



LM3S8000 Series Block Diagram. This block diagram shows the superset of features for the LM3S8000 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
 - CAN 2.0 A/B controller
 - Two UARTs with IrDA and ISO 7816 support (one UART with modem flow control and status)
 - I²C module
 - 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
- Transportation
- Test and measurement equipment
- Medical instrumentation
- Remote monitoring
- Electronic point-of-sale (POS) machines
- Network appliances and switches
- Gaming equipment



LM3S8C62 Microcontroller

STELLARIS®
microcontrollers

Ordering Information

Orderable Part Number	Description
LM3S8C62-IQC80-A2	Stellaris LM3S8C62 Microcontroller Industrial Temperature 100-pin LQFP
LM3S8C62-IBZ80-A2	Stellaris LM3S8C62 Microcontroller Industrial Temperature 108-ball BGA
LM3S8C62-IQC80-A2T	Stellaris LM3S8C62 Microcontroller Industrial Temperature 100-pin LQFP Tape-and-reel
LM3S8C62-IBZ80-A2T	Stellaris LM3S8C62 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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PB-LM3S8C62-00
July 05, 2011



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