

# ENERGY MICRO Microcontrollers



RoHS Compliant This product is RoHS compliant.

MCU / MPU / DSP

Energy Micro

NEW TECHNOLOGY

## EFM32 GECKO MICROCONTROLLERS

### Features:

- 32-bit ARM Cortex-M3 running up to 32MHz
- Single 1.8 to 3.8 volt power supply
- 16 External Interrupts
- External Bus Interface (EBI)
- Direct memory access/Controller (DMA)
- Hardware AES with 128/256-bit encryption and decryption
- Integrated high and low frequency oscillators
- USARTs with UART and SPI modes up to 16Mbit/s
- 16-bit Timer/Counters with Compare/Capture
- Low Energy TIMER with optional pulse outputs
- Flexible 24-bit Real Time Counter
- 12-bit ADC, and DAC
- Analog Comparators with 8 input mux and capacitive sensing capability



### ◆ Surface Mount Device

For quantities greater than listed, call for quote.

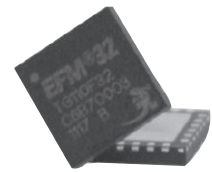
MOUSER STOCK NO.	Energy Micro Part No.	Package	Flash (kB)	RAM (kB)	GPIO	LCD	USART + UART	Low Energy UART	I <sup>2</sup> C	Timer (PWM)	RTC	Pulse Counter	WD	ADC (Pins)	DAC (Pins)	Analog Comp. (Pins)	EBI	AES	Price Each			
																			1	10	25	
◆ 904-EFM32G210F128	EFM32G210F128	QFN-32	128	16	24	---	2	1	1	2 (6)	1	1	1	1 (4)	1 (1)	2 (4)	---	Yes	6.70	6.07	5.56	
◆ 904-EFM32G230F128	EFM32G230F128	QFN-64	128	16	56	---	3	2	1	3 (9)	1	3	1	1 (8)	2 (2)	2 (16)	---	Yes	7.55	6.84	6.27	
◆ 904-EFM32G280F128	EFM32G280F128	QFP-100	128	16	85	---	3+1	2	1	3 (9)	1	3	1	1 (8)	2 (2)	2 (16)	Yes	Yes	8.08	7.32	6.71	
◆ 904-EFM32G290F128	EFM32G290F128	BGA-112	128	16	90	---	3+1	2	1	3 (9)	1	3	1	1 (8)	2 (2)	2 (16)	Yes	Yes*	8.24	7.46	6.84	
◆ 904-EFM32G840F128	EFM32G840F128	QFN-64	128	16	56	4x24	3	2	1	3 (9)	1	3	1	1 (8)	2 (2)	2 (8)	---	Yes	9.43	8.54	7.83	
◆ 904-EFM32G880F128	EFM32G880F128	QFP-100	128	16	85	4x40	3+1	2	1	3 (9)	1	3	1	1 (8)	2 (2)	2 (16)	Yes**	Yes	10.12	9.16	8.40	
◆ 904-EFM32G890F128	EFM32G890F128	BGA-112	128	16	90	4x40	3+1	2	1	3 (9)	1	3	1	1 (8)	2 (2)	2 (16)	Yes**	Yes	10.31	9.33	8.55	
<b>Development Boards</b>																						
904-EFM32-G8XX-STK	EFM32-G8xx-STK	Starter kit for EFM32-G8xx series. Includes EFM32G890F128 MCU.																	1	74.25		
904-EFM32-G2XX-DK	EFM32-G2xx-DK	Development kit for EFM32-G2xx series. Includes EFM32G290F128 MCU plug-in board.																	1	324.00		
904-EFM32-G8XX-DK	EFM32-G8xx-DK	Development kit for EFM32-G8xx series. Includes EFM32G890F128 MCU plug-in board with 160 segment LCD. Reduced EBI support.																	1	324.00		

\* AES (Advanced Encryption Standard) Accelerator \*\* EBI (External Bus Interface) exclusion with LCD controller functionality

## EFM32 TINY GECKO MICROCONTROLLERS

### Features:

- 32-bit ARM Cortex-M3 running up to 32MHz
- 1.25DMIPS/MHz
- Single 1.8 to 3.8 volt power supply
- GPIO Drive Strength: 20mA
- External Interrupts: 16
- Direct memory access Controller (DMA)
- Hardware AES with 128/256-bit encryption/decryption
- Integrated high and low frequency oscillators
- USARTs with UART and SPI modes up to 16Mbit/s
- 16-bit Timer/Counters with Compare/Capture
- Low Energy Timer with optional pulse outputs
- Flexible 24-bit Real Time Counter
- Pulse Counter
- 12-bit ADC and DAC
- Analog Comparators with 8 input mux and capacitive sensing capability



For quantities greater than listed, call for quote.

