



# 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.

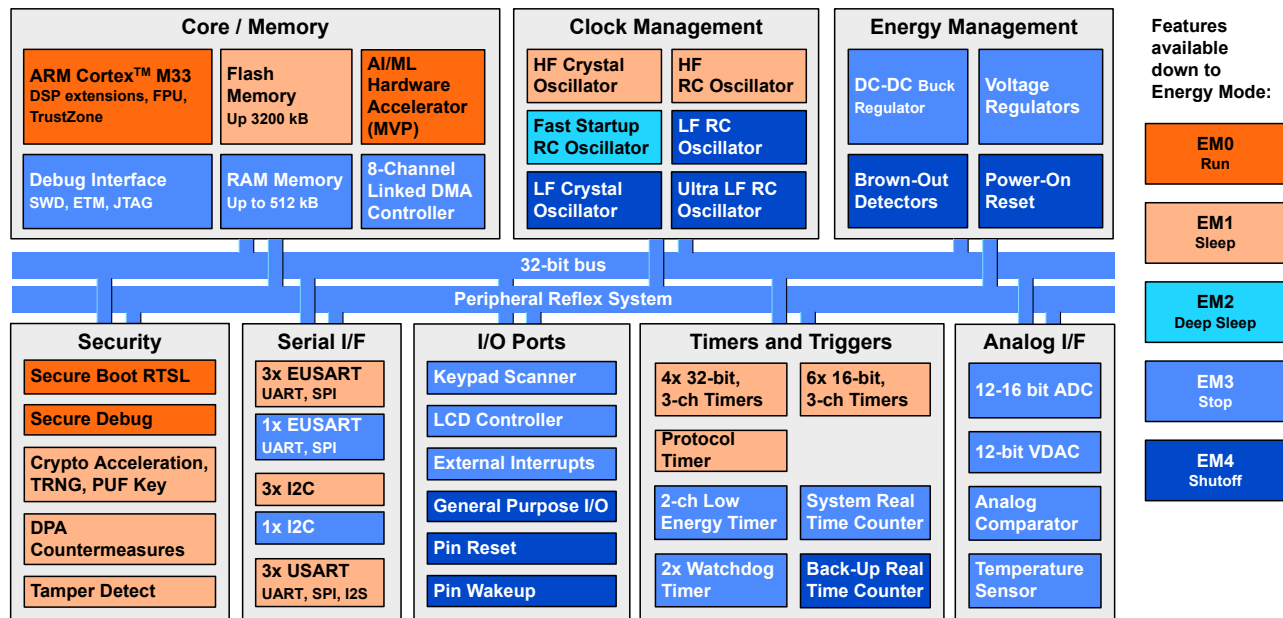
The highly efficient solution contains a 80 MHz Cortex-M33 with rich analog and communication peripherals to provide an industry-leading, energy efficient MCU for consumer and industrial applications.

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



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## 1. Feature List

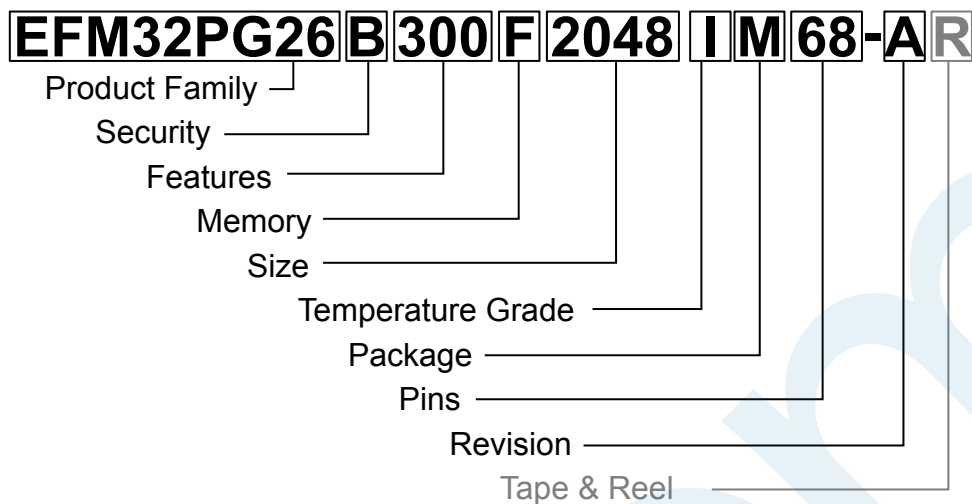
The EFM32PG26 highlighted features are listed below.

- **Low Power System-on-Chip**
  - High Performance 32-bit 80 MHz ARM Cortex<sup>®</sup>-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**
  - 44.6  $\mu$ A/MHz in Active Mode (EM0) at 80 MHz
  - 1.4  $\mu$ 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<sup>®</sup> TrustZone<sup>®</sup>
  - Secure Boot (Root of Trust Secure Loader)
  - Secure Debug Unlock
  - DPA Countermeasures
  - Secure Key Management with PUF
  - Anti-Tamper
  - Secure Attestation
- **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  $\times$  Analog Comparator (ACMP)
  - 2  $\times$  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  $\times$  16-bit Timer/Counter with 3 Compare/Capture/PWM channels (TIMER2/3/4)
  - 4  $\times$  32-bit Timer/Counter with 3 Compare/Capture/PWM channels (TIMER0/1)
  - 2  $\times$  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  $\times$  Watchdog Timer (WDOG)
  - 3  $\times$  Universal Synchronous/Asynchronous Receiver/Transmitter (USART), supporting UART/SPI/SmartCard (ISO 7816)/IrDA/I<sup>2</sup>S
  - 4  $\times$  Enhanced Universal Synchronous/Asynchronous Receiver/Transmitter (EUSART) supporting UART/SPI/DALI/IrDA
  - 4  $\times$  I<sup>2</sup>C 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  $\times$  40 segments (LCD)
  - Die temperature sensor with  $\pm$ 1.5  $^{\circ}$ C accuracy after single-point calibration
- **Wide Operating Range**
  - 1.71 V to 3.8 V single power supply
  - -40  $^{\circ}$ C to 125  $^{\circ}$ C
- **Packages**
  - **QFN68** 8 mm  $\times$  8 mm  $\times$  0.85 mm
  - **BGA136** 7 mm  $\times$  7 mm  $\times$  0.82 mm

## 2. Ordering Information

**Table 2.1. Ordering Information**

Ordering Code	Flash (KB)	RAM (KB)	Secure Vault	IADC High-Speed / High-Accuracy	Dedicated ADC Inputs	GPIO	Package / Pinout
EFM32PG26B500F3200IM68-B	3200	512	High	Yes	4	48	QFN68 / MCU
EFM32PG26B500F3200IL136-B	3200	512	High	Yes	4	64	BGA136 / MCU
EFM32PG26B300F2048IM68-B	2048	256	High	Yes	4	48	QFN68 / MCU
EFM32PG26B300F2048IL136-B	2048	256	High	Yes	4	64	BGA136 / MCU
EFM32PG26B300F1024IM68-B	1024	256	High	Yes	4	48	QFN68 / MCU
EFM32PG26B300F1024IL136-B	1024	256	High	Yes	4	64	BGA136 / MCU
EFM32PG26B100F512IM68-B	512	128	High	Yes	4	48	QFN68 / MCU
EFM32PG26B100F512IL136-B	512	128	High	Yes	4	64	BGA136 / MCU



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

Figure 2.1. Ordering Code Key