

EFM32PG26 Gecko SoC Family Data Short

The EFM32PG26 MCU family of microcontrollers is part of the Series 2 portfolio. EFM32PG26 MCU's are ideal for enabling energy-friendly embedded applications.

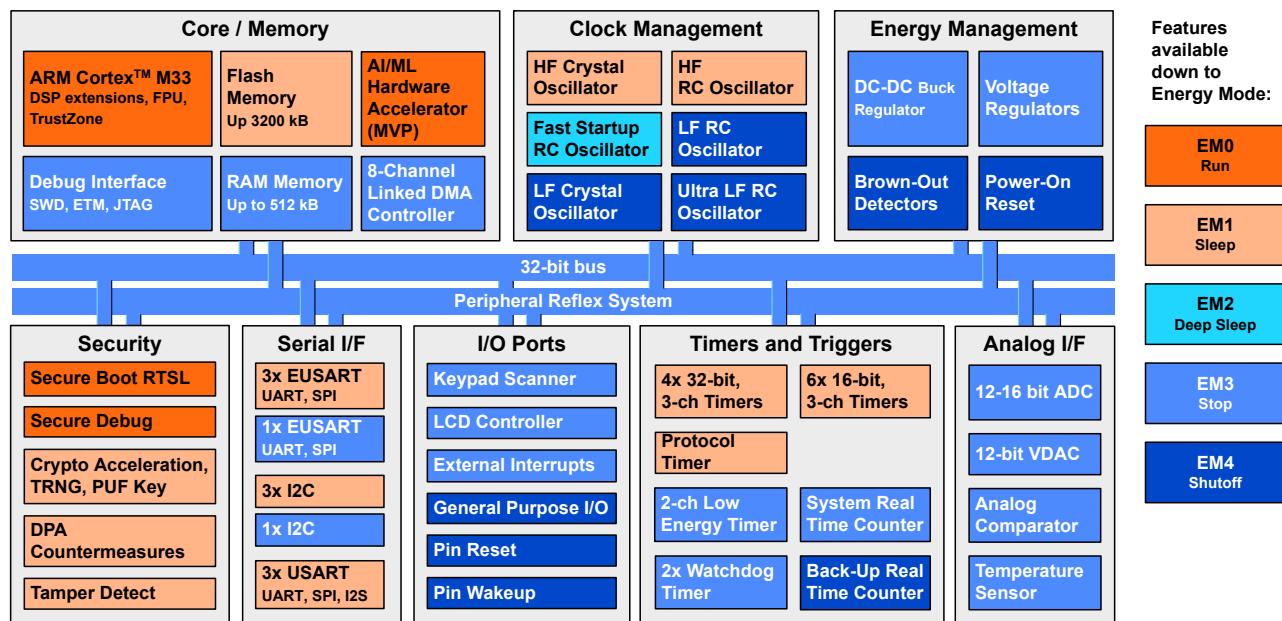
The highly efficient solution contains a 80 MHz Cortex-M33 with rich analog and communication peripherals to provide an industry-leading, energy efficient MCU for consumer and industrial applications.

Target applications include:

- Metering
- Industrial Automation
- Appliances
- Portable Medical Devices

KEY FEATURES

- 32-bit ARM® Cortex®-M33 core with 80 MHz maximum operating frequency
- Up to 3200 kB of flash and 512 kB of RAM
- Energy efficient design with low active and sleep currents
- Secure Vault™
- AI/ML Hardware Accelerator



1. Feature List

The EFM32PG26 highlighted features are listed below.

- **Low Power System-on-Chip**

- High Performance 32-bit 80 MHz ARM Cortex®-M33 with DSP instruction and floating-point unit for efficient signal processing
- Up to 3200 kB flash program memory
- Up to 512 kB RAM data memory
- Matrix Vector Processor for AI/ML acceleration

- **Low System Energy Consumption**

- 42.8 μ A/MHz in Active Mode (EM0) at 80 MHz
- 1.4 μ A EM2 DeepSleep current (16 kB RAM retention and RTC running from LFRCO)

- **Secure Vault**

- Hardware Cryptographic Acceleration for AES128/192/256, ChaCha20-Poly1305, SHA-1, SHA-2/256/384/512, ECDSA +ECDH(P-192, P-256, P-384, P-521), Ed25519 and Curve25519, J-PAKE, PBKDF2
- True Random Number Generator (TRNG)
- ARM® TrustZone®
- Secure Boot (Root of Trust Secure Loader)
- Secure Debug Unlock
- DPA Countermeasures
- Secure Key Management with PUF
- Anti-Tamper
- Secure Attestation
- PSA L3 certified

