



LM3S9000 Series Block Diagram. This block diagram shows the superset of features for the LM3S9000 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
 - 512 KB single-cycle Flash memory up to 50 MHz; a prefetch buffer improves performance above 50 MHz
 - 96 KB single-cycle SRAM
 - Internal ROM loaded with StellarisWare® software:
 - Stellaris® Peripheral Driver Library
 - Stellaris Boot Loader
 - Advanced Encryption Standard (AES) cryptography tables
 - Cyclic Redundancy Check (CRC) error detection functionality
- External Peripheral Interface (EPI)
 - 8/16/32-bit dedicated parallel bus for external peripherals
 - Supports SDRAM, SRAM/Flash memory, FPGAs, CPLDs
- Advanced Serial Integration
 - 10/100 Ethernet MAC and PHY with IEEE 1588 PTP hardware support
 - Two CAN 2.0 A/B controllers
 - USB 2.0 OTG/Host/Device
 - Three UARTs with IrDA and ISO 7816 support (one UART with modem flow control and status)

- Two I²C modules
- Two Synchronous Serial Interface modules (SSI)
- Integrated Interchip Sound (I²S) module
- System Integration
 - Direct Memory Access Controller (DMA)
 - System control and clocks including on-chip precision 16-MHz oscillator
 - Four 32-bit timers (up to eight 16-bit), with real-time clock capability
 - Eight Capture Compare PWM pins (CCP)
 - Two Watchdog Timers
 - One timer runs off the main oscillator
 - One timer runs off the precision internal oscillator
 - Up to 65 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
 - Eight advanced PWM outputs for motion and energy applications
 - Four fault inputs to promote low-latency shutdown
 - Two Quadrature Encoder Inputs (QEI)
- Analog
 - Two 12-bit Analog-to-Digital Converters (ADC) with 16 analog input channels and a sample rate of one million samples/second
 - Three analog comparators
 - 16 digital comparators
 - On-chip voltage regulator
- JTAG and ARM Serial Wire Debug (SWD)
- 100-pin LQFP package
- 108-ball BGA package
- Industrial (-40°C to 85°C) Temperature Range

Target Applications

- Motion control
- Factory automation
- Fire and security
- HVAC and building control
- Power and energy
- Transportation
- Test and measurement equipment
- Medical instrumentation
- 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
LM3S9D92-IQC80-A2	Stellaris LM3S9D92 Microcontroller Industrial Temperature 100-pin LQFP
LM3S9D92-IBZ80-A2	Stellaris LM3S9D92 Microcontroller Industrial Temperature 108-ball BGA
LM3S9D92-IQC80-A2T	Stellaris LM3S9D92 Microcontroller Industrial Temperature 100-pin LQFP Tape-and-reel
LM3S9D92-IBZ80-A2T	Stellaris LM3S9D92 Microcontroller Industrial Temperature 108-ball BGA Tape-and-reel

Development Kit

The Stellaris LM3S9D96 Development Kit provides the hardware and software tools that engineers need to begin development quickly. Ask your distributor for part number DK-LM3S9D96. See the website for the latest tools available.



Evaluation Kit

The Stellaris LM3S9D90 and LM3S9D92 Ethernet and USB-OTG Evaluation Kits provide the hardware and software tools to speed development using the LM3S9D90 and LM3S9D92 microcontrollers' integrated USB Full-Speed OTG port and 10/100 Ethernet controllers. Ask your distributor for part number EKK-LM3S9D90 or EKK-LM3S9D92 (ARM RealView[®] MDK tools), EKI-LM3S9D90 or EKI-LM3S9D92 (IAR Embedded Workbench[®] tools), EKC-LM3S9D90 or EKC-LM3S9D92 (Sourcery CodeBench tools), EKT-LM3S9D90 or EKT-LM3S9D92 (Code Red Technologies Red Suite tools), or EKS-LM3S9D90 or EKS-LM3S9D92 (Texas Instruments' Code Composer Studio[™] IDE). See the website for the latest tools available.



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Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
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