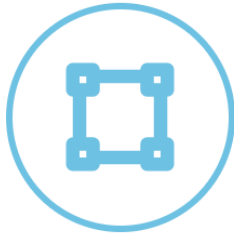


# Chameleon

## Smart Signal Capture Wizard



Offers Multiple Systems to Ease Capture of Sensor Data



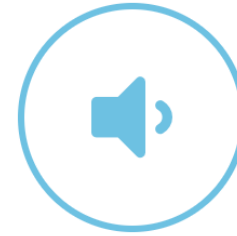
Allows Closed Loop DSP Around INA



6 Input (5xMultiplexer, One Ref Channel)



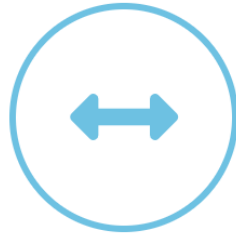
Linear Dimensions' proprietary PEAL Signal Processing



Low Noise INA with Digitally Programmed AGC



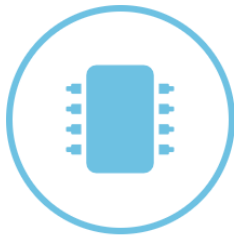
Extremely High CMRR



SPI Interface



Charge Pump to Maintain Input Range



Precision Analog Reference



10-bit ADC with Separate Enable/Fast Wakeup



Multichannel Sensor and Stimulus Subsystem



High Order Filter



150uV Maximum Offset Voltage



170uA Supply Current

# Chameleon

## Smart Signal Capture AFE



The AIS-339 Chameleon is an AFE designed to enable signal capture in difficult real-world environments. Baseline capture, common mode accelerated recapture, noise rejection, nuisance signal nulling, multi-order analog filtering, and an up to 3<sup>rd</sup> MFB filter with mHz bandpass low-end corner are example capabilities. The AIS339 is capable of nyquist rate sampling between multiple different sensor channels to emulate a multiple channel capability without repeating the cost of extra channels. The AIS339 will operate with a supply voltage as low as 2.7V up to 3.6V and is available in a 5×5 48-pin QFN package.

### KEY FEATURES

- Offers Multiple Systems to Ease Capture of Sensor Data:
  - Time constant accelerators
  - Multiple high CMR loops (>130db)
  - On board 3<sup>rd</sup> order MFB filter
  - Channel by Channel sample & holds
- Allows Closed Loop DSP Around INA
- 6 Input (5xMultiplexer, One Ref Channel)
  - Voltage mode or;
  - Transconductor mode
- INA tap for Standing or Periodic Signal nulling
- Low Noise INA with Digitally Programmed AGC
- SPI Interface
- Charge Pump to Maintain Input Range
- Precision Analog Reference
- 10-bit ADC with Separate Enable/Fast Wakeup
- 150uV Maximum Offset Voltage
- 170uA Supply Current

### APPLICATIONS

Optical PPG (Pulse)  
Electrical (ECG) Sensing  
Heart Rate  
Heart Rate Variability  
Heart/Muscle ID  
Reliability Monitoring  
Audio Monitoring

