Control + Automation MCUs
TM4C12x Family

Texas Instruments

TM4C12x Overview

TI's TM4C12x MCUs offer the industry's most popular ARM® Cortex®-M4 core with scalable memory and package options, unparalleled connectivity peripherals, and advanced analog integration. From Ethernet connectivity to basic UARTs, the TM4C12x MCUs offer a variety of solutions for networking, displays, sensor hubs, industrial automation, and much more.

Connect

Providing unparalleled point-to-point connectivity features with four SSI/ SPI, up to 10 I2C, eight UARTs, and USB On-The-Go/Host/Device, the TM4C12x provides an excellent baseline for home, building, and industrial applications. TM4C12x MCUs enable customers an opportunity to increase their connectivity integration without sacrificing price, performance, and power consumption.

Communicate

TM4C12x MCUs provide multiple network and communication peripherals, including two CAN controllers, 10/100 Ethernet, and wireless communication libraries. With a variety of examples ready to run on the TM4C12x Evaluation and Development Kits, TI provides everything that customers need to get started networking with Cortex-M.

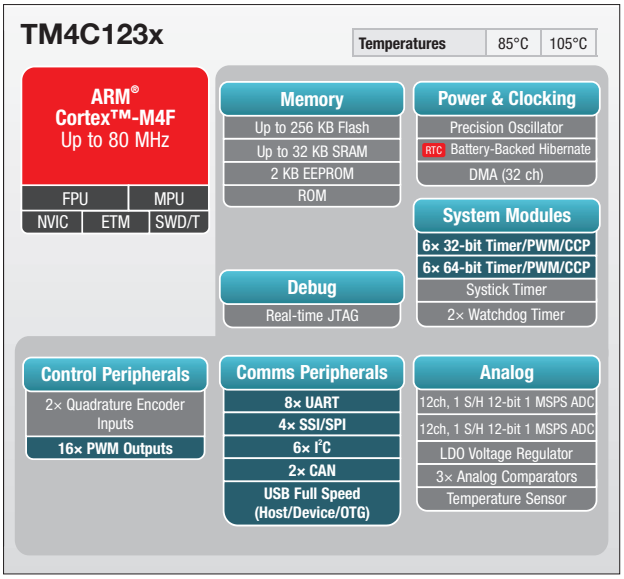
Control

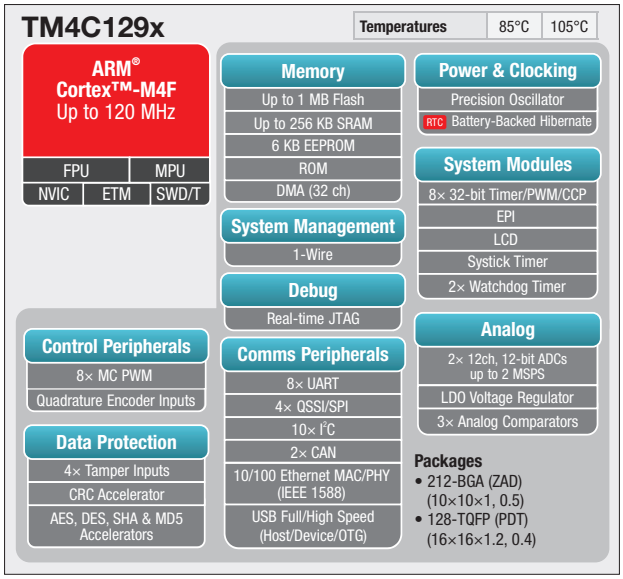
TM4C12x MCUs include up to 40 PWM outputs and two quadrature encoder inputs tailored to move motors, switches, and actuators. Supported by two fast, accurate, 12-bit ADCs and three on-chip comparators, TM4C12x microcontrollers are a great fit for simple motion control applications.

Customers also have the option to quickly and efficiently implement advanced graphical user interfaces by leveraging the royalty-free TivaWare™ for C Series Graphics Library. Whether it's graphics, motion, or analog controls, accelerate your design with TM4C12x microcontrollers.

