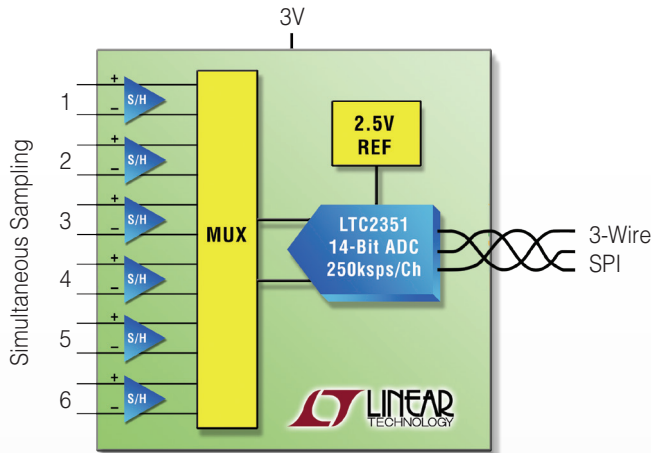# General Purpose SAR ADCs

LTC2351: 14-/12-Bit, 1.5Msps 6-Channel SAR ADC

Features

- 1.5Msps ADC with Six Simultaneously Sampled Inputs
- 75dB SINAD at 14 Bits
- 16.5mW Power Dissipation
- 0V to 2.5V Unipolar, or ±1.25V Bipolar Differential Input Range
- 32-Pin (5mm × 5mm) QFN Package

The LTC®2351 14-/12-bit SAR ADCs offer six simultaneously sampling inputs which can be configured to sample from one differential input at 1.5Msps to six differential inputs at 250ksps. With its low power, small package size and flexible differential inputs, the LTC2351 is ideal for a range of applications, including multiphase power measurement, multiphase motor control, data acquisition systems and uninterruptible power supplies.

LTC2356: 14-/12-Bit, 3.5Msps Bipolar/Unipolar SAR ADC
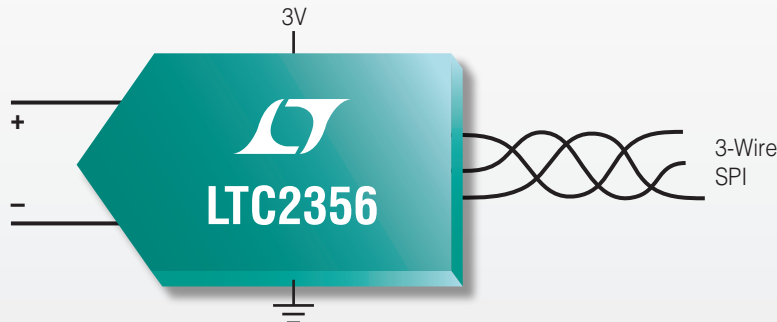
The LTC®2356 family offers 14-/12-bit resolution, 3.5Msps throughput, bipolar (LTC2356) or unipolar (LTC2355) inputs and a serial SPI interface. The unique combination of speed, low power, internal reference and small 10-pin MSOP package makes the LTC2356 family ideal for high speed, portable applications including communications, medical instrumentation and data acquisition.

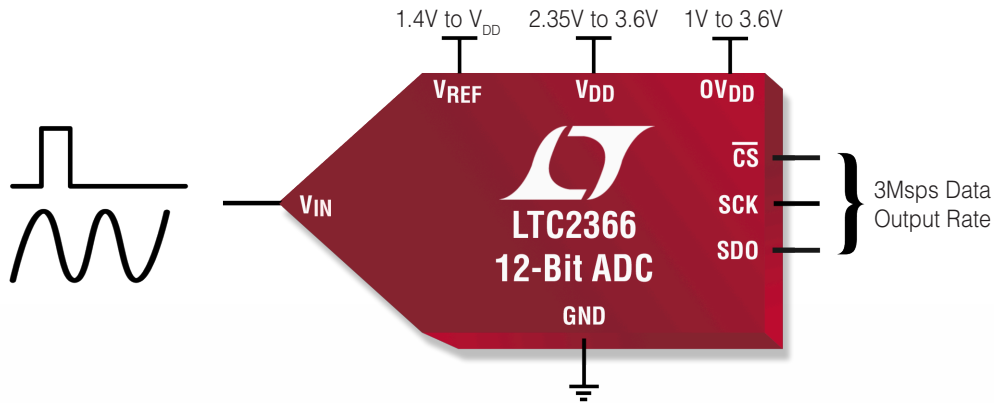| Resolution \ Input	0V to 2.5V Unipolar Input	±1.25V Bipolar Input
14-Bit	2355-14	2356-14
12-Bit	2355-12	2356-12

