

LM3S5000 Series Block Diagram. This block diagram shows the superset of features for the LM3S5000 series of microcontrollers.

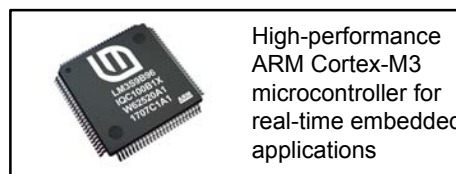
Product Features

- ARM® Cortex™-M3 Processor Core
 - 80-MHz operation; 100 DMIPS performance
 - ARM Cortex SysTick Timer
 - Nested Vectored Interrupt Controller (NVIC)
- On-Chip Memory
 - 128 KB single-cycle Flash memory
 - 24 KB single-cycle SRAM
 - Internal ROM loaded with StellarisWare® software:
 - Stellaris® Peripheral Driver Library
 - Stellaris® Boot Loader
- Advanced Serial Integration
 - 10/100 Ethernet MAC with Media Independent Interface (MII)
 - CAN 2.0 A/B controller
 - USB 2.0 Device
 - Three UARTs with IrDA and ISO 7816 support (one UART with full modem controls)
 - Two I²C modules
 - Two Synchronous Serial Interface modules (SSI)
- System Integration
 - Direct Memory Access Controller (DMA)
 - System control and clocks including on-chip precision 16-MHz oscillator
 - Three 32-bit timers (up to six 16-bit)

- Six Capture Compare PWM pins (CCP)
- Lower-power battery-backed hibernation module
- Real-Time Clock
- Two Watchdog Timers
 - One timer runs off the main oscillator
 - One timer runs off the precision internal oscillator
- Up to 67 GPIOs, depending on configuration
 - Highly flexible pin muxing allows use as GPIO or one of several peripheral functions
 - Independently configurable to 2, 4 or 8 mA drive capability
 - Up to 4 GPIOs can have 18 mA drive capability
- Advanced Motion Control
 - Six advanced PWM outputs for motion and energy applications
 - Four fault inputs to promote low-latency shutdown
 - Two Quadrature Encoder Inputs (QEI)
- Analog
 - Two 10-bit Analog-to-Digital Converters (ADC) with sixteen analog input channels and sample rate of one million samples/second
 - Two analog comparators
 - 16 digital comparators
 - On-chip voltage regulator
- JTAG and ARM Serial Wire Debug (SWD)
- 100-pin LQFP package
- Industrial (-40°C to 85°C) Temperature Range

Target Applications

- Motion control
- Factory automation
- Fire and security
- HVAC and building control
- Transportation
- Test and measurement equipment
- Remote monitoring
- Electronic point-of-sale (POS) machines
- Network appliances and switches
- Gaming equipment



High-performance ARM Cortex-M3 microcontroller for real-time embedded applications

Ordering Information

Orderable Part Number	Description
LM3S5K31-IQC80-C0	Stellaris® LM3S5K31 Microcontroller Industrial Temperature 100-pin LQFP
LM3S5K31-IQC80-C0T	Stellaris® LM3S5K31 Microcontroller Industrial Temperature 100-pin LQFP Tape-and-reel

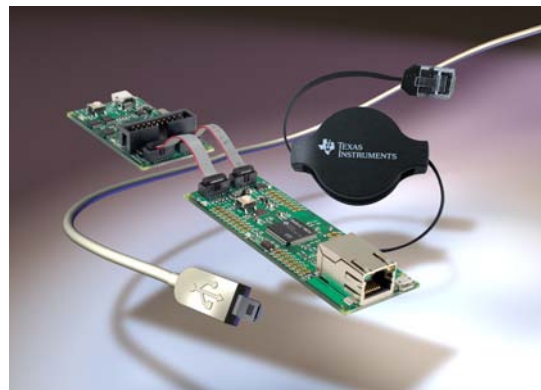
Development Kit

The Stellaris® LM3S9B96 Development Kit provides the hardware and software tools that engineers need to begin development quickly. Ask your distributor for part number DK-LM3S9B96. See the website for the latest tools available.



Evaluation Kit

The Stellaris® LM3S9B90 and LM3S9B92 Ethernet and USB-OTG Evaluation Kits provide the hardware and software tools to speed development using the LM3S9B90 and LM3S9B92 microcontrollers' integrated USB Full-Speed OTG port and 10/100 Ethernet controllers. Ask your distributor for part number EKK-LM3S9B90 or EKK-LM3S9B92 (ARM RealView® MDK tools), EKI-LM3S9B90 or EKI-LM3S9B92 (IAR Embedded Workbench® tools), EKC-LM3S9B90 or EKC-LM3S9B92 (CodeSourcery Sourcery G++ tools), or EKT-LM3S9B90 or EKT-LM3S9B92 (Code Red Technologies Red Suite tools). See the website for the latest tools available.



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