

SILICON LABS Microcontrollers



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C8051F70X CAPACITIVE TOUCH SENSE MCUS

The Silicon Labs C8051F70x MCU family meets designers' demands for Capacitive Touch Sense features and best-in-class performance. These high performance devices perform a wide range of mixed-signal functions and includes a high-speed 8051 Core, Capacitive Touch Sense with 16-bit capacitance-to-Digital Converter, superior noise immunity, fast 40µs acquisition time, and digital peripherals that include up to 39 port I/O with high sink current. The C8051F70x MCU family is robust and reliable with noise immune architecture with best-in-class SNR. Silicon Labs offers a simple GUI and API library that make implementation fast and easy.

Features:

- 25 MIPS 8051 CPU
- On-chip voltage comparator
- Capacitive Sense interface with 32 input channels
- Precision calibrated 24.5 MHz internal oscillator
- In-system, full-speed, non-intrusive debug interface (on-chip)
- Four general-purpose 16-bit timers



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For quantities of 100 and up, call for quote.

MOUSER STOCK NO.	Development Kit Part No.	Package	Flash (KB)	RAM (bytes)	Digital I/O Pins	Serial Buses	Timers (16-bit)	ADC	Temp Sensor	VREF	Price Each		
											1	25	100
634—C8051F700-GQ	C8051F700DK	QFP64	15	512	54	UART, I2C, SPI	4	10-bit	Yes	Yes	8.27	6.76	6.14
634—C8051F701-GQ	C8051F700DK	QFP64	15	512	54	UART, I2C, SPI	4	-	No	No	7.58	6.20	5.24
634—C8051F702-GQ	C8051F700DK	QFP64	16	512	54	UART, I2C, SPI	4	10-bit	Yes	Yes	8.27	6.76	6.14
634—C8051F703-GQ	C8051F700DK	QFP64	16	512	54	UART, I2C, SPI	4	-	No	No	7.58	6.20	5.24
634—C8051F704-GQ	C8051F700DK	QFN48	15	512	39	UART, I2C, SPI	4	10-bit	Yes	Yes	7.64	6.25	5.68
634—C8051F704-GM	C8051F700DK	QFP48	15	512	39	UART, I2C, SPI	4	10-bit	Yes	Yes	7.22	5.90	5.36
634—C8051F705-GM	C8051F700DK	QFN48	15	512	39	UART, I2C, SPI	4	-	No	No	6.98	5.70	4.83
634—C8051F705-GQ	C8051F700DK	QFP48	15	512	39	UART, I2C, SPI	4	-	No	No	6.62	5.41	4.21
634—C8051F706-GM	C8051F700DK	QFN48	16	512	39	UART, I2C, SPI	4	10-bit	Yes	Yes	7.64	6.25	5.68
634—C8051F706-GQ	C8051F700DK	QFP48	16	512	39	UART, I2C, SPI	4	10-bit	Yes	Yes	7.22	5.90	5.36
634—C8051F707-GM	C8051F700DK	QFN48	16	512	39	UART, I2C, SPI	4	-	No	No	6.98	5.70	4.83
634—C8051F707-GQ	C8051F700DK	QFP48	16	512	39	UART, I2C, SPI	4	-	No	No	6.62	5.41	5.01
634—C8051F708-GQ	C8051F700DK	QFP64	8	512	54	UART, I2C, SPI	4	10-bit	Yes	Yes	6.89	5.63	5.18
634—C8051F709-GQ	C8051F700DK	QFP64	8	512	54	UART, I2C, SPI	4	-	No	No	6.20	5.07	4.75
634—C8051F710-GQ	C8051F700DK	QFP64	8	512	54	UART, I2C, SPI	4	10-bit	Yes	Yes	6.56	5.36	4.53
634—C8051F711-GQ	C8051F700DK	QFP64	8	512	54	UART, I2C, SPI	4	-	No	No	5.87	4.80	4.45
634—C8051F712-GM	C8051F700DK	QFN48	8	512	39	UART, I2C, SPI	4	10-bit	Yes	Yes	6.33	5.18	4.84
634—C8051F712-GQ	C8051F700DK	QFP48	8	512	39	UART, I2C, SPI	4	10-bit	Yes	Yes	6.00	4.90	4.64
634—C8051F713-GM	C8051F700DK	QFN48	8	512	39	UART, I2C, SPI	4	-	No	No	5.67	4.63	3.92
634—C8051F713-GQ	C8051F700DK	QFP48	8	512	39	UART, I2C, SPI	4	-	No	No	5.40	4.41	3.73
634—C8051F714-GM	C8051F700DK	QFN48	8	512	39	UART, I2C, SPI	4	10-bit	Yes	Yes	5.33	4.36	3.69
634—C8051F714-GQ	C8051F700DK	QFP48	8	512	39	UART, I2C, SPI	4	10-bit	Yes	Yes	5.09	4.16	3.52
634—C8051F715-GM	C8051F700DK	QFN48	8	512	39	UART, I2C, SPI	4	-	No	No	5.00	4.09	3.46
634—C8051F715-GQ	C8051F700DK	QFP48	8	512	39	UART, I2C, SPI	4	-	No	No	4.78	3.90	3.30

