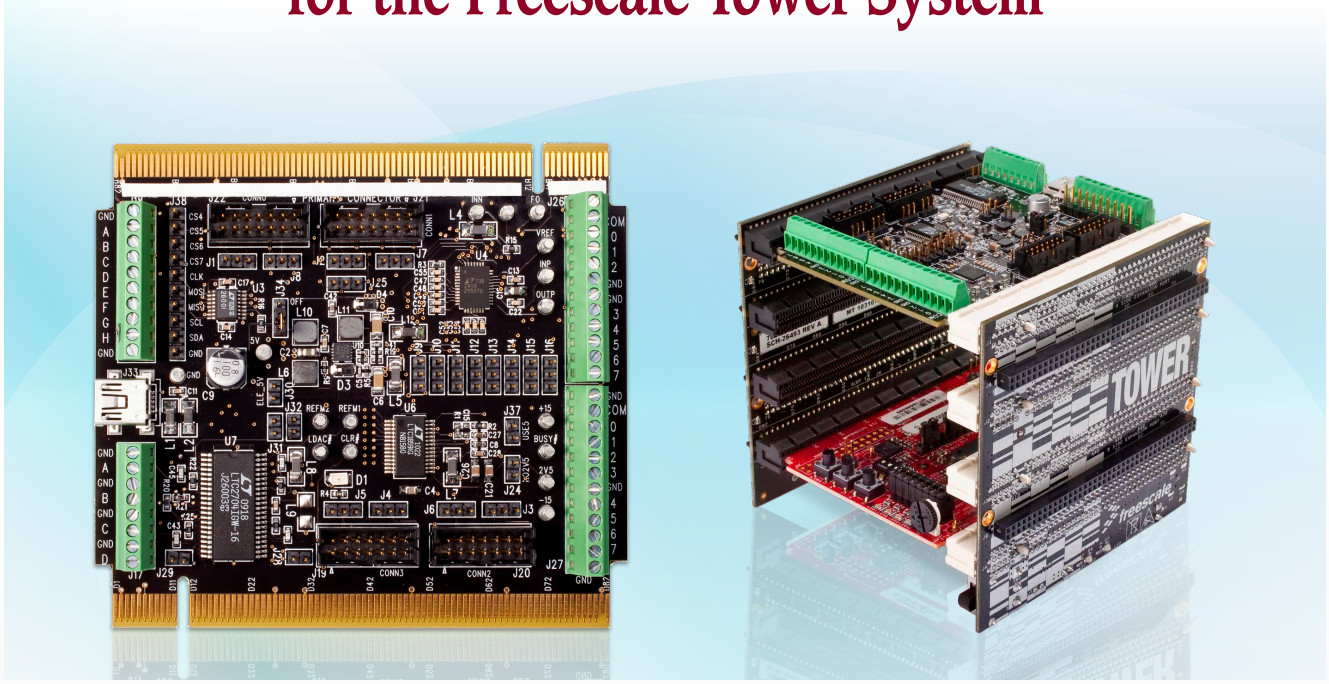
Linear Technology Analog Playground Module
for the Freescale Tower System



Quickly evaluate Linear Technology data converters and other mixed signal solutions with the Freescale Tower System. The easy-to-use plug-in analog module (TWR-ADCDAC-LTC) expands the capabilities of the Freescale Tower System. It's a complete solution with a high precision analog peripheral module controllable by any Freescale Tower processor module with an SPI interface. The QuikEval™ interface on the analog module allows connection of more than 130 Linear Technology evaluation boards with the Freescale Tower processor for a broad range of applications.

TWR-ADCDAC-LTC Features

- Digital-to-Analog Converters (DACs)
  - LTC®2704-16: Quad 16-Bit V_{OUT} SoftSpan™ DAC with Readback
  - LTC2600: Octal 16-Bit Rail-to-Rail DACs
- Analog-to-Digital Converters (ADCs)
  - LTC1859: 8-Channel, 16-Bit, 100ksps SoftSpan ADC with Shutdown
  - LTC2498: 24-Bit 8-/16-Channel ΔΣ ADC with Easy Drive™ Input Current Cancellation
- Voltage Regulator
  - LTC3471: Dual 1.3A, 1.2MHz Boost/Inverter
- Voltage Reference
  - LTC6655-5: 0.25ppm Noise, Low Drift Precision Buffered 5V Reference
- Four 14-Pin Headers for Connecting to any Linear Technology QuikEval Demonstration Boards
- Demos/Applications Include:

ADC Data Logger/DAC Waveform Generator

Thermocouple Reader

Applications

- Data Acquisition
- Instrumentation
- Temperature Measurement
- Industrial Process
- Medical
- Weight Scales

