



AE1702 ROIC

VGA Readout Integrated Circuit Digital Out

Attollo's AE1702 Readout Integrated Circuit (ROIC) is designed for SWIR focal plane arrays with a resolution of 640 x 512 pixels with a pitch of 5 microns. The small pixel pitch enables high-resolution imaging in a small form factor camera.

The AE1702 ROIC pixels use a Direct Injection (DI) circuit designed for P on N polarity diodes, operated in integrate then read (ITR) mode, and supports snapshot shutter and short integration times.

The ROIC is well-suited for SWIR applications using detector materials such as InGaAs and CQDs. Attollo can deposit customized metallization stacks for your application.

To shorten development time, Attollo also offers camera electronics. PC application software is also available.



Characteristics

- VGA: 640 x 512
- Pixel pitch: 5 μm
- Low power: 150 mW
- Snapshot shutter for fast moving images

Detector Materials

InGaAs

CQDs

Accessories

- Detector board for mounting ROIC
- Camera electronics with USB, Camera Link, or MIPI output
- SWIR lenses

Attollo ROICs are designed in our Camarillo, California facility and fabricated in US foundries. Attollo Engineering specializes in infrared imaging and laser sensing products and is AS9100 certified.

Specifications

AE1702 ROIC

Pixel Pitch	5 μm
Array Format	640 x 512
Detector Polarity	P-on-N (hole integration)
Die Size	6.5 mm x 6.8 mm
Exposure Time Control	Snapshot Shutter, or ITR
Minimum Integration Time	≤ 100 nsec
Charge Capacity	Programmable High gain: 40 ke^- Low gain: 230 ke^-
Input Referred Read Noise	High gain: 50 e^- Low gain: 80 e^-
Max Full Frame Rate	220 Hz
Minimum Window Size	1 row x 16 columns (frame rate scales with rows)
Output	Digital (LVDS)
Number of Output Channels	2 or 4 (programmable)
Master Clock	200 MHz (Max 300 MHz)
Power Supply	3.3V / 1.8V
Logic I/O Levels	0.0V / 3.3V
Nominal Operating Temperature	300K
Power Dissipation	100 mW (60 Hz)
Serial Interface	Modified SPI (no select line)
Die per Wafer (unyielded)	284

*The listed parameters are representative of an average device.
Individual ROIC performance may slightly deviate.*

Availability

Part Number (full wafer): RIC000507-3
Part Number (half wafer): RIC000507-2
Part Number (quarter wafer): RIC000507-1

Pricing information, contact Sales at:
sales@attolloengineering.com

Made in the USA



Attollo Engineering
160 Camino Ruiz
Camarillo, California
805-384-8046
www.attolloengineering.com
sales@attolloengineering.com

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