | -                |              | NA       | 0             | MTFRM          | 1              |
| AR2020CSCC13 SMD20-RC1 | Active |  | CMOS | 20         | 60               | 1/1.8 inch     | Electronic Rolling and Global Reset Release | 1.4 x 1.4       | MIPI             | Monochrome | -                |              | NA       | 0             | MTFRM          | 1              |
| AR2020CSCC13 SMTA0-DP  | Active |  | CMOS | 20         | 60               | 1/1.8 inch     | Electronic Rolling and Global Reset Release | 1.4 x 1.4       | MIPI             | Monochrome | PBG A78 13x1 0.5 | 117C V.PDF   | 4        | 245           | JTRAY          | 1330           |

|                           |        |                                                                                   |          |    |    |               |                                                                                    |              |      |          |                           |                   |   |     |           |    |
|---------------------------|--------|-----------------------------------------------------------------------------------|----------|----|----|---------------|------------------------------------------------------------------------------------|--------------|------|----------|---------------------------|-------------------|---|-----|-----------|----|
| AR2020CSSM1<br>3SMTA0-DP2 | Active |  | CM<br>OS | 20 | 60 | 1/1.8<br>inch | Elec<br>troni<br>c<br>Rolli<br>ng<br>and<br>Glob<br>al<br>Rese<br>t<br>Rele<br>ase | 1.4 x<br>1.4 | MIPI | Mon<br>o | PBG<br>A78<br>13x1<br>0.5 | 117C<br>V.PD<br>F | 4 | 245 | JTR<br>AY | 50 |
|---------------------------|--------|-----------------------------------------------------------------------------------|----------|----|----|---------------|------------------------------------------------------------------------------------|--------------|------|----------|---------------------------|-------------------|---|-----|-----------|----|

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