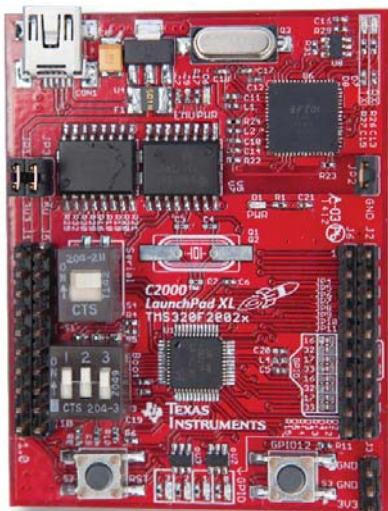


C2000™ Piccolo™ LaunchPad Evaluation Kit



The C2000 Piccolo LaunchPad evaluation kit, based on the F28027 microcontroller (MCU), is a modular, quick-launch evaluation kit that contains everything needed – device, emulation and software – to explore the latest digital control techniques in areas such as power, lighting and motor control.



▲ C2000 LaunchPad (shown at actual size of 2.0" × 2.6")

Evaluation kit	Orderable part number	Price (\$ U.S.)
C2000 Piccolo LaunchPad	LAUNCHXL-F28027	17
LED BoosterPack (requires C2000 LaunchPad)	BOOSTXL-C2KLED	30

Rapidly prototype and speed time to market

- On-board JTAG emulator eliminates need for external emulator
- Double-sided header pins for easy access to peripheral pins and C2000 BoosterPack expansions
- Features new Piccolo F2802x MCU to bring powerful control capabilities of Piccolo MCUs to even more low-end applications
- No external hardware required to get started on C2000 LaunchPad
- Basic applications can make use of onboard hardware (such as LEDs and push buttons) and require no external components

Jump start software development

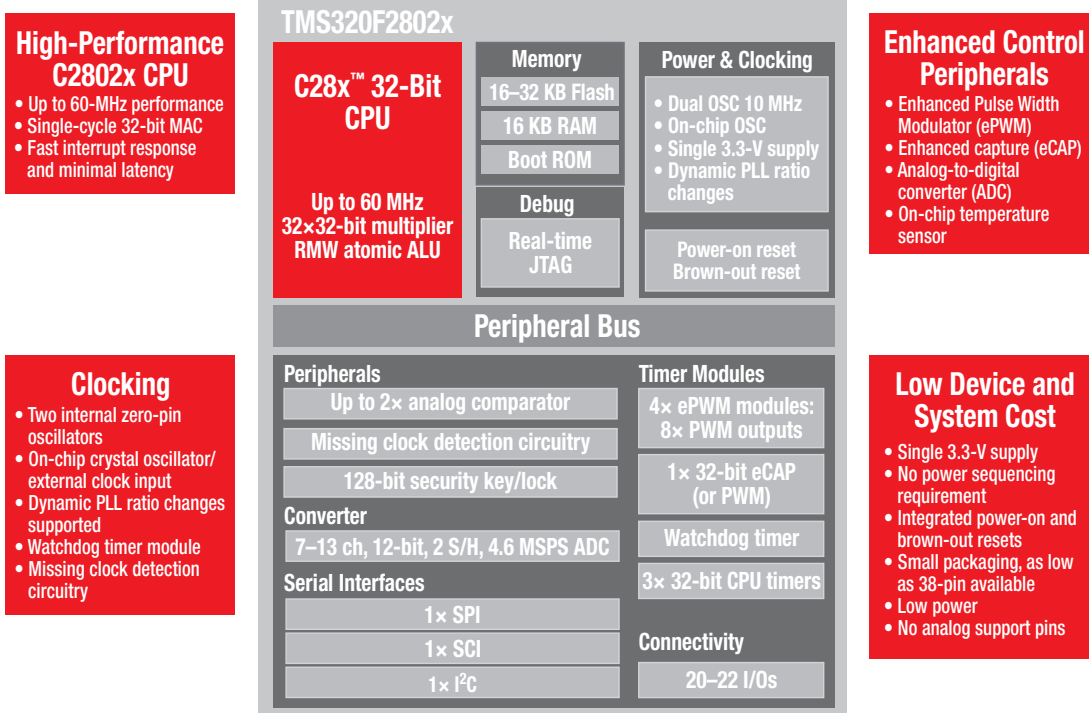
- Use TI's Code Composer Studio™ v5 IDE for free with the C2000 LaunchPad
- Download controlSUITE™ software for exhaustive examples, libraries and other resources, all free and open for use and modification
- Explore advanced application libraries, such as digital motor control and digital power
- Design your own BoosterPacks! C2000 LaunchPad and LED BoosterPack design files are open source and included in the controlSUITE software package



