

SILICON LABS Microcontrollers



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MCU / MPU / DSP

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		
Mfr.	Mfr. Part No.											1	25	50
634	—C8051F700-GQ	C8051F700DK	QFP64	15	512	54	UART, I2C, SPI	4	10-bit	Yes	Yes	7.81	6.51	6.14
634	—C8051F701-GQ	C8051F700DK	QFP64	15	512	54	UART, I2C, SPI	4	-	No	No	6.01	5.04	4.60
634	—C8051F702-GQ	C8051F700DK	QFP64	16	512	54	UART, I2C, SPI	4	10-bit	Yes	Yes	7.81	6.51	6.14
634	—C8051F703-GQ	C8051F700DK	QFP64	16	512	54	UART, I2C, SPI	4	-	No	No	6.01	5.04	4.60
634	—C8051F704-GM	C8051F700DK	QFN48	15	512	39	UART, I2C, SPI	4	10-bit	Yes	Yes	7.22	6.02	5.68
634	—C8051F704-GQ	C8051F700DK	QFP48	15	512	39	UART, I2C, SPI	4	10-bit	Yes	Yes	6.83	5.69	5.36
634	—C8051F705-GM	C8051F700DK	QFN48	15	512	39	UART, I2C, SPI	4	-	No	No	5.53	4.64	4.23
634	—C8051F705-GQ	C8051F700DK	QFP48	15	512	39	UART, I2C, SPI	4	-	No	No	5.23	4.39	4.01
634	—C8051F706-GM	C8051F700DK	QFN48	16	512	39	UART, I2C, SPI	4	10-bit	Yes	Yes	7.22	6.02	5.68
634	—C8051F706-GQ	C8051F700DK	QFP48	16	512	39	UART, I2C, SPI	4	10-bit	Yes	Yes	6.83	5.69	5.36
634	—C8051F707-GM	C8051F700DK	QFN48	16	512	39	UART, I2C, SPI	4	-	No	No	5.53	4.64	4.23
634	—C8051F707-GQ	C8051F700DK	QFP48	16	512	39	UART, I2C, SPI	4	-	No	No	5.23	4.39	4.01
634	—C8051F708-GQ	C8051F700DK	QFP64	8	512	54	UART, I2C, SPI	4	10-bit	Yes	Yes	5.46	4.58	4.18
634	—C8051F709-GM	C8051F700DK	QFN48	8	512	54	UART, I2C, SPI	4	-	No	No	4.90	4.11	3.75
634	—C8051F710-GQ	C8051F700DK	QFP64	8	512	54	UART, I2C, SPI	4	10-bit	Yes	Yes	5.18	4.35	3.97
634	—C8051F711-GQ	C8051F700DK	QFP64	8	512	54	UART, I2C, SPI	4	-	No	No	4.63	3.89	3.55
634	—C8051F712-GM	C8051F700DK	QFN48	8	512	39	UART, I2C, SPI	4	10-bit	Yes	Yes	5.00	4.20	3.84
634	—C8051F712-GQ	C8051F700DK	QFP48	8	512	39	UART, I2C, SPI	4	10-bit	Yes	Yes	4.75	3.99	3.64
634	—C8051F713-GM	C8051F700DK	QFN48	8	512	39	UART, I2C, SPI	4	-	No	No	4.48	3.76	3.43
634	—C8051F713-GQ	C8051F700DK	QFP48	8	512	39	UART, I2C, SPI	4	-	No	No	4.26	3.58	3.27
634	—C8051F714-GM	C8051F700DK	QFN48	8	512	39	UART, I2C, SPI	4	10-bit	Yes	Yes	4.22	3.54	3.23
634	—C8051F714-GQ	C8051F700DK	QFP48	8	512	39	UART, I2C, SPI	4	10-bit	Yes	Yes	4.03	3.38	3.08
634	—C8051F715-GM	C8051F700DK	QFN48	8	512	39	UART, I2C, SPI	4	-	No	No	3.97	3.33	3.03
634	—C8051F715-GQ	C8051F700DK	QFP48	8	512	39	UART, I2C, SPI	4	-	No	No	3.79	3.18	2.90

C8051F70X CAPACITIVE TOUCH SENSE DEVELOPMENT TOOLS

For quantities greater than listed, call for quote.

MOUSER STOCK NO.		Development Kit Part No.	Description	Price Each
Mfr.	Mfr. Part No.			
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, the C8051F9xx has been designed to provide a fast wake-up time, low active-mode, and ultra-low sleep mode current consumptions. The C8051F9xx family not only provides high performance while saving power but also unprecedented functional density in a small footprint.



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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.

For quantities of 500 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: smaRTClock, touch sense inputs	Package	Price Each			
Mfr.	Mfr. Part No.										1	25	50	100
634	—C8051F920-GM	634-C8051F930DK	25	32	4352	24	UART, EMIF, I2C, 2 SPI	2%	up to 23 inputs	QFN 32	5.57	4.55	4.17	3.80
634	—C8051F920-GQ	634-C8051F930DK	25	32	4352	24	UART, EMIF, I2C, 2 SPI	2%	up to 23 inputs	LQFP 32	6.46	5.38	4.93	4.49
634	—C8051F921-GM	634-C8051F930DK	25	32	4352	16	UART, I2C, 2 SPI	2%	up to 15 inputs	QFN 24	5.02	4.10	3.76	3.42
634	—C8051F930-GM	634-C8051F930DK	25	64	4352	24	UART, EMIF, I2C, 2 SPI	2%	up to 23 inputs	QFN 32	6.25	5.11	4.69	4.26
634	—C8051F930-GQ	634-C8051F930DK	25	64	4352	24	UART, EMIF, I2C, 2 SPI	2%	up to 23 inputs	LQFP 32	7.08	6.07	5.56	5.06
634	—C8051F931-GM	634-C8051F930DK	25	64	4352	16	UART, I2C, 2 SPI	2%	up to 15 inputs	QFN 24	5.59	4.57	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



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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		
Mfr.	Mfr. Part No.								1	100	500
634	—CP2101-GM	CP2101EK	512 kb EEPROM	1000	13	UART to USB Bridge	Voltage Regulator	QFN28	4.66	3.22	2.96
634	—CP2102-GM	CP2102EK	1024 kb EEPROM	1000	13	UART to USB Bridge	Voltage Regulator	QFN28	3.66	2.57	2.41
634	—CP2103-GM	CP2103EK	1024 kb EEPROM	1000	13	UART to USB Bridge	Voltage Regulator	QFN28	5.23	3.45	3.31
634	—CP2120-GM	CP2120EK	0	512	9	SPI, I2C	Voltage Regulator	QFN20	2.92	2.11	1.98
634	—CP2200-GQ	ETHERNETDK	8 kB	0	0	8-bit non-multiplexed parallel EMIF	2 kB TX and 4 kB RX buffer	TQFP48	6.73	5.40	4.90
634	—CP2201-GM	ETHERNETDK	8 kB	0	0	8-bit non-multiplexed parallel EMIF	30 Mbps Parallel Host Interface Speed	QFN28	5.94	4.58	4.23