Key Features

- 10/100 Ethernet MAC + PHY
- LCD Controller
- Data Protection
- Up to 100,000 write/erase cycles
- Up to 6 KB of Embedded EEPROM
- Low-Power Modes, as low as 1.6u/t
- USB Full/High Speed (Host/Device/OTG)
- Dual CAN
- Motion Control
- Large, Wide Timer Pool
- Serial Connectivity



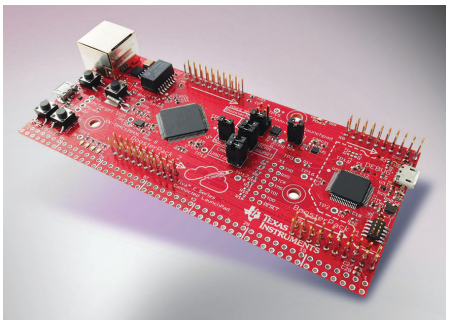


Evaluation Kits

Get started with the TM4C12x product family using the LaunchPad development platform for rapid prototyping from Texas Instruments. These Robust, modular hardware tools offer developers flexibility to launch designs with unique combinations of low-cost TI LaunchPad™ development kits and complementary LaundPad BoosterPack™ plug-in modules. The award-winning TM4C123 LaunchPad and the new Connected LaunchPad are an ideal introduction to the world of ARM Cortex-M4 microcontrollers.

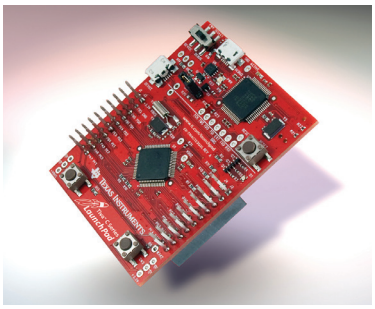
TM4C129 Connected LaunchPad

The TM4C12x Connected LaunchPad (EK-TM4C1294XL) is the first LaunchPad Development Kit to feature out-of-the-box internet connectivity. The Connected LaunchPad provides a low-cost, feature-rich platform for cloud-enabled applications. The design highlights the TM4C1294NCPDTI MCU with 120-MHz 32-bit ARM Cortex-M4 MCU with Ethernet MAC+PHY, 1MB Flash, 256KB SRAM and more.



TM4C123 LaunchPad Development Kit

The TM4C123G LaunchPad Development Kit (EK-TM4C123GXL) is a low-cost evaluation platform for ARM® Cortex™-M4F based microcontrollers. The LaunchPad design highlights the TM4C123GH6 microcontroller's USB 2.0 Device interface, Hibernation module, Motion Control PWMs and overall cost effectiveness.



LaunchPad BoosterPack Plug-in Modules

These innovative tools plug into a consistent and standardized connector on the LaunchPad and allow developers to explore different applications enabled by your favorite TI microcontroller.

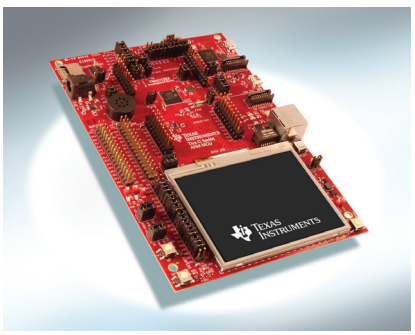
BoosterPacks are available from Texas Instruments, from third parties and from the community. They include functions such as capacitive touch, wireless communication, sensor readings, LED lighting control, and more. BoosterPacks are available in 20- and 40-pin variants, and multiple BoosterPacks can plug into your LaunchPad to enhance the functionality of your design. www.ti.com/launchpad

Development Kits

TM4C12x Development Kits are designed for the users that want to explore the full features of TM4C12s product family devices. These kits bring out all unused GPIO to pin-headers, displays, and even BoosterPack connections for providing out-of-the-box extensibility . Grab your DK for the TM4C123x or TM4C129x series today!

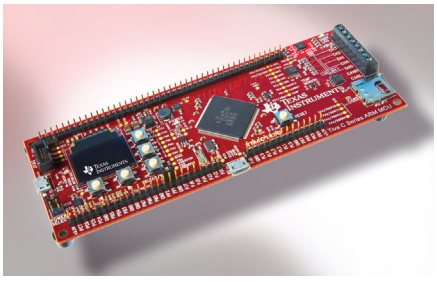
DK-TM4C129X

The TM4C129X Development Kit is a versatile and feature-rich engineering platform that highlights the 120-MHz TM4C129XNCZAD ARM® Cortex™-M4 based microcontroller, including integrated 10/100 Ethernet MAC + PHY as well as many other key features.



DK-TM4C123G

The TM4C123G Development Kit is a compact and versatile evaluation platform for the TM4C123G ARM® Cortex™-M4-based microcontroller, highlighting the TM4C123G device with integrated USB 2.0 On-the-Go/Host/Device interface, CAN, precision analog, sensor hub, and low-power capabilities.



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