

**LM3S6000 Series Block Diagram.** This block diagram shows the superset of features for the LM3S6000 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
  - 64 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
- Advanced Serial Integration
  - 10/100 Ethernet MAC and PHY
  - Three UARTs with IrDA and ISO 7816 support (one UART with modem flow control and status)
  - Two I<sup>2</sup>C modules
  - Synchronous Serial Interface module (SSI)
- 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)
  - Eight Capture Compare PWM pins (CCP)
  - Lower-power battery-backed hibernation module

- Real-Time Clock in Hibernation module
- Two Watchdog Timers
  - One timer runs off the main oscillator
  - One timer runs off the precision internal oscillator
- Up to 46 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 12-bit Analog-to-Digital Converters (ADC) with 16 analog input channels and a 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
- 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
- Test and measurement equipment
- Medical instrumentation
- Remote monitoring
- Electronic point-of-sale (POS) machines
- Network appliances and switches
- Gaming equipment





## Ordering Information

Orderable Part Number	Description
LM3S6C65-IQC80-A2	Stellaris LM3S6C65 Microcontroller Industrial Temperature 100-pin LQFP
LM3S6C65-IBZ80-A2	Stellaris LM3S6C65 Microcontroller Industrial Temperature 108-ball BGA
LM3S6C65-IQC80-A2T	Stellaris LM3S6C65 Microcontroller Industrial Temperature 100-pin LQFP Tape-and-reel
LM3S6C65-IBZ80-A2T	Stellaris LM3S6C65 Microcontroller Industrial Temperature 108-ball BGA Tape-and-reel

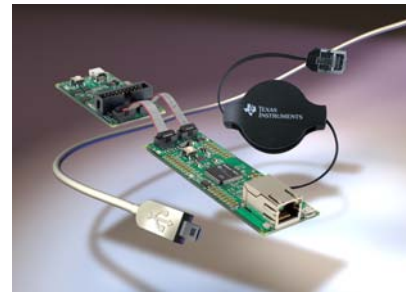
## Development Kit

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<sup>®</sup> MDK tools), EKI-LM3S9D90 or EKI-LM3S9D92 (IAR Embedded Workbench<sup>®</sup> 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<sup>™</sup> IDE). See the website for the latest tools available.



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