

SILICON LABS Microcontrollers



MCU / MPU / DSP

Silicon Labs

RoHS Compliant This page of product is compliant.

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

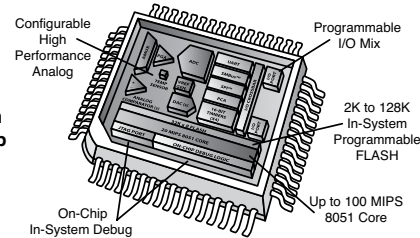
Features:

- 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

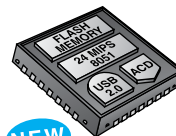


For quantities greater than listed, call for quote.

MOUSER STOCK NO.		Package	MIPS (Peak)	Flash Mem. (KB)	RAM (bytes)	Digital Port I/O Pins	Interfaces				Analog Peripherals							Price Each			
Mfr.	Mfr. Part No.						UART	I2C	SPI	CAN	Internal Osc.	Timers	PCA Ch.	ADC	DAC	Temp Sensor	VREF	Comparators	1	25	100
634	C8051F000-GQ	TQFP-64	20	32	256	32	Yes	Yes	Yes	No	±20%	4 16-bit	5	12-bit	12-bit	Yes	Yes	2	16.18	13.23	11.20
634	C8051F001-GQ	TQFP-48	20	32	256	16	Yes	Yes	Yes	No	±20%	4 16-bit	5	12-bit	12-bit	Yes	Yes	2	15.91	13.01	11.01
634	C8051F002-GQ	LQFP-32	20	32	256	8	Yes	Yes	Yes	No	±20%	4 16-bit	5	12-bit	12-bit	Yes	Yes	1	15.67	12.81	10.84
634	C8051F012-GQ	LQFP-32	20	32	256	8	Yes	Yes	Yes	No	±20%	4 16-bit	5	10-bit	12-bit	Yes	Yes	1	14.04	11.76	10.01
634	C8051F019-GQ	TQFP-48	25	16	1280	16	Yes	Yes	Yes	No	±20%	4 16-bit	5	10-bit	No	Yes	Yes	2	12.12	10.43	8.83
634	C8051F005-GQ	TQFP-64	25	32	2304	32	Yes	Yes	Yes	No	±20%	4 16-bit	5	2 12-bit	No	Yes	Yes	2	17.33	14.18	12.00
634	C8051F006-GQ	TQFP-48	25	32	2304	16	Yes	Yes	Yes	No	±20%	4 16-bit	5	12-bit	12-bit	Yes	Yes	2	16.89	13.81	11.69
634	C8051F007-GQ	LQFP-32	25	32	2304	8	Yes	Yes	Yes	No	±20%	4 16-bit	5	12-bit	12-bit	Yes	Yes	1	16.49	13.49	11.41
634	C8051F015-GQ	TQFP-64	25	32	2304	32	Yes	Yes	Yes	No	±20%	4 16-bit	5	10-bit	12-bit	Yes	Yes	2	16.38	13.40	11.33
634	C8051F016-GQ	TQFP-48	25	32	2304	16	Yes	Yes	Yes	No	±20%	4 16-bit	5	10-bit	12-bit	Yes	Yes	2	16.11	13.18	11.15
634	C8051F046-GQ	TQFP-100	25	32	4352	64	2	Yes	Yes	2.0B	±2%	5 16-bit	6	10-bit	No	Yes	Yes	3	10.84	8.87	7.50
634	C8051F047-GQ	TQFP-64	25	32	4352	32	2	Yes	Yes	2.0B	±2%	5 16-bit	6	10-bit	No	Yes	Yes	3	10.16	8.30	7.03
634	C8051F020-GQ	TQFP-100	25	64	4352	64	2	Yes	Yes	No	±20%	5 16-bit	5	12/8-bit	12-bit	Yes	Yes	2	23.27	19.03	16.10
634	C8051F021-GQ	TQFP-64	25	64	4352	32	2	Yes	Yes	No	±20%	5 16-bit	5	12/8-bit	12-bit	Yes	Yes	2	22.44	18.36	15.53
634	C8051F022-GQ	TQFP-100	25	64	4352	64	2	Yes	Yes	No	±20%	5 16-bit	5	10/8-bit	12-bit	Yes	Yes	2	18.51	15.14	12.81
634	C8051F023-GQ	TQFP-64	25	64	4352	32	2	Yes	Yes	No	±20%	5 16-bit	5	10/8-bit	12-bit	Yes	Yes	2	17.18	14.05	11.89
634	C8051F040-GQ	TQFP-100	25	64	4352	64	2	Yes	Yes	2.0B	±2%	5 16-bit	6	12/8-bit	12-bit	Yes	Yes	3	16.58	13.56	11.47
634	C8051F041-GQ	TQFP-64	25	64	4352	32	2	Yes	Yes	2.0B	±2%	5 16-bit	6	12/8-bit	12-bit	Yes	Yes	3	15.93	13.03	11.03
634	C8051F042-GQ	TQFP-100	25	64	4352	64	2	Yes	Yes	2.0B	±2%	5 16-bit	6	10/8-bit	12-bit	Yes	Yes	3	14.22	11.63	9.84