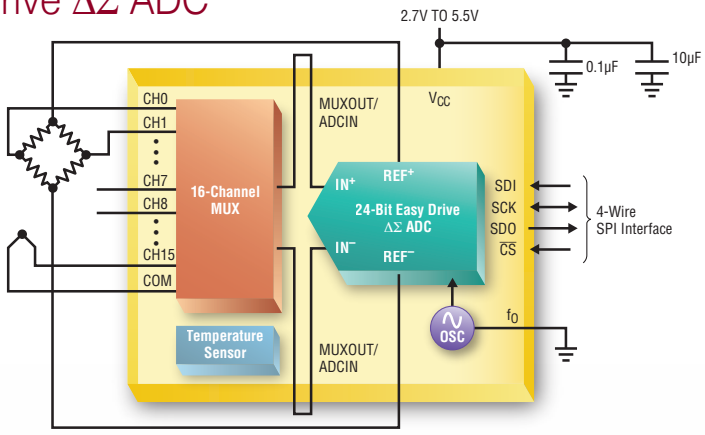
LINEAR TECHNOLOGY

freescale semiconductor

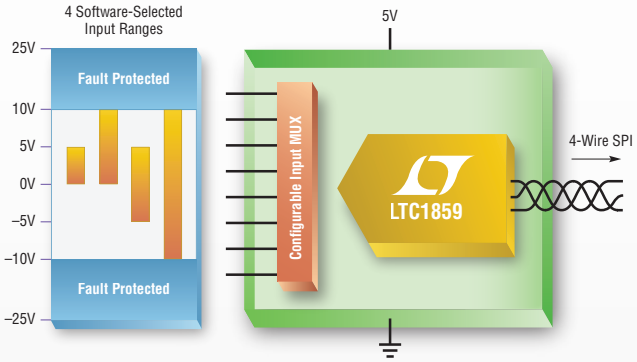
LTC2498: 24-Bit, 16-Channel Easy Drive ΔΣ ADC

Features

- 8 Differential/16 Single-Ended Input Channels
- Easy Drive Technology Enables Rail-to-Rail Inputs with Zero Differential Current
- Directly Digitizes High Impedance Sensors with Full Accuracy
- 600nV$_{RMS}$ Noise
- Internal Temperature Sensor (2°C Maximum), Internal Oscillator
- Selectable 50Hz, 60Hz Rejection, Up to 15Hz Output Rate



LTC1859: 8-Channel, 16-Bit, 100ksps SoftSpan A/D Converter with Shutdown



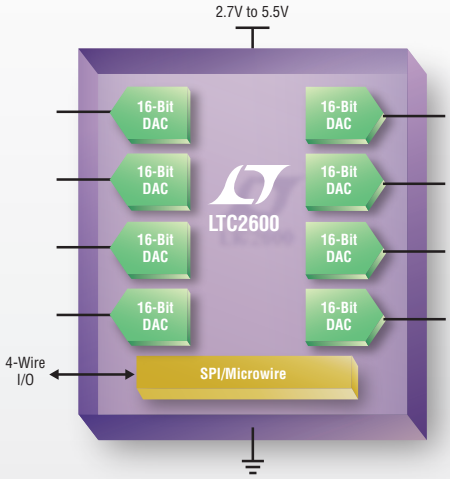
Features

- 8-Channel Multiplexer with ±25V Protection
- Software-Programmable Input Ranges: 0V to 5V, 0V to 10V, ±5V or ±10V, Single-Ended or Differential
- Power Dissipation: 40mW (Typ)
- SPI/MICROWIRE Compatible Serial I/O
- Signal-to-Noise Ratio: 87dB (Typ)

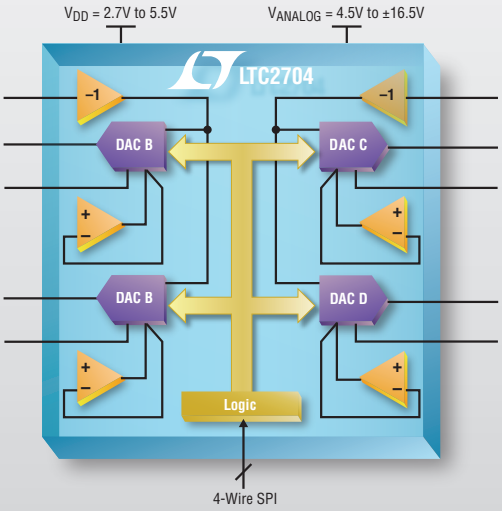
LTC2600: Octal 16-Bit Rail-to-Rail DACs

Features

- Guaranteed 16-Bit Monotonic Over Temperature
- Low Power Operation: 250µA per DAC at 3V
- Individual Channel Power-Down to 1µA, Max
- Ultralow Crosstalk Between DACs (<10µV)
- High Rail-to-Rail Output Drive (±15mA, Min)
- Double-Buffered Digital Inputs



Quad 12-, 14- and 16-Bit Voltage Output SoftSpan DACs with Readback



Features

- Six Programmable Output Ranges
- Unipolar: 0V to 5V, 0V to 10V
- Bipolar: ±5V, ±10V, ±2.5V, –2.5V to 7.5V
- Serial Readback of All On-Chip Registers
- 1LSB INL and DNL Over the Industrial Temperature Range (LTC2704-14/LTC2704-12)
- Force/Sense Outputs Enable Remote Sensing
- Glitch Impulse: < 2nV per Second
- Outputs Drive ±5mA