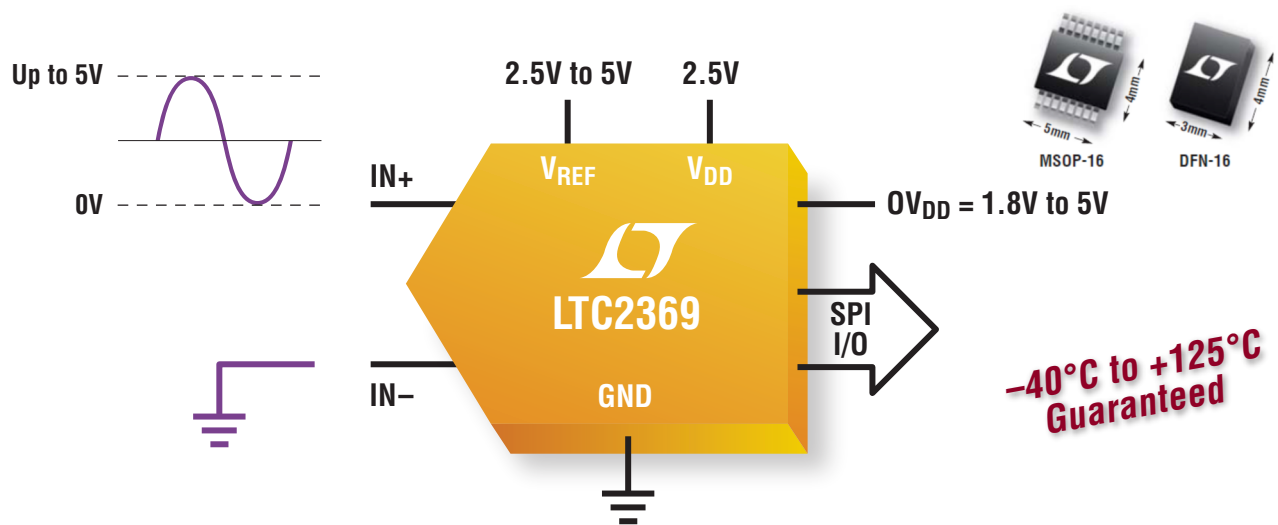


# 18-Bit, 1.6Mpsps Pseudo-Differential SAR ADC



## 96.5dB SNR Performance with 18mW Power Dissipation

The LTC<sup>®</sup>2369 family of 18- and 16-bit pseudo-differential SAR ADCs feature 96.5dB SNR at 18 bits and 94dB SNR at 16 bits from 250kpsps to 2Mpsps. The pseudo-differential input simplifies the ADC driver requirement and reduces cost, complexity and power in designs. The simple serial I/O with explicit Busy and Chain pins makes it easy to use. The small size, low power operation makes it a good choice for battery-operated and portable or compact ADC applications.

### Features

- 1.6Mpsps Throughput Rate
- 96.5dB SNR (Typ) at  $f_{IN} = 2\text{kHz}$
- $\pm 2.5\text{LSB}$  INL (Max),  $\pm 0.5\text{LSB}$  DNL (Max)
- $-120\text{dB}$  THD (Typ) at  $f_{IN} = 2\text{kHz}$
- Low Power: 18mW at 1.6Mpsps, 18 $\mu\text{W}$  at 1.6kpsps
- Pseudo-Differential Unipolar Input Range: 0V to  $V_{REF}$
- $-40^{\circ}\text{C}$  to  $125^{\circ}\text{C}$  Guaranteed Temperature Range
- Internal Conversion Clock
- 16-Lead MSOP and 4mm x 3mm DFN Packages