- **Wide selection of MCU peripherals**

- Analog to Digital Converter (IADC)
 - 12, 16, or 20-bit output
 - Select OPNs support High Speed Mode (up to 2 Msps) and High Accuracy Mode (up to 16 bits ENOB at 3.8 ksps)
- 2 × Analog Comparator (ACMP)
- 2 × Digital to Analog Converter (VDAC)
- Up to 64 General Purpose I/O pins with output state retention and asynchronous interrupts
- 8 Channel DMA Controller (LDMA)
- 20 Channel Peripheral Reflex System (PRS)
- 6 × 16-bit Timer/Counter with 3 Compare/Capture/PWM channels (TIMER2/3/4)
- 4 × 32-bit Timer/Counter with 3 Compare/Capture/PWM channels (TIMER0/1)
- 2 × 32-bit Real Time Counter (SYSRTC/BURTC)
- 24-bit Low Energy Timer for waveform generation (LETIMER)
- 16-bit Pulse Counter with asynchronous operation (PCNT)
- 2 × Watchdog Timer (WDOG)
- 3 × Universal Synchronous/Asynchronous Receiver/Transmitter (USART), supporting UART/SPI/SmartCard (ISO 7816)/IrDA/I²S
- 4 × Enhanced Universal Synchronous/Asynchronous Receiver/Transmitter (EUSART) supporting UART/SPI/DALI/IrDA
- 4 × I²C interface with SMBus support
- Low-Frequency RC Oscillator with precision mode to replace 32 kHz sleep crystal (LFRCO)
- Keypad scanner supporting up to 6x8 matrix (KEYSCAN)
- Integrated Low-Energy LCD Controller supporting up to 4 × 40 segments (LCD)
- Die temperature sensor with +/-1.5 °C accuracy after single-point calibration

- **Wide Operating Range**

- 1.71 V to 3.8 V single power supply
- -40 °C to 125 °C

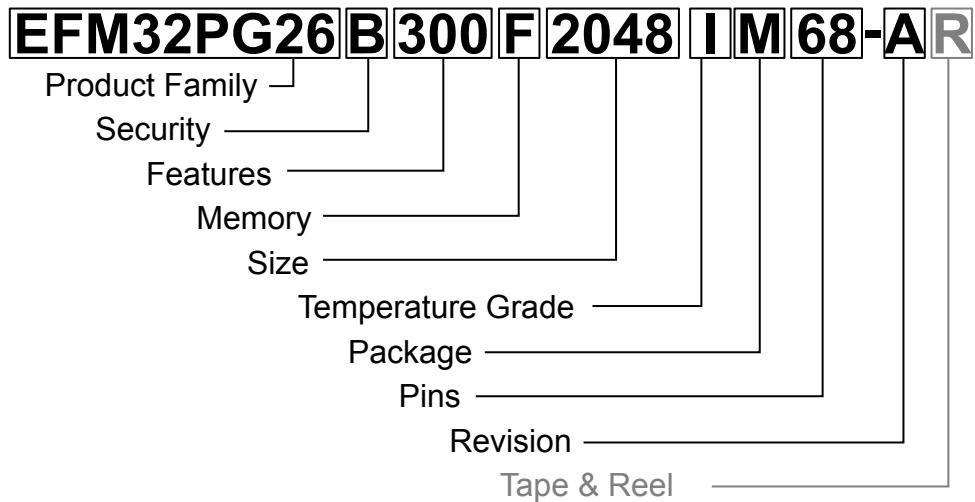
- **Packages**

- **QFN48** 6 mm × 6 mm × 0.85 mm
- **QFN68** 8 mm × 8 mm × 0.85 mm
- **BGA136** 7 mm × 7 mm × 0.82 mm

2. Ordering Information

Table 2.1. Ordering Information

Ordering Code	Flash (KB)	RAM (KB)	Secure Vault	IADC High-Speed / High-Accuracy	Matrix Vector Processor	Dedicated ADC In-puts	GPIO	Package / Pin-out
EFM32PG26B501F3200IM68-B	3200	512	High	Yes	No	4	48	QFN68 / MCU
EFM32PG26B501F3200IM48-B	3200	512	High	Yes	No	4	28	QFN48 / MCU
EFM32PG26B501F3200IL136-B	3200	512	High	Yes	No	4	64	BGA136 / MCU
EFM32PG26B500F3200IM68-B	3200	512	High	Yes	Yes	4	48	QFN68 / MCU
EFM32PG26B500F3200IM48-B	3200	512	High	Yes	Yes	4	28	QFN48 / MCU
EFM32PG26B500F3200IL136-B	3200	512	High	Yes	Yes	4	64	BGA136 / MCU
EFM32PG26B301F2048IM68-B	2048	256	High	Yes	No	4	48	QFN68 / MCU
EFM32PG26B301F2048IL136-B	2048	256	High	Yes	No	4	64	BGA136 / MCU
EFM32PG26B301F1024IM68-B	1024	256	High	Yes	No	4	48	QFN68 / MCU
EFM32PG26B301F1024IL136-B	1024	256	High	Yes	No	4	64	BGA136 / MCU
EFM32PG26B101F512IM68-B	512	128	High	Yes	No	4	48	QFN68 / MCU
EFM32PG26B101F512IL136-B	512	128	High	Yes	No	4	64	BGA136 / MCU



