

# SILICON LABS Microcontrollers



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MCU / MPU / DSP

Silicon Labs

## C8051FXXX PRECISION MIXED-SIGNAL MICROCONTROLLERS

Silicon Laboratories' mixed-signal microcontrollers integrate world-class analog, a high-speed pipelined 8051 CPU, ISP Flash memory and on-chip JTAG based debug in each device. Configurable high-performance analog, up to 100 MIPS core and in-system programmability provide the user with complete design flexibility, improved time-to-market, superior system performance and greater end product differentiation

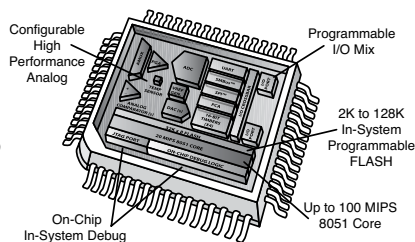
### Features:

- 20 to 100 MIPS 8051 CPU
- 32 to 128KB Flash memory
- 256 to 848KB RAM
- Up to 24-bit ADC
- Up to 12-bit DACs
- Up to three comparators
- Voltage reference
- Temperature sensor
- 45 16-bit Timers
- 36 channel PCA
- 864 Digital I/O
- 16 x 16 MAC

### Applications:

- Industrial and process feedback control systems
- Instrumentation
- Test systems
- Point-of-sale terminals
- Satellite radio systems
- Cellular base stations
- Fiber optics systems
- Portable and stationary test equipment
- Weigh scales
- Smart transmitters
- Automatic Test Equipment (ATE)

### Typical Silicon Labs MCU Chip



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For quantities of 250 and up, call for quote.