C8051F70X CAPACITIVE TOUCH SENSE DEVELOPMENT TOOLS

For quantities greater than listed, call for quote.

MOUSER STOCK NO.	Silicon Labs Part No.	Description	Price Each
634-C8051F700-TB	C8051F700TB	C8051F700 MCU Family Target Board	49.00
634-KEYBOARD-DEK	KEYBOARD-DEK	C8051F700 Capacitive Touch Sense Evaluation Kit	52.50
634-C8051F700DK	C8051F700DK	C8051F700 MCU Family Development Kit	99.00

LOW VOLTAGE / LOW POWER MCU'S

The C8051F9xx is the industry's first MCU family capable of full-spec operation down to 0.9 V and up to 3.6 V, enabling single-cell battery operation as well as dramatically increasing battery life for dual-cell applications. With an integrated dc-dc converter, smart clock, and touch sense inputs, the C8051F9xx has been designed to provide a fast wake-up time, low active-mode, and ultra-low sleep mode current consumption. The C8051F9xx family not only provides high performance while saving power but also unprecedented functional density in a small footprint.

Greatest Power Efficiency: The C8051F9xx family is optimized in all operating modes to enable customers to either move to a single-cell design or increase the system's battery life by up to 2x in parallel dual-cell designs.



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For quantities of 500 and up, call for quote.

MOUSER STOCK NO.	Mfr. Part No.	Package	MIPS (Peak)	Flash Mem. (KB)	RAM (bytes)	Digital Port I/O Pins	Serial Buses	Internal Osc	Timer (16 Bit)	ADC	Temp Sensor	Price Each			
												1	25	100	1000
634—C8051F901-GM	QFN-24	25	8	768	16	12C, 2 SPI, UART	2%	4	10-bit	Yes	Yes	3.82	3.12	2.84	2.58
634—C8051F901-GU	QSOP-24	25	8	768	16	12C, 2 SPI, UAR	2%	4	10-bit	Yes	Yes	4.02	3.29	2.99	2.72
634—C8051F902-GM	QFN-24	25	8	768	16	UARTI2C, 2 SPI, UART	2%	4	12-bit	Yes	Yes	4.18	3.41	3.10	2.82
634—C8051F902-GU	QSOP-24	25	8	768	16	12C, 2 SPI, UART	2%	4	12-bit	Yes	Yes	4.38	3.58	3.25	2.96
634—C8051F911-GM	QFN-24	25	16	768	16	12C, 2 SPI, UART	2%	4	10-bit	Yes	Yes	4.24	3.47	3.15	2.87
634—C8051F911-GU	QSOP-24	25	16	768	16	12C, 2 SPI, UART	2%	4	12-bit	Yes	Yes	4.44	3.63	3.30	3.00
634—C8051F912-GM	QFN-24	25	16	768	16	12C, 2 SPI, UART	2%	4	12-bit	Yes	Yes	4.59	3.75	3.42	3.11
634—C8051F912-GU	QSOP-24	25	16	768	16	12C, 2 SPI, UART	2%	4	12-bit	Yes	Yes	4.80	3.92	3.56	3.24
634—C8051F920-GM	QFN 32	25	32	4352	24	UART, EMIF, I2C, 2 SPI	2%	-	-	-	-	5.62	4.60	4.17	3.80
634—C8051F920-GQ	LQFP 32	25	32	4352	24	UART, EMIF, I2C, 2 SPI	2%	-	-	-	-	6.64	5.43	4.93	4.49
634—C8051F921-GM	QFN 24	25	32	4352	16	UART, I2C, 2 SPI	2%	-	-	-	-	5.07	4.14	3.76	3.42
634—C8051F930-GM	QFN 32	25	64	4352	24	UART, EMIF, I2C, 2 SPI	2%	-	-	-	-	6.31	5.16	4.69	4.26
634—C8051F930-GQ	LQFP 32	25	64	4352	24	UART, EMIF, I2C, 2 SPI	2%	-	-	-	-	7.49	6.12	5.56	5.06
634—C8051F931-GM	QFN 24	25	64	4352	16	UART, I2C, 2 SPI	2%	-	-	-	-	5.64	4.61	4.19	3.81