▲ Expand your C2000 Piccolo LaunchPad with application-focused C2000 BoosterPacks, which plug right into the headers.
Pictured: C2000 Piccolo LaunchPad plus C2000 LED BoosterPack plus MSP430™ Capacitive Touch BoosterPack

C2000™ Piccolo™ LaunchPad Evaluation Kit

The F2802x microcontrollers bring even more value to cost-sensitive applications requiring control-tuned processing, such as digital lighting control, digital power and digital motor control.



▲ Piccolo block diagram

F2802x series

Part number	CPU speed (MHz)	RAM (KB)	Flash (KB)	PWM channels	HRPWM	Timers	Captures	ADC	ADC speed (kSPS)	Comparators	SPI	SCI/UART	I ² C	I/Os	Package	Temperature range	Pricing (\$ U.S.)
F28027	60	12	64	8	4	9	1	1× 12 bit	4600	1–2	1	1	1	20–22	38 TSSOP, 48 QFP	–40 to 125°C	2.92–3.55
F28026	60	12	32	8	4	9	1	1× 12 bit	4600	1–2	1	1	1	20–22	38 TSSOP, 48 QFP	–40 to 125°C	2.77–3.33
F28023	50	12	64	8	4	9	1	1× 12 bit	3800	1–2	1	1	1	20–22	38 TSSOP, 48 QFP	–40 to 125°C	2.53–3.09
F28022	50	12	32	8	4	9	1	1× 12 bit	3800	1–2	1	1	1	20–22	38 TSSOP, 48 QFP	–40 to 125°C	2.39–2.88
F28021	40	10	64	8	0	9	1	1× 12 bit	2000	1–2	1	1	1	20–22	38 TSSOP, 48 QFN	–40 to 125°C	2.29–2.54
F28020	40	6	32	8	0	9	1	1× 12 bit	2000	1–2	1	1	1	20–22	38 TSSOP, 48 QFN	–40 to 125°C	2.11–2.35
F280200	40	6	16	7	0	8	0	1× 12 bit	2000	1–2	1	1	1	20–22	38 TSSOP, 48 QFN	–40 to 125°C	1.91–2.09

Important Notice: The products and services of Texas Instruments Incorporated and its subsidiaries described herein are sold subject to TI's standard terms and conditions of sale. Customers are advised to obtain the most current and complete information about TI products and services before placing orders. TI assumes no liability for applications assistance, customer's applications or product designs, software performance, or infringement of patents. The publication of information regarding any other company's products or services does not constitute TI's approval, warranty or endorsement thereof.

C2000, C28x, controlSUITE, Code Composer Studio, MSP430 and Piccolo are trademarks of Texas Instruments Incorporated. All other trademarks are the property of their respective owners.

IMPORTANT NOTICE

Texas Instruments Incorporated and its subsidiaries (TI) reserve the right to make corrections, enhancements, improvements and other changes to its semiconductor products and services per JESD46C and to discontinue any product or service per JESD48B. Buyers should obtain the latest relevant information before placing orders and should verify that such information is current and complete. All semiconductor products (also referred to herein as "components") are sold subject to TI's terms and conditions of sale supplied at the time of order acknowledgment.