Field	Options
Product Family	<ul style="list-style-type: none"> • EFM32PG26: Gecko 26 Family
Security	<ul style="list-style-type: none"> • A: Secure Vault Mid • B: Secure Vault High
Features [f1][f2][f3]	<ul style="list-style-type: none"> • f1 <ul style="list-style-type: none"> • 1: 128kB RAM • 1: 128kB RAM, IADC High-Speed / High-Accuracy Available • 2: 256kB RAM • 3: 256kB RAM, IADC High-Speed / High-Accuracy Available • 4: 512kB RAM • 5: 512kB RAM, IADC High-Speed / High-Accuracy Available • f2 <ul style="list-style-type: none"> • 0: No feature enabled • f3 <ul style="list-style-type: none"> • 0: No feature enabled
Memory	<ul style="list-style-type: none"> • F: Flash
Size	<ul style="list-style-type: none"> • Memory Size in kBytes
Temperature Grade	<ul style="list-style-type: none"> • I: -40 to +125 °C
Package	<ul style="list-style-type: none"> • M: QFN • L: BGA
Pins	<ul style="list-style-type: none"> • Number of Package Pins
Revision	<ul style="list-style-type: none"> • A: Revision A • B: Revision B
Tape & Reel	<ul style="list-style-type: none"> • R: Tape & Reel (optional)

Figure 2.1. Ordering Code Key

Simplicity Studio

One-click access to MCU and wireless tools, documentation, software, source code libraries & more. Available for Windows, Mac and Linux!



IoT Portfolio

www.silabs.com/iot



SW/HW

www.silabs.com/simplicity



Quality

www.silabs.com/quality



Support & Community

www.silabs.com/community

Disclaimer

Silicon Labs intends to provide customers with the latest, accurate, and in-depth documentation of all peripherals and modules available for system and software implementers using or intending to use the Silicon Labs products. Characterization data, available modules and peripherals, memory sizes and memory addresses refer to each specific device, and "Typical" parameters provided can and do vary in different applications. Application examples described herein are for illustrative purposes only. Silicon Labs reserves the right to make changes without further notice to the product information, specifications, and descriptions herein, and does not give warranties as to the accuracy or completeness of the included information. Without prior notification, Silicon Labs may update product firmware during the manufacturing process for security or reliability reasons. Such changes will not alter the specifications or the performance of the product. Silicon Labs shall have no liability for the consequences of use of the information supplied in this document. This document does not imply or expressly grant any license to design or fabricate any integrated circuits. The products are not designed or authorized to be used within any FDA Class III devices, applications for which FDA premarket approval is required or Life Support Systems without the specific written consent of Silicon Labs. A "Life Support System" is any product or system intended to support or sustain life and/or health, which, if it fails, can be reasonably expected to result in significant personal injury or death. Silicon Labs products are not designed or authorized for military applications. Silicon Labs products shall under no circumstances be used in weapons of mass destruction including (but not limited to) nuclear, biological or chemical weapons, or missiles capable of delivering such weapons. Silicon Labs disclaims all express and implied warranties and shall not be responsible or liable for any injuries or damages related to use of a Silicon Labs product in such unauthorized applications.

Trademark Information

Silicon Laboratories Inc.[®], Silicon Laboratories[®], Silicon Labs[®], SiLabs[®] and the Silicon Labs logo[®], Bluegiga[®], Bluegiga Logo[®], EFM[®], EFM32[®], EFR, Ember[®], Energy Micro, Energy Micro logo and combinations thereof, "the world's most energy friendly microcontrollers", Redpine Signals[®], WiSeConnect, n-Link, EZLink[®], EZRadio[®], EZRadioPRO[®], Gecko[®], Gecko OS, Gecko OS Studio, Precision32[®], Simplicity Studio[®], Telegesis, the Telegesis Logo[®], USBXpress[®], Zentri, the Zentri logo and Zentri DMS, Z-Wave[®], and others are trademarks or registered trademarks of Silicon Labs. ARM, CORTEX, Cortex-M3 and THUMB are trademarks or registered trademarks of ARM Holdings. Keil is a registered trademark of ARM Limited. Wi-Fi is a registered trademark of the Wi-Fi Alliance. All other products or brand names mentioned herein are trademarks of their respective holders.