



AR0431: CMOS Image Sensor, 4 MP, 1/3.2", Near Infra-Red Enhancement

The ON Semiconductor AR0431 is a stacked 1/3.2-inch BSI CMOS active -pixel digital image sensor with a pixel array of 2312H x 1746V. The AR0431 has been designed for IoT and security cameras. AR0431 can provide high quality imaging for both day and night lighting conditions perfect for security cameras. It has the ability to record at 120 fps delivering slow motion capable video which can use zoom and retain the resolution quality which is perfect for wearable devices.

Features

- 4 MP at 120 frames per second
- High linear full well
- Low power operation and special monitoring mode
- 1/3-inch optical format
- Sensor Synchronization
- Latest stacked pixel technology
- Near Infra-red enhancement

Benefits

- Slow Motion video capability
- Great natural dynamic range for challenging lighting conditions
- Power savings, heat savings while fully active or while always on.
- Standard compact sensor size to fit into many IoT type applications
- Allows for multiple camera synchronization for 360 degree cameras or longer range depth solutions
- Compact sensor size and leading color performance
- Save power and cost for using less NIR LEDs

Applications

- 4 MP CMOS Imaging sensor for consumer and industrial end products.

End Products

- IoT Camera
- Wearable Camera
- Security Camera
- AR/VR/MR Camera

| Product | Status | Compliance | Description | Package | | MSL* | Container | |
|----------------------------|--------|------------------------------------|--|----------|---|------|------------|------|
| | | | | Type | Case Outline | | Type | Qty. |
| AR0431CSSC14SMRA0- -DP | Active | Pb-free ----- Halide free | CMOS Image Sensor, 4 MP, 1/3.2", Near Infra-Red Enhancement, Color 14 Deg CRA mPLCC with Protective Film Tray | mPLCC-48 | 776A Z | 4 | Tray JEDEC | 2400 |
| AR0431CSSC14SMRA0- -DP1 | Active | Pb-free ----- Halide free | CMOS Image Sensor, 4 MP, 1/3.2", Near Infra-Red Enhancement, Color 14 Deg CRA mPLCC with Protective Film Tray Low MOQ | mPLCC-48 | 776A Z | 4 | Tray JEDEC | 240 |
| AR0431CSSC14SMRA0- -DR | Active | Pb-free ----- Halide free | CMOS Image Sensor, 4 MP, 1/3.2", Near Infra-Red Enhancement, Color 14 Deg CRA mPLCC with No Protective Film Tray | mPLCC-48 | 776A Z | 4 | Tray JEDEC | 2400 |
| AR0431CSSC14SMRA0- -DR1 | Active | Pb-free ----- Halide free | CMOS Image Sensor, 4 MP, 1/3.2", Near Infra-Red Enhancement, Color 14 Deg CRA mPLCC with No Protective Film Tray Low MOQ | mPLCC-48 | 776A Z | 4 | Tray JEDEC | 240 |

Moisture Sensitivity level (MSL) for surface mount devices (lead free measured at 260°C reflow, non lead free at 235°C reflow)

| Product | Compliance | Status | Description | Type | Megapixels | Frame Rate (fps) | Optical Format | Shutter Type | Pixel Size (µm) | Output Interface | Color | Package Type |
|-----------------------|-------------|--------|--|------|------------|------------------|----------------|--------------|-----------------|------------------|-------|--------------|
| AR0431C55C14SMRA0-DP | Pb-free | Active | CMOS Image Sensor, 4 MP, 1/3.2", Near Infra-Red Enhancement, Color 14 Deg CRA mPLCC with Protective Film Tray | CMOS | 4 | 120 | 1/3.2 inch | Rolling | 2.0 x 2.0 | MIPI | RGB | mPLCC-48 |
| | Halide free | | | | | | | | | | | |
| AR0431C55C14SMRA0-DP1 | Pb-free | Active | CMOS Image Sensor, 4 MP, 1/3.2", Near Infra-Red Enhancement, Color 14 Deg CRA mPLCC with Protective Film Tray Low MOQ | CMOS | 4 | 120 | 1/3.2 inch | Rolling | 2.0 x 2.0 | MIPI | RGB | mPLCC-48 |
| | Halide free | | | | | | | | | | | |
| AR0431C55C14SMRA0-DR | Pb-free | Active | CMOS Image Sensor, 4 MP, 1/3.2", Near Infra-Red Enhancement, Color 14 Deg CRA mPLCC with No Protective Film Tray | CMOS | 4 | 120 | 1/3.2 inch | Rolling | 2.0 x 2.0 | MIPI | RGB | mPLCC-48 |
| | Halide free | | | | | | | | | | | |
| AR0431C55C14SMRA0-DR1 | Pb-free | Active | CMOS Image Sensor, 4 MP, 1/3.2", Near Infra-Red Enhancement, Color 14 Deg CRA mPLCC with No Protective Film Tray Low MOQ | CMOS | 4 | 120 | 1/3.2 inch | Rolling | 2.0 x 2.0 | MIPI | RGB | mPLCC-48 |
| | Halide free | | | | | | | | | | | |

<https://www.onsemi.com/products/sensors/image-sensors-processors/image-sensors/ar0431/7-31-19>