

EFM32HG MCU

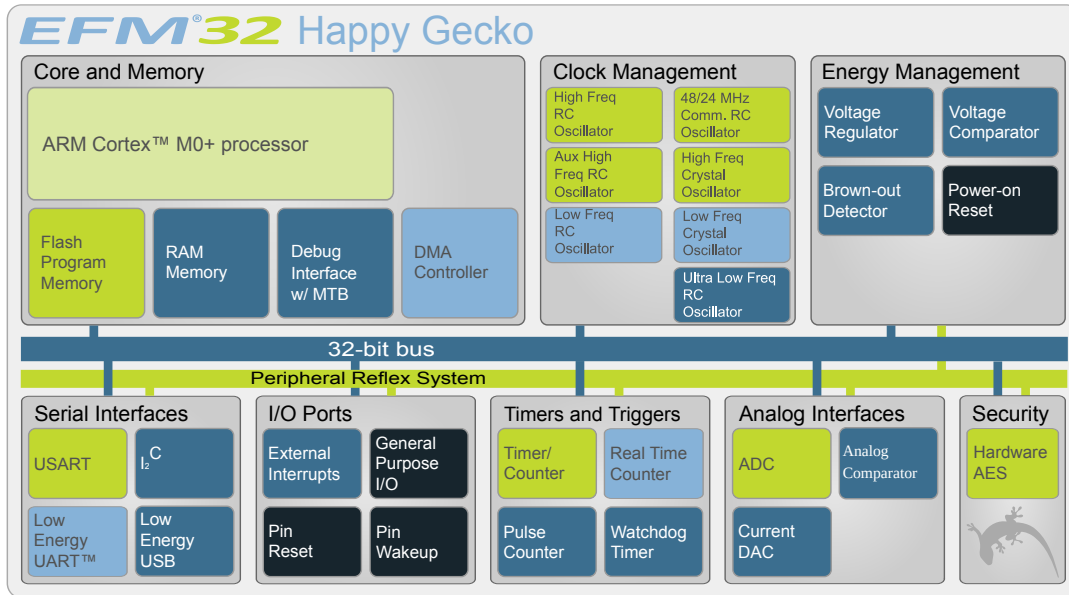
Data Short



EFM32HG MCU family with an ARM Cortex-M0+ CPU

The EFM32HG MCUs are the world's most energy-friendly microcontrollers. With a unique combination of the powerful 32-bit ARM Cortex-M0+, innovative low-energy techniques, short wake-up time from energy-saving modes, and a wide selection of peripherals, the EFM32HG microcontroller is well suited for any battery-operated application, as well as other systems requiring high performance and low-energy consumption. For a complete feature set and MCU description, the reader is referred to the appropriate *EFM32HG Data Sheet*.