634	C8051F043-GQ	TQFP-100	25	64	4352	32	2	Yes	Yes	2.0B	±2%	5 16-bit	6	10/8-bit	12-bit	Yes	Yes	3	13.64	11.16	9.44
634	C8051F044-GQ	TQFP-100	25	64	4352	64	2	Yes	Yes	2.0B	±2%	5 16-bit	6	10-bit	No	Yes	Yes	3	11.56	9.45	8.00
634	C8051F045-GQ	TQFP-64	25	64	4352	32	2	Yes	Yes	2.0B	±2%	5 16-bit	6	10-bit	No	Yes	Yes	3	10.93	8.94	7.56
634	C8051F060-GQ	TQFP-100	25	64	4352	59	2	Yes	Yes	2.0B	±2%	5 16-bit	6	2 16-bit	12-bit	Yes	Yes	3	22.80	18.65	15.78
634	C8051F061-GQ	TQFP-64	25	64	4352	24	2	Yes	Yes	2.0B	±2%	5 16-bit	6	2 16-bit	12-bit	Yes	Yes	3	20.73	16.96	14.35
634	C8051F062-GQ	TQFP-100	25	64	4352	59	2	Yes	Yes	2.0B	±2%	5 16-bit	6	2 16-bit	12-bit	Yes	Yes	3	19.38	15.85	13.41
634	C8051F063-GQ	TQFP-64	25	64	4352	24	2	Yes	Yes	2.0B	±2%	5 16-bit	6	2 16-bit	12-bit	Yes	Yes	3	18.84	15.41	13.04
634	C8051F064-GQ	TQFP-100	25	64	4352	59	2	Yes	Yes	No	±2%	5 16-bit	6	2 16-bit	No	No	Yes	3	16.40	13.41	11.35
634	C8051F065-GQ	TQFP-64	25	64	4352	24	2	Yes	Yes	No	±2%	5 16-bit	6	2 16-bit	No	No	Yes	3	15.91	13.01	11.01
634	C8051F350-GQ	LQFP-32	50	8	768	17	Yes	Yes	Yes	No	±2%	4 16-bit	3	24-bit	8-bit	Yes	Yes	1	8.91	7.29	6.62
634	C8051F351-GM	QFN-28	50	8	768	17	Yes	Yes	Yes	No	±2%	4 16-bit	3	24-bit	8-bit	Yes	Yes	1	7.31	5.98	5.38
634	C8051F352-GQ	LQFP-32	50	8	768	17	Yes	Yes	Yes	No	±2%	4 16-bit	3	16-bit	8-bit	Yes	Yes	1	6.60	5.40	4.86
634	C8051F353-GM	QFN-28	50	8	768	17	Yes	Yes	Yes	No	±2%	4 16-bit	3	16-bit	8-bit	Yes	Yes	1	5.53	4.52	4.07
634	C8051F124-GQ	TQFP-100	50	128	8448	64	2	Yes	Yes	No	±2%	5 16-bit	6	12/8-bit	12-bit	Yes	Yes	2	25.00	20.45	17.30
634	C8051F125-GQ	TQFP-64	50	128	8448	32	2	Yes	Yes	No	±2%	5 16-bit	6	12/8-bit	12-bit	Yes	Yes	2	24.07	19.69	16.66
634	C8051F126-GQ	TQFP-100	50	128	8448	64	2	Yes	Yes	No	±2%	5 16-bit	6	10/8-bit	12-bit	Yes	Yes	2	22.91	18.74	15.86
634	C8051F127-GQ	TQFP-64	50	128	8448	32	2	Yes	Yes	No	±2%	5 16-bit	6	10/8-bit	12-bit	Yes	Yes	2	22.04	18.03	15.31
634	C8051F132-GQ	TQFP-100	100	64	8448	64	2	Yes	Yes	No	±2%	5 16-bit	6	10-bit	No	Yes	Yes	2	17.09	13.98	11.83
634	C8051F133-GQ	TQFP-64	100	64	8448	32	2	Yes	Yes	No	±2%	5 16-bit	6	10-bit	No	Yes	Yes	2	16.24	13.29	11.53
634	C8051F120-GQ	TQFP-100	100	128	8448	64	2	Yes	Yes	No	±2%	5 16-bit	6	12/8-bit	12-bit	Yes	Yes	2	28.51	23.32	19.73
634	C8051F121-GQ	TQFP-64	100	128	8448	32	2	Yes	Yes	No	±2%	5 16-bit	6	12/8-bit	12-bit	Yes	Yes	2	27.60	22.58	19.10
634	C8051F122-GQ	TQFP-100	100	128	8448	64	2	Yes	Yes	No	±2%	5 16-bit	6	10/8-bit	12-bit	Yes	Yes	2	26.40	21.60	18.27
634	C8051F123-GQ	TQFP-64	100	128	8448	32	2	Yes	Yes	No	±2%	5 16-bit	6	10/8-bit	12-bit	Yes	Yes	2	25.56	20.90	17.69
634	C8051F130-GQ	TQFP-100	100	128	8448	64	2	Yes	Yes	No	±2%	5 16-bit	6	10-bit	No	No	Yes	2	20.40	16.69	13.29
634	C8051F131-GQ	TQFP-64	100	128	8448	32	2	Yes	Yes	No	±2%	5 16-bit	6	10-bit	No	Yes	Yes	2	19.58	16.01	13.75