MOUSER STOCK NO.	Energy Micro Part No.	Package	Flash (kB)	RAM (kB)	GPIO	LCD Controller	OPAMP	LE Sense	ADC	AES	Price Each				
											1	10	25		
904-EFM32TG840F32	EFM32TG840F32	QFN-64	32	4	56	8 x 20	3	Yes	Yes	Yes	6.87	6.22	5.70		
904-EFM32TG822F32	EFM32TG822F32	QFP-48	32	4	37	8 x 11	3	Yes	Yes	Yes	6.20	5.62	5.15		
904-EFM32TG230F32	EFM32TG230F32	QFN-64	32	4	56	-	3	Yes	Yes	Yes	5.52	5.00	4.58		
904-EFM32TG222F32	EFM32TG222F32	QFP-48	32	4	37	-	3	Yes	Yes	Yes	5.15	4.67	4.27		
904-EFM32TG210F32	EFM32TG210F32	QFN-32	32	4	24	-	3	Yes	Yes	Yes	4.81	4.35	3.99		
904-EFM32TG110F32	EFM32TG110F32	QFN-24	32	4	17	-	3	Yes	Yes	Yes	3.80	3.45	3.16		
904-EFM32TG108F32	EFM32TG108F32	QFN-24	32	4	17	-	-	Yes	No	No	3.43	3.11	2.85		
<b>Development Boards</b>		<b>Description</b>										1			
904-EFM32-TG-STK3300	EFM32-TG-STK3300	EFM32 Tiny Gecko MCU Starter Kit										1	69.00		

## GIANT GECKO

### Features:

- Timers/Counters
  - 4x 16-bit Timer/Counter
  - 4x3 Compare/Capture/PWM channels
  - 16-bit Low Energy Timer
  - 1x 24-bit and 1x 32-bit Real-Time Counter
  - 3x 16/8-bit Pulse Counter with asynchronous operation
  - Watchdog Timer with dedicated RC oscillator @ 50 nA
- Communication Interfaces
  - 3x Universal Synchronous/Asynchronous Receiver/Transmitter
  - UART/SPI/SmartCard (ISO 7816)/IrDA/I2S
  - Autonomous operation with DMA in Deep Sleep Mode
  - 2x I2C Interface with SMBus support
  - 12 Channel DMA Controller
  - Hardware AES with 128/256-bit keys in 54/75 cycles
- ARM Cortex-M3 CPU platform High Performance
  - 32-bit processor @ up to 48 MHz MPU
  - Low Energy Sensor Interface (LESENSE)
  - Debug Interface
  - Pre-Programmed Serial Bootloader
  - Temperature range -40 to 85 °C



For quantities greater than listed, call for quote.