USB TO UART BRIDGE-SINGLE CHIP SOLUTION

A single-chip USB to UART bridge that converts data traffic between USB and UART formats.

Features:

- USB Function Controller and Transceiver
- Integrated 1024-byte EEPROM
- Programmable Baud rates
- Integrated clock no external crystal required
- USB specification 2.0 compliant 12 Mbps
- EEPROM security lock function
- Integrated transceiver no external resistors required
- USB suspend states supported

Example Applications:

- Upgrade of RS-232 legacy devices to USB
- Cellular phone USB interface cable
- PDA interface cable
- USB to RS-232 serial adapter

Specifications:

- Self-powered: 3.0 - 3.6 V
- USB bus powered: 4.0 - 5.25 V
- Temperature Range: -40 to 85° C
- MIPS (Peak): 0
- Internal Osc: 0

For quantities of 1000 and up, call for quote.

MOUSER STOCK NO.	Development Kit Part No.	Flash Memory	RAM (Bytes)	Digital Port I/O Pins	Serial Buses	Analog Peripherals	Package	Price Each		
								1	100	1000
634—CP2101-GM	CP2101EK	512 kb EEPROM	1000	13	UART to USB Bridge	Voltage Regulator	QFN28	4.93	3.66	3.22
634—CP2102-GM	CP2102EK	1024 kb EEPROM	1000	13	UART to USB Bridge	Voltage Regulator	QFN28	3.93	2.78	2.57
634—CP2103-GM	CP2103EK	1024 kb EEPROM	1000	13	UART to USB Bridge	Voltage Regulator	QFN28	5.29	3.66	3.45
634—CP2120-GM	CP2120EK	0	512	9	SPI, I2C	Voltage Regulator	QFN20	3.16	2.41	2.11
634—CP2200-GQ	ETHERNETDK	8 kB	0	0	8-bit non-multiplexed parallel EMIF	2 kB TX and 4 kB RX buffer	TQFP48	8.33	6.36	5.40
634—CP2201-GM	ETHERNETDK	8 kB	0	0	8-bit non-multiplexed parallel EMIF	30 Mbps Parallel Host Interface Speed 2 kB TX and 4 kB RX buffer	QFN28	7.07	5.23	4.58

INTERFACE: LCD CONTROLLERS

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MOUSER STOCK NO.	Mfr. Part No.	Package	RAM (bytes)	LCD Segments	I/O Pins	Serial Buses	Timers (16 Bit)	Internal Osc	Price Each			
									1	25	100	1000
634—CP2400-GM	QFN-48	256	128	128	36	SPI	2	Yes	2.49	2.03	1.85	1.68
634—CP2400-GQ	QFP-48	256	128	128	36	SPI	2	Yes	2.49	2.03	1.85	1.68
634—CP2401-GM	QFN-48	256	128	128	36	I2C	2	Yes	2.49	2.03	1.85	1.68
634—CP2401-GQ	QFP-48	256	128	128	36	I2C	2	Yes	2.49	2.03	1.85	1.68
634—CP2402-GM	QFN-32	256	64	64	20	SPI	2	Yes	1.73	1.41	1.33	1.17
634—CP2403-GM	QFN-32	256	64	64	20	I2C	2	Yes	1.73	1.41	1.33	1.17