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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Mfr.	Mfr. Part No.						UART	I2C	SPI	SMBus	USB	Internal Osc.	Timers	PCA Ch.	ADC	DAC	Temp Sensor	VREF	Comparators	1	25	100
634	C8051F326-GM	QFN-28	25	16	1536	15	Yes	No	No	No	2.0	±1.5%	2 16-bit	No	No	No	No	No	4.40	3.60	3.24	
634	C8051F327-GM	QFN-28	25	16	1536	15	Yes	No	No	No	2.0	±1.5%	2 16-bit	No	No	No	No	No	4.40	3.60	3.24	
634	C8051F320-GQ	LQFP-32	25	16	2304	25	Yes	Yes	Yes	No	2.0	±1.5%	4 16-bit	5	10-bit	No	Yes	Yes	2	7.71	6.30	5.73
634	C8051F321-GM	QFN-28	25	16	2304	21	Yes	Yes	Yes	No	2.0	±1.5%	4 16-bit	5	10-bit	No	Yes	Yes	2	6.58	5.38	4.89
634	C8051F345-GQ	TQFP-48	25	32	2304	40	2	Yes	Yes	No	2.0	±1.5%	4 16-bit	5	10-bit	No	Yes	Yes	2	9.36	7.65	6.95
634	C8051F347-GM	QFN-32	25	32	2304	25	Yes	Yes	Yes	No	2.0	±1.5%	4 16-bit	5	10-bit	No	Yes	Yes	2	8.60	7.03	6.39
634	C8051F347-GQ	LQFP-32	25	32	2304	25	Yes	Yes	Yes	No	2.0	±1.5%	4 16-bit	5	10-bit	No	Yes	Yes	2	8.60	7.03	6.39
634	C8051F348-GQ	TQFP-48	25	32	2304	40	2	Yes	Yes	No	2.0	±1.5%	4 16-bit	5	No	No	No	No	2	8.71	7.12	6.47
634	C8051F349-GM	QFN-32	25	32	2304	25	Yes	Yes	Yes	No	2.0	±1.5%	4 16-bit	5	No	No	Yes	Yes	2	8.00	6.54	5.94
634	C8051F349-GQ	LQFP-32	25	32	2304	25	Yes	Yes	Yes	No	2.0	±1.5%	4 16-bit	5	No	No	No	No	2	8.00	6.54	5.94
634	C8051F344-GM	TQFP-48	25	64	4352	40	2	Yes	Yes	No	2.0	±1.5%	4 16-bit	5	10-bit	No	Yes	Yes	2	10.76	8.80	7.93
634	C8051F346-GM	QFN-32	25	64	4352	25	Yes	Yes	Yes	No	2.0	±1.5%	4 16-bit	5	10-bit	No	Yes	Yes	2	10.20	8.34	7.57
634	C8051F346-GQ	LQFP-32	25	64	4352	25	Yes	Yes	Yes	No	2.0	±1.5%	4 16-bit	5	10-bit	No	Yes	Yes	2	10.20	8.34	7.58