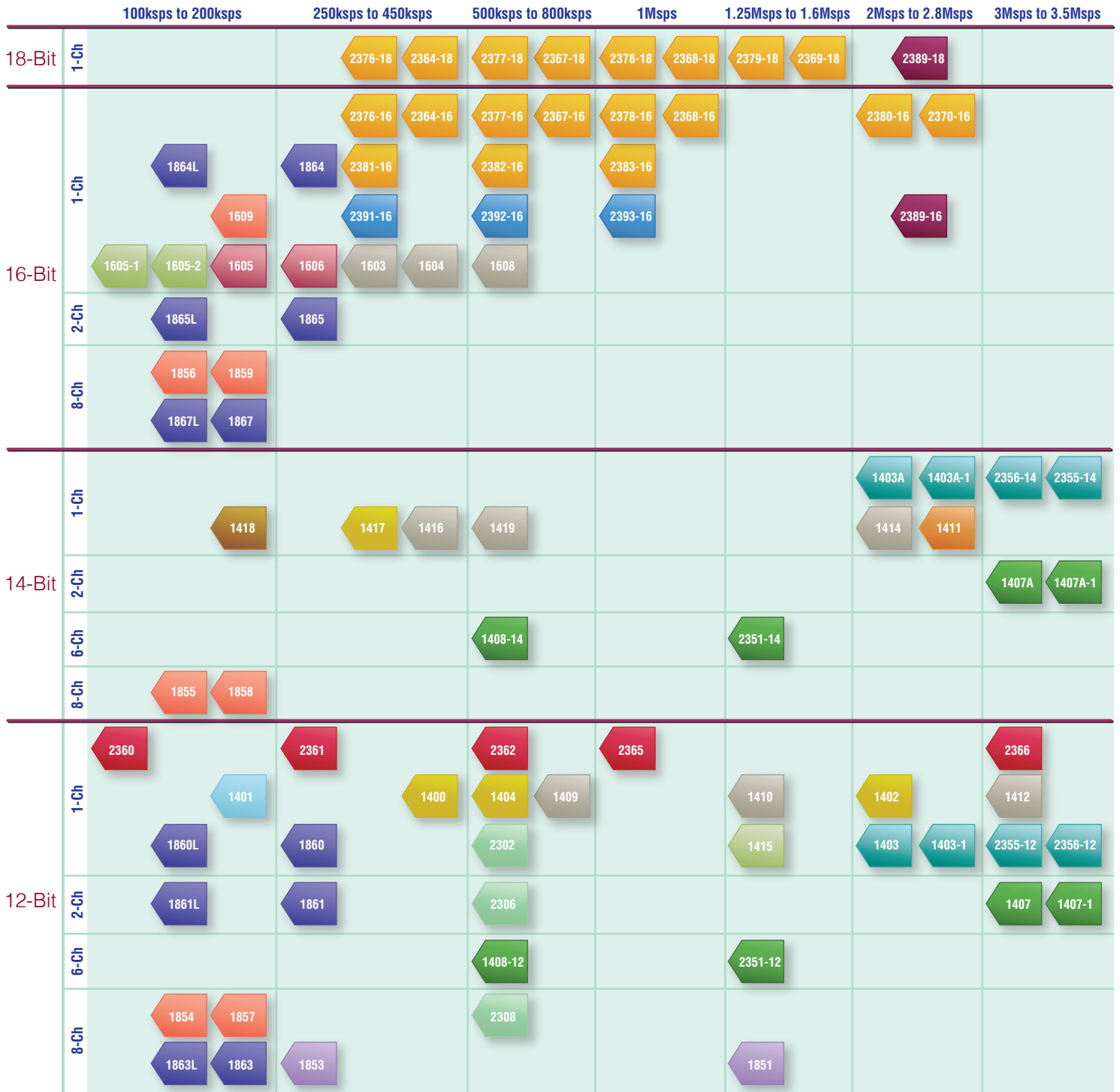
## Complete 18- and 16-Bit Pin-Compatible Fully/Pseudo-Differential SAR ADC Family

|                   |                                   | 250kpsps | 500kpsps | 1Mpsps  | 1.6Mpsps | 2Mpsps  |
|-------------------|-----------------------------------|----------|----------|---------|----------|---------|
| 18-Bit            | Fully Differential<br>101dB SNR   | 2376-18  | 2377-18  | 2378-18 | 2379-18  |         |
|                   | Pseudo-Differential<br>96.5dB SNR | 2364-18  | 2367-18  | 2368-18 | 2369-18  |         |
| 16-Bit            | Fully Differential<br>96dB SNR    | 2376-16  | 2377-16  | 2378-16 |          | 2380-16 |
|                   | Pseudo-Differential<br>94dB SNR   | 2364-16  | 2367-16  | 2368-16 |          | 2370-16 |
| Power Consumption |                                   | 3.4mW    | 6.8mW    | 13.5mW  | 18mW     | 19mW    |












# General Purpose SAR ADCs




12-Bit to 18-Bit Resolution, 100kps Up to 3.5Mps



### Serial

-  16- and 18-Bit 250kps to 2Mps Pin-Compatible ADCs
-  5V SPI ADCs in Tiny DFW/QFN
-  0V to 2.5V, ±1.25V Unipolar/Bipolar Input ADCs in MSOP-10
-  3V Pin-Compatible ADCs in TSOT-6/TSOT-8 Packages
-  0V to 4V, ±2V Unipolar/Bipolar Inputs with 5V, ±5V Supply
-  Simultaneous Sampling ADCs
-  ±10V Bipolar Input ADCs
-  0V to 2.048V Input, ADC in SO-8
-  3V/5V µPower ADCs

### Serial/Parallel

-  Pseudo- or Fully Differential Pin-Compatible ADCs
-  Fully Differential Pin-Compatible ADCs
-  0V to 4.096V, ±2.048V Unipolar/Bipolar Inputs with 5V or ±5V Supply

### Parallel

-  Bipolar ±10V Input ADCs
-  3V/5V µPower ADCs
-  0V to 4V, ±4V Unipolar/Bipolar Inputs with Single ±5V Supply
-  ±2.5V Bipolar Inputs with Single ±5V Supply
-  ±1.8V SoftSpan™ Input with 5V Supply