Features

- 3.5Msps Conversion Rate
- 74.1dB SINAD at 14 Bits
- 71.1dB SINAD at 12 Bits
- 18mW Power Dissipation
- 2.5V Internal Reference
- 10-Pin MSOP Package

LTC2366: 100ksps to 3Msps Pin-Compatible 12-Bit SAR ADCs

1.4V to V$_{DD}$ 2.35V to 3.6V   1V to 3.6V

V$_{REF}$ V$_{DD}$ OV$_{DD}$

V$_{IN}$

LTC2366
12-Bit ADC

$\overline{CS}$
SCK
SDO

} 3Msps Data Output Rate

GND

The LTC®2366 family of SAR ADCs offers sampling rates from 100ksps to 3Msps in pin-compatible 6- and 8-lead SOT-23 packages. With high impedance, single-ended analog inputs and the ability to operate with reduced spans, these ADCs can connect directly to sensors and transducers without the need for gain stages. The high sample-rate-to-power ratio makes these ADCs ideal for compact, low power, high speed systems.

Features
- 12-Bit Resolution
- Low Noise: 73dB SNR
- Single Supply: 2.35V to 3.6V
- Input Range: 0V to V$_{REF}$
- SPI/Microwire Compatible Serial I/O
- Guaranteed Operation: –40°C to 125°C
- 6-Lead and 8-Lead SOT-23 Packages

POWER

7mW				LTC2366
6mW			LTC2365	
3.3mW		LTC2362		
2.25mW	LTC2361			
1.5mW	LTC2360			

100ksps   250ksps   500ksps   1Msps   3Msps

SPEED
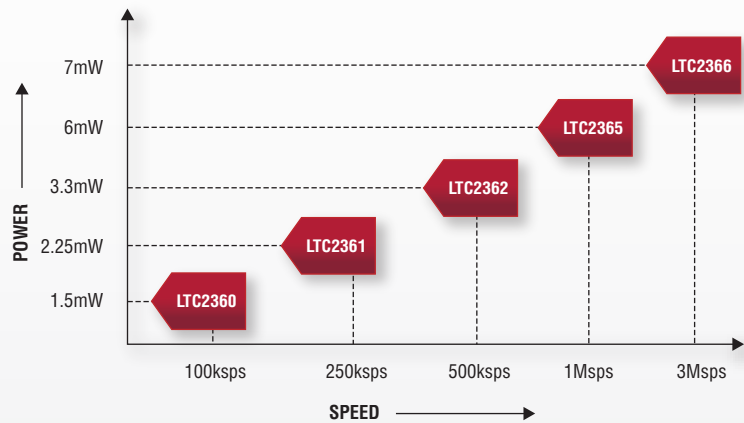
LTC2309: 12-Bit SAR ADCs with Serial SPI and I²C Interfaces

The LTC®2309 12-bit SAR ADC family offers throughput rates up to 500ksps with an SPI interface and up to 14ksps with an I²C interface. Featuring an 8-channel integrated multiplexer, these ADCs can measure up to 8 single-ended inputs, 4 differential inputs, or a combination of both. Operating from a 5V supply, they dissipate only 17mW at 500ksps and 1.5mW at 1ksps throughput.

Features
- 12-Bit Resolution
- ±1LSB INL and DNL
- 73dB SINAD
- 500ksps (SPI) or 14ksps (I²C) Throughput Rate
- Low Power Dissipation
- Unipolar or Bipolar Input
- 0V to 4.096V Unipolar or ±2.048V Bipolar Inputs

Interface	Resolution/ Speed	1-Channel Differential	2-Channel Single-Ended 1-Channel Differential	8-Channel Single-Ended 4-Channel Differential
SPI	12-Bit/ 500ksps	2302	2306	2308*
		3 × 3 DFN-10	3 × 3 DFN-10	4 × 4 QFN-24
I²C	12-Bit/ 14ksps	2301*	2305*	2309*
		4 × 3 DFN-12 MSOP-12	4 × 3 DFN-12 MSOP-12	4 × 4 QFN-24 TSSOP-20

*Internal Reference

LINEAR TECHNOLOGY