- ARM Cortex-M0+ CPU platform
 - High Performance 32-bit processor @ up to 25 MHz
 - Wake-up Interrupt Controller
- Flexible Energy Management System
 - 20 nA @ 3 V Shutoff Mode
 - 0.5 μ A @ 3 V Stop Mode, including Power-on Reset, Brown-out Detector, RAM and CPU retention
 - 0.9 μ A @ 3 V Deep Sleep Mode, including RTC with 32.768 kHz oscillator, Power-on Reset, Brown-out Detector, RAM and CPU retention
 - 55 μ A/MHz @ 3 V Sleep Mode
 - 129 μ A/MHz @ 3 V Run Mode, with code executed from flash
- 64/32 kB Flash
- 8/8 kB RAM
- General Purpose I/O Pins
 - Configurable push-pull, open-drain, pull-up/down, input filter, drive strength
 - Configurable peripheral I/O locations
 - Asynchronous external interrupts
 - Output state retention and wake-up from Shutoff Mode
- 6 Channel DMA Controller
- 6 Channel Peripheral Reflex System (PRS) for autonomous inter-peripheral signaling
- Hardware AES with 128-bit keys in 54 cycles
- Timers/Counters
 - 3 $\times$ 16-bit Timer/Counter
 - 3 $\times$ 3 Compare/Capture/PWM channels
 - Dead-Time Insertion on TIMER0
 - 1 $\times$ 24-bit Real-Time Counter
 - 1 $\times$ 16-bit Pulse Counter
 - Watchdog Timer with dedicated RC oscillator @ 50 nA
- Communication interfaces
 - 2 $\times$ Universal Synchronous/Asynchronous Receiver/ Transmitter
 - UART/SPI/SmartCard (ISO 7816)/IrDA/I2S
 - Triple buffered full/half-duplex operation
 - Low Energy UART
 - Autonomous operation with DMA in Deep Sleep Mode
 - I²C Interface with SMBus support
 - Address recognition in Stop Mode
 - Low Energy Universal Serial Bus (USB) Device
 - Fully USB 2.0 compliant
 - On-chip PHY and embedded 5 V to 3.3 V regulator
 - Crystal-free operation
- Ultra Low-Power Precision Analog Peripherals
 - 12-bit 1 Msamples/s Analog to Digital Converter
 - 4 single ended channels/2 differential channels
 - On-chip temperature sensor
 - Current Digital to Analog Converter
 - Capacitive sensing with up to 5 inputs
 - 1 x Analog Comparator
 - Capacitive Sensing
 - Supply Voltage Comparator
- Ultra Efficient Power-On Reset and Brown-Out Detections
- Debug Interfaces
 - 2-pin Serial Wire Debug interface
 - Micro Trace Buffer (MTB)
- Pre-Programmed USB/UART Bootloader
- Single power supply 1.98 to 3.8 V
- Temperature range -40 to 85 °C



EFM32HG Family Selector Guide

Table 1.1. Ordering Information

Ordering Code	Flash (kB)	RAM (kB)	Max Speed (MHz)	Supply Voltage (V)	Temperature (°C)	Package
EFM32HG108F32G-A-QFN24	32	4	25	1.98 — 3.8	-40 — 85	QFN24
EFM32HG108F64G-A-QFN24	64	8	25	1.98 — 3.8	-40 — 85	QFN24
EFM32HG110F32G-A-QFN24	32	4	25	1.98 — 3.8	-40 — 85	QFN24
EFM32HG110F64G-A-QFN24	64	8	25	1.98 — 3.8	-40 — 85	QFN24
EFM32HG210F32G-A-QFN32	32	4	25	1.98 — 3.8	-40 — 85	QFN32
EFM32HG210F64G-A-QFN32	64	8	25	1.98 — 3.8	-40 — 85	QFN32
EFM32HG222F32G-A-QFP48	32	4	25	1.98 — 3.8	-40 — 85	TQFP48
EFM32HG222F64G-A-QFP48	64	8	25	1.98 — 3.8	-40 — 85	TQFP48
EFM32HG308F32G-A-QFN24	32	8	25	1.98 — 3.8	-40 — 85	QFN24
EFM32HG308F64G-A-QFN24	64	8	25	1.98 — 3.8	-40 — 85	QFN24
EFM32HG309F32G-A-QFN24	32	8	25	1.98 — 3.8	-40 — 85	QFN24
EFM32HG309F64G-A-QFN24	64	8	25	1.98 — 3.8	-40 — 85	QFN24
EFM32HG310F32G-A-QFN32	32	8	25	1.98 — 3.8	-40 — 85	QFN32
EFM32HG310F64G-A-QFN32	64	8	25	1.98 — 3.8	-40 — 85	QFN32
EFM32HG321F32G-A-QFP48	32	8	25	1.98 — 3.8	-40 — 85	TQFP48
EFM32HG321F64G-A-QFP48	64	8	25	1.98 — 3.8	-40 — 85	TQFP48
EFM32HG322F32G-A-QFP48	32	8	25	1.98 — 3.8	-40 — 85	TQFP48
EFM32HG322F64G-A-QFP48	64	8	25	1.98 — 3.8	-40 — 85	TQFP48
EFM32HG350F32G-A-CSP36	32	8	25	1.98 — 3.8	-40 — 85	CSP36
EFM32HG350F64G-A-CSP36	64	8	25	1.98 — 3.8	-40 — 85	CSP36