Analog Devices, Inc. rozšíril ponuku precíznych analógových mikrokontrolérov ADuC o ďalšie tri kúsky.
Ide o ADuC7023, ADuC7060 a ADuC7061.

Rodina MCU ADuC7xxx obsahuje ARM7TDMI® jadro, pričom sa ďalej líšia analógovým vybavením.
ADuC7023 využíva 12-bitové analógové periférie (ADC, DAC)
ADuC706x sú som svojím 8kSPS, 24-bitovým, viackanálovým sigma-delta (Σ-Δ) AD prevodníkom, určené na meranie a zber dát.

ADuC7023
Vlastnosti

- Analog I/O
  -Multichannel, 12-bit, 1 MSPS ADC; Up to 12 ADC channels
  -Fully differential and single-ended modes
  -0 V to VREF analog input range
  -12-bit voltage output DACs; 4 DAC outputs available
  -On-chip voltage reference
  -On-chip temperature sensor
  -Voltage comparator

- Microcontroller
  -ARM7TDMI core, 16-bit/32-bit RISC architecture
  -JTAG port supports code download and debug

- Clocking options
  -Trimmed on-chip oscillator (±3%)
  -External watch crystal
  -External clock source up to 44 MHz
  -41.78 MHz PLL with programmable divider

- Memory
  -62 kB Flash/EE memory, 8 kB SRAM
  -In-circuit download, JTAG-based debug
  -Software-triggered in-circuit reprogrammability

- Vectored interrupt controller for FIQ and IRQ
  -8 priority levels for each interrupt type
  -Interrupt on edge or level external pin inputs

- On-chip peripherals
  -2× fully I2C-compatible channels
  -SPI (20 Mbps in master mode, 10 Mbps in slave mode); With 4-byte FIFO on input and output stages
  -Up to 20 GPIO pins; All GPIOs are 5 V tolerant
  -3× general-purpose timers; Watchdog timer (WDT)
  -Programmable logic array (PLA); 16 PLA elements
  -16-bit, 5-channel PWM

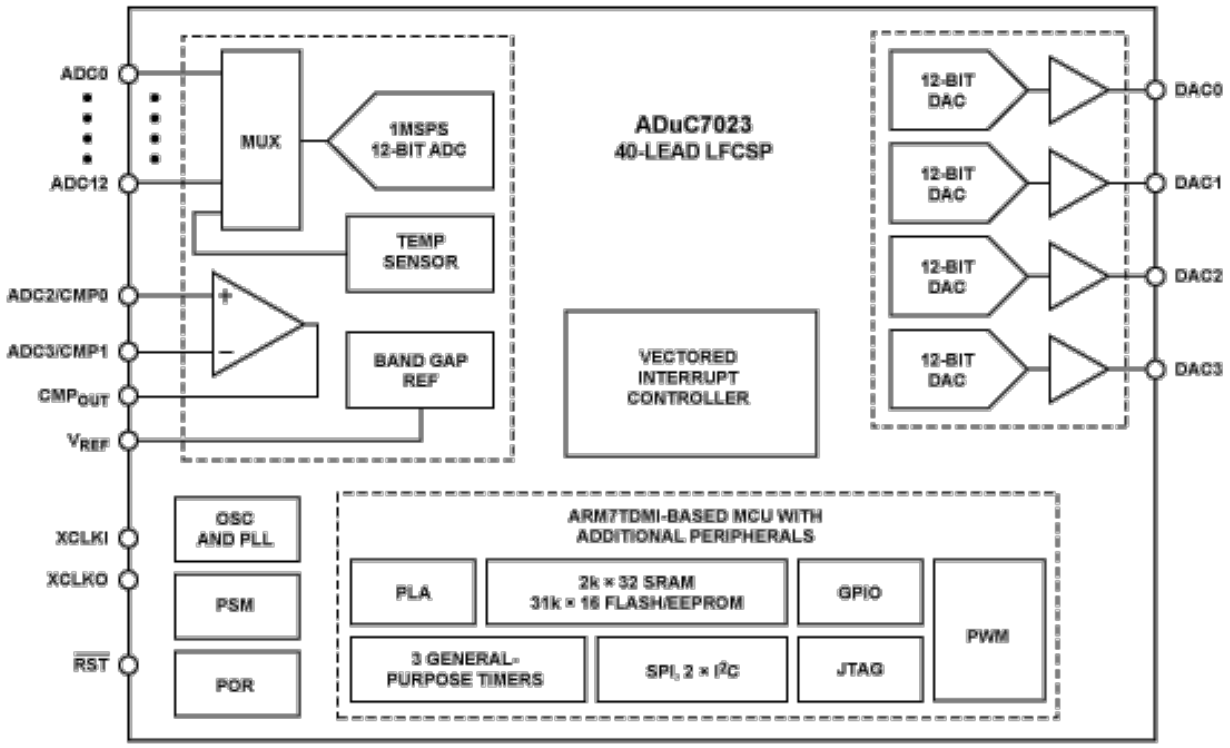
- Power
  -Specified for 3 V operation
  -Active mode: 11 mA at 5 MHz, 28 mA at 41.78 MHz

