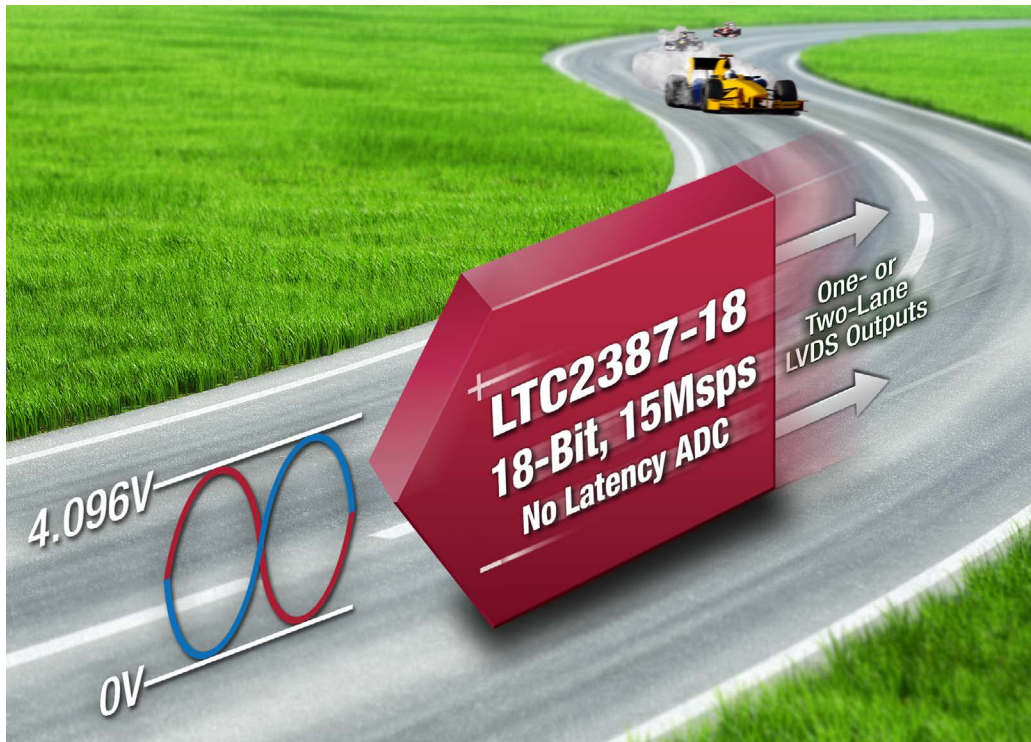


# 18-Bit, 15Mps SAR ADC with No Cycle Latency



## Nyquist Sampling with 95.7dB SNR at $f_{IN} = 1\text{MHz}$

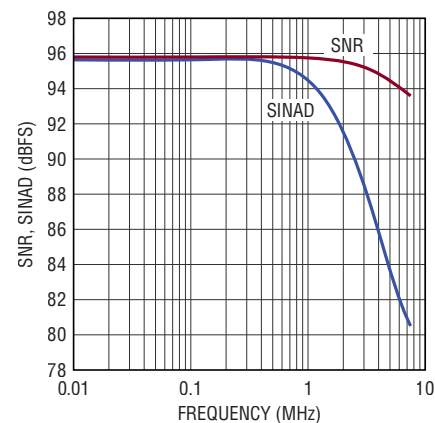
Introducing the ultrafast LTC<sup>®</sup>2387 18-bit and 16-bit SAR ADC family with industry-leading 15Mps throughput with no cycle latency and no pipeline delay. The LTC2387 digitizes wideband analog signals up to the Nyquist frequency with excellent linearity and wide dynamic range, making it an ideal fit for high speed imaging and instrumentation applications.

### Features

- 15Mps Throughput Rate with No Cycle Latency
- 95.7dB SNR and 102dB SFDR at  $f_{IN} = 1\text{MHz}$
- Nyquist Sampling Up to 7.5MHz Input
- $\pm 3\text{LSB}$  Maximum INL
- 8.192V<sub>P-P</sub> Differential Inputs
- Internal Reference with 20ppm/°C Max Drift
- One- or Two-Lane Serial LVDS Outputs
- 32-Pin 5mm × 5mm QFN Package

	5Mps	10Mps	15Mps
<b>18-Bit 96dB SNR</b>	2385-18	2386-18	2387-18
<b>16-Bit 94dB SNR</b>	2385-16	2386-16	2387-16
<b>Power</b>	78mW	97mW	125mW

### SNR, SINAD vs Input Frequency











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# High Precision SAR ADCs



16-Bit to 24-Bit Resolution, 100ksps Up to 15Msps

		100ksps to 200ksps	250ksps to 400ksps	500ksps to 600ksps	1Msps	1.6Msps	2Msps to 5Msps	10Msps	15Msps
24-Bit	1-Ch				2368-24		2380-24		
20-Bit	1-Ch		2376-20	2377-20	2378-20				
18-Bit	1-Ch	2336-18, 2326-18	2376-18, 2364-18	2337-18, 2327-18	2338-18, 2328-18	2378-18, 2368-18	2379-18, 2389-18	2385-18, 2386-18	2387-18
	2-Ch								
	4-Ch		2347-18*						
	8-Ch	2348-18		2372-18	2373-18				
16-Bit	1-Ch	1864L, 1609, 1605-1, 1605, 1605-2	2326-16, 1864, 1606, 1603, 2376-16, 2364-16, 2391-16, 1604, 1608	2327-16, 2377-16, 2367-16, 2392-16, 1608	2328-16, 2378-16, 2393-16, 2368-16		2380-16, 2370-16, 2389-16, 2310-16, 2311-16	2385-16, 2386-16	2387-16
	2-Ch	1865L	1865		2343-16*		2321-16, 2323-16		
	4-Ch			2347-16*					
	8-Ch	2348-16, 1856, 1859, 1867L, 1867		2372-16	2373-16				




## Serial

-  Pseudo- or Fully Differential  $\pm 5V$  Input ADCs
-   $\pm 10V$  True Bipolar Inputs
-  8-Channel MUX'd Input ADCs
-  High Speed, Wideband ADCs
-  3V/5V Supply  $\mu$ Power ADCs
-  Wide Input Common Mode ADCs
-   $\pm 10V$  SoftSpan™ Simultaneous Sampling ADCs
-  24-Bit ADCs with Digital Averaging Filter

## Serial/Parallel

-  Pseudo- or Fully Differential  $\pm 4.096V$  Input ADCs
-  Fully Differential  $\pm 4.096V$  Input ADCs

## Parallel

-   $\pm 10V$  True Bipolar Inputs
-  0V to 4V,  $\pm 4V$  Unipolar/True Bipolar Inputs
-   $\pm 2.5V$  True Bipolar Inputs

\*Future Product