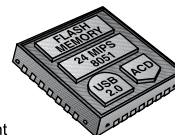
MOUSER STOCK NO.		Development Kit Part No.	MIPS (Peak)	Flash Mem. (KB)	RAM (bytes)	Digital Port I/O Pins	Serial Buses	Internal Osc	Analog Peripherals	Package	Price Each		
Mfr.	Mfr. Part No.										1	25	100
634	C8051F000-GQ	634-C8051F005DK	20	32	256	32	UART, SMBus, SPI	±20%	12-bit ADC, 12-bit DACs	TQ64			
634	C8051F001-GQ	634-C8051F005DK	20	32	256	16	UART, SMBus, SPI	±20%	12-bit ADC, 12-bit DACs	TQ48			
634	C8051F002-GQ	634-C8051F005DK	20	32	256	8	UART, SMBus, SPI	±20%	12-bit ADC, 12-bit DACs	LQ32			
634	C8051F005-GQ	634-C8051F005DK	25	32	2304	32	UART, SMBus, SPI	±20%	10-bit ADC, 12-bit DACs	TQ64			
634	C8051F006-GQ	634-C8051F005DK	25	32	2304	16	UART, SMBus, SPI	±20%	10-bit ADC, 12-bit DACs	TQ48			
634	C8051F007-GQ	634-C8051F005DK	25	32	2304	8	UART, SMBus, SPI	±20%	10-bit ADC, 12-bit DACs	LQ32			
634	C8051F010-GQ	634-C8051F005DK	20	32	256	32	UART, SMBus, SPI	±20%	12-bit ADC, 12-bit DACs	TQ64			
634	C8051F011-GQ	634-C8051F005DK	20	32	256	16	UART, SMBus, SPI	±20%	12-bit ADC, 12-bit DACs	TQ48			
634	C8051F012-GQ	634-C8051F005DK	20	32	256	8	UART, SMBus, SPI	±20%	12-bit ADC, 12-bit DACs	LQ32			
634	C8051F015-GQ	634-C8051F005DK	25	32	2304	32	UART, SMBus, SPI	±20%	10-bit ADC, 12-bit DACs	TQ64			
634	C8051F016-GQ	634-C8051F005DK	25	32	2304	16	UART, SMBus, SPI	±20%	10-bit ADC, 12-bit DACs	TQ48			
634	C8051F017-GQ	634-C8051F005DK	25	32	2304	8	UART, SMBus, SPI	±20%	10-bit ADC, 12-bit DACs	LQ32			
634	C8051F018-GQ	634-C8051F005DK	25	16	1280	32	UART, SMBus, SPI	±20%	10-bit ADC	TQ64			
634	C8051F019-GQ	634-C8051F005DK	25	16	1280	16	UART, SMBus, SPI	±20%	10-bit ADC	TQ48			
634	C8051F020-GQ	634-C8051F020DK	25	64	4352	64	2 UARTs, SMBus, SPI	±20%	12-bit ADC, 12-bit DACs	TQ100			
634	C8051F021-GQ	634-C8051F020DK	25	64	4352	32	2 UARTs, SMBus, SPI	±20%	12-bit ADC, 12-bit DACs	TQ64			
634	C8051F022-GQ	634-C8051F020DK	25	64	4352	64	2 UARTs, SMBus, SPI	±20%	10-bit ADC, 12-bit DACs	TQ100			
634	C8051F023-GQ	634-C8051F020DK	25	64	4352	32	2 UARTs, SMBus, SPI	±20%	10-bit ADC, 12-bit DACs	TQ64			
634	C8051F040-GQ	634-C8051F040DK	25	64	4352	64	CAN 2, UARTs, SMBus, SPI	±2%	12-bit ADC, 12-bit DACs	TQ100			
634	C8051F041-GQ	634-C8051F040DK	25	64	4352	32	CAN 2, UARTs, SMBus, SPI	±2%	12-bit ADC, 12-bit DACs	TQ64			
634	C8051F042-GQ	634-C8051F040DK	25	64	4352	64	CAN 2, UARTs, SMBus, SPI	±2%	10-bit ADC, 12-bit DACs	TQ100			
634	C8051F043-GQ	634-C8051F040DK	25	64	4352	32	CAN 2, UARTs, SMBus, SPI	±2%	10-bit ADC, 12-bit DACs	TQ100			
634	C8051F044-GQ	634-C8051F040DK	25	64	4352	64	CAN2.2, UARTs, SMBus, SPI	±2%	10-bit 13Ch ADC	TQFP100			
634	C8051F045-GQ	634-C8051F040DK	25	64	4352	32	CAN2.2, UARTs, SMBus, SPI	±2%	10-bit 13 CH ADC	TQFP64			
634	C8051F046-GQ	634-C8051F040DK	25	32	4352	64	CAN2.2, UARTs, SMBus, SPI	±2%	10-bit 13 CH ADC	TQFP100			
634	C8051F047-GQ	634-C8051F040DK	25	32	4352	32	CAN2.2, UARTs, SMBus, SPI	±2%	10-bit 13 CH ADC	TQFP64			
634	C8051F060-GQ	634-C8051F060DK	25	64	4352	59	CAN 2, UARTs, SMBus, SPI	±2%	16-bit ADC, 12-bit DACs	TQ100			
634	C8051F061-GQ	634-C8051F060DK	25	64	4352	24	CAN 2, UARTs, SMBus, SPI	±2%	16-bit ADC, 12-bit DACs	TQ64			
634	C8051F062-GQ	634-C8051F060DK	25	64	4352	59	CAN 2, UARTs, SMBus, SPI	±2%	16-bit ADC, 12-bit DACs	TQ100			
634	C8051F063-GQ	634-C8051F060DK	25	64	4352	24	CAN 2, UARTs, SMBus, SPI	±2%	16-bit ADC, 12-bit DACs	TQ64			
634	C8051F064-GQ	634-C8051F060DK	25	64	4352	59	2 UARTs, SMBus, SPI	±2%	16-bit ADC, 1Ch, 100kspcs	TQFP100			
634	C8051F065-GQ	634-C8051F060DK	25	64	4352	24	2 UARTs, SMBus, SPI	±2%	16-bit ADC, 1Ch, 100kspcs	TQFP64			
634	C8051F066-GQ	634-C8051F060DK	25	32	4352	59	2 UARTs, SMBus, SPI	±2%	16-bit ADC, 1Ch, 100kspcs	TQFP100			
634	C8051F067-GQ	634-C8051F060DK	25	32	4352	24	2 UARTs, SMBus, SPI	±2%	16-bit ADC, 1Ch, 100kspcs	TQFP64			
634	C8051F120-GQ	634-C8051F120DK	100	128	8448	64	2 UARTs, SMBus, SPI	±2%	12-bit ADC, 12-bit DACs	TQ100			
634	C8051F121-GQ	634-C8051F120DK	100	128	8448	32	2 UARTs, SMBus, SPI	±2%	12-bit ADC, 12-bit DACs	TQ64			
634	C8051F122-GQ	634-C8051F120DK	100	128	8448	64	2 UARTs, SMBus, SPI	±2%	10-bit ADC, 12-bit DACs	TQ100			
634	C8051F123-GQ	634-C8051F120DK	100	128	8448	32	2 UARTs, SMBus, SPI	±2%	10-bit ADC, 12-bit DACs	TQ64			
634	C8051F124-GQ	634-C8051F124DK	50	128	8448	64	2 UARTs, SMBus, SPI	±2%	12-bit ADC, 12-bit DACs	TQ100			
634	C8051F125-GQ	634-C8051F124DK	50	128	8448	32	2 UARTs, SMBus, SPI	±2%	12-bit ADC, 12-bit DACs	TQ64			
634	C8051F126-GQ	634-C8051F124DK	50	128	8448	64	2 UARTs, SMBus, SPI	±2%	10-bit ADC, 12-bit DACs	TQ100			
634	C8051F127-GQ	634-C8051F124DK	50	128	8448	64	2 UARTs, SMBus, SPI	±2%	10-bit ADC, 12-bit DACs	TQ64			
634	C8051F130-GQ	634-C8051F120DK	100	128	8448	64	2 UARTs, SMBus, SPI	±2%	10-bit, 8Ch, 100kspcs	TQFP100			
634	C8051F131-GQ	634-C8051F120DK	100	128	8448	32	2 UARTs, SMBus, SPI	±2%	10-bit, 8Ch, 100kspcs	TQFP64			
634	C8051F132-GQ	634-C8051F120DK	100	64	8448	64	2 UARTs, SMBus, SPI	±2%	10-bit, 8Ch, 100kspcs	TQFP100			
634	C8051F133-GQ	634-C8051F120DK	100	64	8448	32	2 UARTs, SMBus, SPI	±2%	10-bit, 8Ch, 100kspcs	TQFP64			
634	C8051F350-GQ	634-C8051F350DK	50	8	768	17	UART, SMBus, SPI	±2%	24-bit, 8Ch, 1kspcs	LQFP28			
634	C8051F351-GM	634-C8051F350DK	50	8	768	17	UART, SMBus, SPI	±2%	24-bit, 8Ch, 1kspcs	QFN28			
634	C8051F352-GQ	634-C8051F350DK	50	8	768	17	UART, SMBus, SPI	±2%	16-bit, 8Ch, 1kspcs	LQFP32			
634	C8051F353-GM	634-C8051F350DK	50	8	768	17	UART, SMBus, SPI	±2%	16-bit, 8Ch, 1kspcs	QFN28			