- Packages and temperature range
  -32-lead 5 mm × 5 mm LFCSP
  -40-lead LFCSP

- Fully specified for −40°C to +125°C operation

- Tools
  -Low cost QuickStart development system
  -Full third-party support

Blokové zapojenie



ADuC706x

Vlastnosti

- Analog input/output
  -Dual (24-bit) ADCs
  -Single-ended and differential inputs
  -Programmable ADC output rate (4 Hz to 8 kHz)
  -Programmable digital filters
  -Built-in system calibration
  -Low power operation mode
  -Primary (24-bit) ADC channel: 2 differential pairs or 4 single-ended channels; PGA (1 to 512) input stage; Selectable input range: ±2.34 mV to ±1.2 V; 30 nV rms noise
  - Auxiliary (24-bit) ADC: 4 differential pairs or 7 single-ended channels
  -On-chip precision reference (±10 ppm/°C)
  -Programmable sensor excitation current sources: 200 µA to 2 mA current source range
  -Single 14-bit voltage output DAC

- Microcontroller
  -ARM7TDMI core, 16-/32-bit RISC architecture
  -JTAG port supports code download and debug
  -Multiple clocking options

- Memory:
  -32 kB (16 kB × 16) Flash/EE memory, including 2 kB kernel
  -4 kB (1 kB × 32) SRAM

- Tools
  -In-circuit download, JTAG based debug
  -Low cost, QuickStart™ development system

- Communications interfaces
  - SPI interface (5 Mbps); 4-byte receive and transmit FIFOs
  - UART serial I/O and I2C (master/slave)

- On-chip peripherals: 4× general-purpose (capture) timers including; Wake-up timer; Watchdog timer
- Vectored interrupt controller for FIQ and IRQ; 8 priority levels for each interrupt type; Interrupt on edge or level external pin inputs
- 16-bit, 6-channel PWM

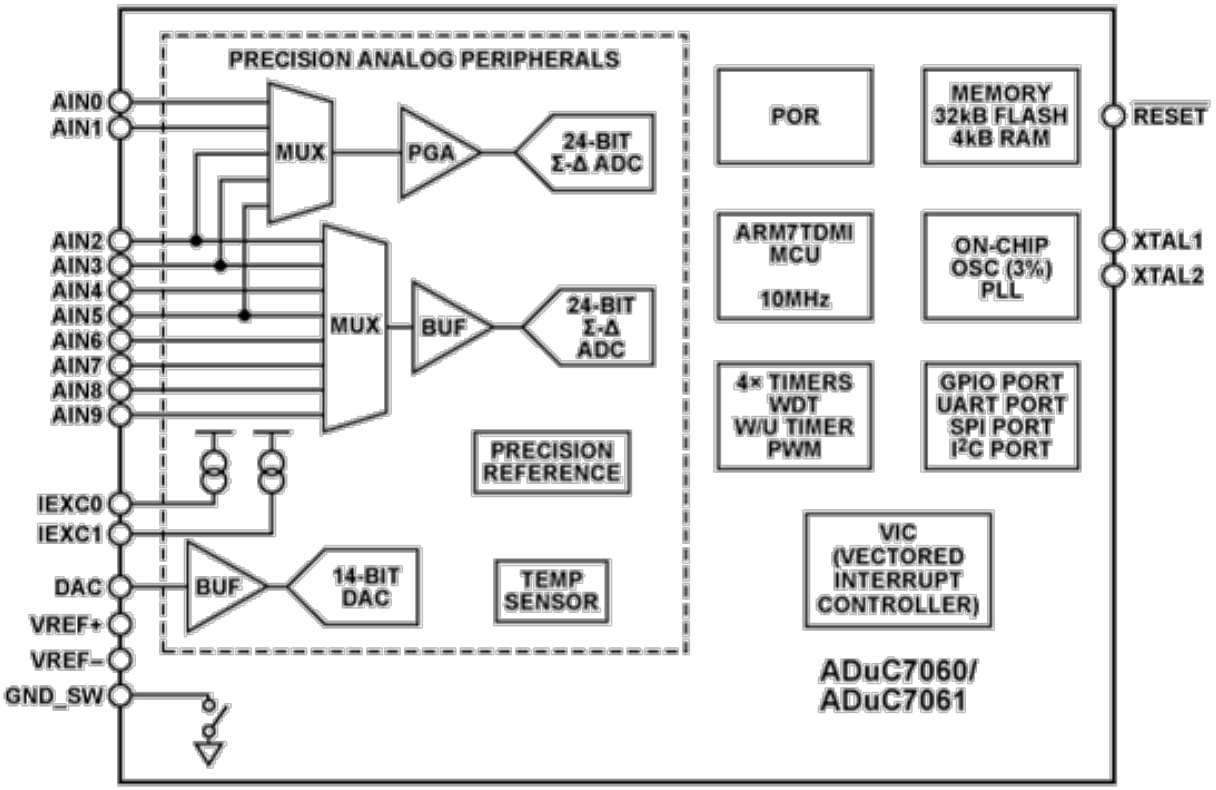
- General-purpose inputs/outputs
- Up to 14 GPIO pins that are fully 3.3 V compliant

- Power
-AVDD/DVDD specified for 2.5 V (±5%)
-Active mode: 2.74 mA (@ 640 kHz, ADC0 active)
-10 mA (@ 10.24 MHz, both ADCs active)

- Packages and temperature range
-Fully specified for −40°C to +125°C operation
-32-lead LFCSP (5 mm × 5 mm)
-48-lead LFCSP and LQFP

- Derivatives
-32-lead LFCSP (ADuC7061)
-48-lead LQFP and 48-lead LFCSP (ADuC7060)

Blokové zapojenie



Cena

ADuC7023 začína od 4.59 USD (@100 ks)
ADuC7060 začína od 5.45 USD (@100 ks)
ADuC7061 začína od 4.00 USD (@100 ks)

Odkazy

ADuC7023 Homepage
ADuC7060 Homepage
ADuC7061 Homepage

ADuC7023 Datasheet
ADuC7060, ADuC7061 Datasheet

Distribúcia
viď. Adresár