TI warrants performance of its components to the specifications applicable at the time of sale, in accordance with the warranty in TI's terms and conditions of sale of semiconductor products. Testing and other quality control techniques are used to the extent TI deems necessary to support this warranty. Except where mandated by applicable law, testing of all parameters of each component is not necessarily performed.

TI assumes no liability for applications assistance or the design of Buyers' products. Buyers are responsible for their products and applications using TI components. To minimize the risks associated with Buyers' products and applications, Buyers should provide adequate design and operating safeguards.

TI does not warrant or represent that any license, either express or implied, is granted under any patent right, copyright, mask work right, or other intellectual property right relating to any combination, machine, or process in which TI components or services are used. Information published by TI regarding third-party products or services does not constitute a license to use such products or services or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property of the third party, or a license from TI under the patents or other intellectual property of TI.

Reproduction of significant portions of TI information in TI data books or data sheets is permissible only if reproduction is without alteration and is accompanied by all associated warranties, conditions, limitations, and notices. TI is not responsible or liable for such altered documentation. Information of third parties may be subject to additional restrictions.

Resale of TI components or services with statements different from or beyond the parameters stated by TI for that component or service voids all express and any implied warranties for the associated TI component or service and is an unfair and deceptive business practice. TI is not responsible or liable for any such statements.

Buyer acknowledges and agrees that it is solely responsible for compliance with all legal, regulatory and safety-related requirements concerning its products, and any use of TI components in its applications, notwithstanding any applications-related information or support that may be provided by TI. Buyer represents and agrees that it has all the necessary expertise to create and implement safeguards which anticipate dangerous consequences of failures, monitor failures and their consequences, lessen the likelihood of failures that might cause harm and take appropriate remedial actions. Buyer will fully indemnify TI and its representatives against any damages arising out of the use of any TI components in safety-critical applications.

In some cases, TI components may be promoted specifically to facilitate safety-related applications. With such components, TI's goal is to help enable customers to design and create their own end-product solutions that meet applicable functional safety standards and requirements. Nonetheless, such components are subject to these terms.

No TI components are authorized for use in FDA Class III (or similar life-critical medical equipment) unless authorized officers of the parties have executed a special agreement specifically governing such use.

Only those TI components which TI has specifically designated as military grade or "enhanced plastic" are designed and intended for use in military/aerospace applications or environments. Buyer acknowledges and agrees that any military or aerospace use of TI components which have **not** been so designated is solely at the Buyer's risk, and that Buyer is solely responsible for compliance with all legal and regulatory requirements in connection with such use.

TI has specifically designated certain components which meet ISO/TS16949 requirements, mainly for automotive use. Components which have not been so designated are neither designed nor intended for automotive use; and TI will not be responsible for any failure of such components to meet such requirements.

Products

Audio	www.ti.com/audio
Amplifiers	amplifier.ti.com
Data Converters	dataconverter.ti.com
DLP® Products	www.dlp.com
DSP	dsp.ti.com
Clocks and Timers	www.ti.com/clocks
Interface	interface.ti.com
Logic	logic.ti.com
Power Mgmt	power.ti.com
Microcontrollers	microcontroller.ti.com
RFID	www.ti-rfid.com
OMAP Mobile Processors	www.ti.com/omap
Wireless Connectivity	www.ti.com/wirelessconnectivity

Applications

Automotive and Transportation	www.ti.com/automotive
Communications and Telecom	www.ti.com/communications
Computers and Peripherals	www.ti.com/computers
Consumer Electronics	www.ti.com/consumer-apps
Energy and Lighting	www.ti.com/energy
Industrial	www.ti.com/industrial
Medical	www.ti.com/medical
Security	www.ti.com/security
Space, Avionics and Defense	www.ti.com/space-avionics-defense
Video and Imaging	www.ti.com/video

TI E2E Community e2e.ti.com