## USB MICROCONTROLLERS

USB MCUs feature an on-board USB 2.0 function controller with an integrated transceiver and on-chip clock recovery. No external resistors, crystal, voltage regulator, EEPROM or other components are required. On-chip resources include a high-speed 8051 CPU with up to 64 kB Flash, UARTs, SMBus, SPI, timers, counters and PWM generators. On-chip analog features include a multi-channel 10-bit ADC, voltage reference, internal oscillator, comparators and a temperature sensor. Available in 28-pin QFN, 32-pin LQFP or 48-pin TQFP packages, these devices provide a single-chip solution for embedded USB applications.



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RESISTORS



CRYSTAL



VREG

For quantities of 250 and up, call for quote.

MOUSER STOCK NO.		Development Kit Part No.	MIPS (Peak)	Flash Mem. (KB)	RAM (bytes)	Digital Port I/O Pins	Serial Buses	Internal Osc	Analog Peripherals	Package	Price Each		
Mfr.	Mfr. Part No.										1	25	100
634	C8051F320-GQ	634-C8051F320DK	25	16	2304	25	USB 2.0, UART, SMBus, SPI	±1.5%	10-bit ADC, VREF, 2 comparators	LQFP32			
634	C8051F321-GM	634-C8051F320DK	25	16	2304	21	USB 2.0, UART, SMBus, SPI	±1.5%	10-bit ADC, VREF, 2 comparators	QFN28			
634	C8051F326-GM	634-C8051F326DK	25	16	1536	15	USB 2.0, UART	±1.5%	-----	QFN28			
634	C8051F327-GM	634-C8051F326DK	25	16	1536	15	USB 2.0, UART	±1.5%	-----	QFN28			
634	C8051F340-GQ	634-C8051F340DK	48	64	5376	40	USB 2.0, 2x UART, SMBus, SPI	±1.5%	10-bit ADC, VREF, 2 comparators	TQFP48			
634	C8051F341-GQ	634-C8051F340DK	48	32	3328	40	USB 2.0, 2x UART, SMBus, SPI	±1.5%	10-bit ADC, VREF, 2 comparators	TQFP48			
634	C8051F342-GM	634-C8051F340DK	48	64	4352	25	USB 2.0, UART, I2C, SPI	±1.5%	10-bit ADC, VREF, 2 comparators	QFN 32			
634	C8051F342-GQ	634-C8051F340DK	48	64	5376	25	USB 2.0, UART, SMBus, SPI	±1.5%	10-bit ADC, VREF, 2 comparators	LQFP32			