MOUSER STOCK NO.	Energy Micro Part No.	Package	Flash (KB)	RAM (KB)	GPIO Pins	LCD	USB	USART/SPI + UART	Timer (PWM)	Supply Voltage (V)	Price Each				
											1	10	25	100	
904-EFM32GG230F1024	EFM32GG230F1024	QFN-64	1024	128	56	-	-	3	3 (9)	1.8-3.8	12.29	11.21	10.41	9.61	
904-EFM32GG290F1024	EFM32GG290F1024	BGA-112	1024	128	90	-	-	3+2	3 (9)	1.8-3.8	12.97	11.84	10.99	10.15	
904-EFM32GG295F1024	EFM32GG295F1024	BGA-120	1024	128	93	-	-	3+2	3 (9)	1.8-3.8	14.19	12.95	12.03	11.10	
904-EFM32GG330F1024	EFM32GG330F1024	QFN-64	1024	128	52	-	Yes	3	3 (9)	1.8-3.8	13.02	11.88	11.03	10.18	
904-EFM32GG380F1024	EFM32GG380F1024	QFP-100	1024	128	81	-	Yes	3+2	3 (9)	1.8-3.8	13.56	12.37	11.49	10.60	
904-EFM32GG940F1024	EFM32GG940F1024	QFN-64	1024	128	52	8x20	Yes	3	3 (9)	1.8-3.8	15.16	13.84	12.85	11.86	
904-EFM32GG942F1024	EFM32GG942F1024	QFN-64	1024	128	50	8x16	Yes	3+2	3 (9)	1.8-3.8	15.16	13.84	12.85	11.86	
904-EFM32GG980F1024	EFM32GG980F1024	QFP-100	1024	128	81	8x36	Yes	3+2	3 (9)	1.8-3.8	15.70	14.33	13.31	12.28	
904-EFM32GG990F1024	EFM32GG990F1024	BGA-112	1024	128	81	8x36	Yes	3+2	3 (9)	1.8-3.8	15.85	14.46	13.43	12.40	
904-EFM32GG995F1024	EFM32GG995F1024	BGA-120	1024	128	93	8x36	Yes	3+2	3 (9)	1.8-3.8	17.07	15.58	14.46	13.35	
<b>Development Boards</b>		<b>Description</b>										1			
904-EFM32GG-DK3750	EFM32GG-DK3750	Giant Gecko Development Kit										1	349.00		
904-EFM32GG-STK3700	EFM32GG-STK3700	Giant Gecko Starter Kit										1	83.48		

## LEOPARD GECKO

### Features:

- Timers/Counters
  - 4x 16-bit Timer/Counter
  - 4x3 Compare/Capture/PWM channels
  - 16-bit Low Energy Timer
  - 1x 24-bit and 1x 32-bit Real-Time Counter
  - 3x 16/8-bit Pulse Counter with asynchronous operation
  - Watchdog Timer with dedicated RC oscillator @ 50 nA
  - 12 Channel DMA Controller
- Communication Interfaces
  - 3x Universal Synchronous/Asynchronous Receiver/Transmitter
  - UART/SPI/SmartCard (ISO 7816)/IrDA/I2S
  - Autonomous operation with DMA in Deep Sleep Mode
  - 2x I2C Interface with SMBus support
  - ARM Cortex-M3 CPU platform High Performance
    - 32-bit processor @ up to 48 MHz MPU
- Low Energy Sensor Interface (LESENSE)
  - Debug Interface
  - Pre-Programmed Serial Bootloader
  - Temperature range -40 to 85 °C
  - Hardware AES with 128/256-bit keys in 54/75 cycles
  - 256/128/64 KB Flash
  - 32/32/32 KB RAM



For quantities greater than listed, call for quote.

MOUSER STOCK NO.	Energy Micro Part No.	Package	Flash (KB)	RAM (KB)	GPIO Pins	LCD	USB	Op Amps	LE Sense	Supply Voltage (V)	Price Each				
											1	10	25	100	
904-EFM32LG230F256	EFM32LG230F256	QFN-64	256	32	56	No	No	3	Yes	1.8-3.8	8.82	7.98	7.32	6.65	
904-EFM32LG290F256	EFM32LG290F256	BGA-112	256	32	90	No	No	3	Yes	1.8-3.8	9.61	8.70	7.97	7.25	
904-EFM32LG330F256	EFM32LG330F256	QFN-64	256	32	53	No	Yes	3	Yes	1.8-3.8	9.66	8.75	8.02	7.29	
904-EFM32LG380F256	EFM32LG380F256	QFP-100	256	32	83	No	Yes	3	Yes	1.8-3.8	10.28	9.31	8.53	7.75	
904-EFM32LG940F256	EFM32LG940F256	QFN-64	256	32	53	8x18	Yes	3	Yes	1.8-3.8	12.13	10.99	10.07	9.15	
904-EFM32LG980F256	EFM32LG980F256	QFP-100	256	32	83	8x34	Yes	3	Yes	1.8-3.8	12.75	11.55	10.58	9.62	
904-EFM32LG990F256	EFM32LG990F256	BGA-112	256	32	87	8x34	Yes	3	Yes	1.8-3.8	12.92	11.70	10.72	9.75	
<b>Development Boards</b>		<b>Description</b>										1			
904-EFM32LG-DK3650	EFM32LG-DK3650	Leopard Gecko Development Kit										1	349.00		
904-EFM32LG-STK3600	EFM32LG-STK3600	Leopard Gecko Starter Kit										1	83.48		

