



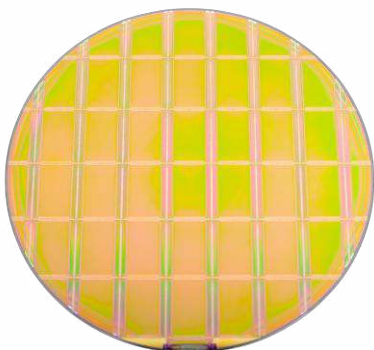
# SCI1920A ROIC

## HD(1080p) Readout Integrated Circuit Analog Out

Attollo's SCI1920A Readout Integrated Circuit (ROIC) is designed for SWIR focal plane arrays with a resolution of 1920 x 1080 pixels with a pitch of 15 microns. The small pixel pitch enables high-resolution imaging in a small form factor camera.

The SCI1920A ROIC pixels use a Capacitive Transimpedance Amplifier (CTIA) and can support readout of P on N or N on P photodiodes. Snapshot shutter exposure time control with integrate then read (ITR) or integrate while read (IWR) is supported. In ITR mode the pixel can be read out using Correlated Double Sampling (CDS) to achieve the best noise performance.

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.



### Characteristics

- HD: 1920 x 1080
- Pixel pitch: 15  $\mu\text{m}$
- Low noise: 25  $e^-$

### Detector Materials

InGaAs

CQDs

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

## SCI1920A ROIC

Pixel Pitch	15 $\mu\text{m}$
Array Format	1920 x 1080
Detector Polarity	P-on-N (hole integration)
Die Size	31.9 mm x 22.8 mm
Exposure Time Control	Snapshot Shutter, ITR, IWR, NDR
Minimum Integration Time	$\leq 10$ usec
Charge Capacity	Programmable High gain: 20 $\text{ke}^-$ Low gain: 750 $\text{ke}^-$
Input Referred Read Noise	High gain: 25 $\text{e}^-$ (ITR only) Low gain: 400 $\text{e}^-$
Max Full Frame Rate	60 Hz
Minimum Window Size	2 rows (centered)
Output	Analog
Number of Output Channels	8
Master Clock	$\leq 8$ MHz
Power Supply	3.3V / 1.8V
Logic I/O Levels	0.0V / 3.3V
Nominal Operating Temperature	300K
Power Dissipation	220 mW (8 outputs)
Serial Interface	Single serial word
Die per Wafer (unyielded)	25

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

## Availability

Part Number (full wafer): RIC005854-3  
Part Number (half wafer): RIC005854-2  
Part Number (quarter wafer): RIC005854-1

Pricing information, contact Sales at:  
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Made in the USA



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