



## Microcontroller Development Tools

**Development Kits:** • Complete development/prototyping system • Prototyping/demonstration board • In-system Flash programming • In-circuit debugging • MCU configuration wizard

**IDE:** • Source code editor, project manager • Flash programmer • Supports full-speed, non-intrusive in-circuit debug logic • Real-time breakpoints, source-level debug • Conditional memory watch points • Memory and register inspect/modify • Single-step and animated execution modes • Variable watch window

Digi-Key Part No.	Price Each	Silicon Labs Part No.
336-1188-ND	50.09	C8051F005DK
336-1200-ND	57.35	C8051F020DK
336-1205-ND	129.95	C8051F040DK
336-1214-ND	129.95	C8051F060DK
336-1219-ND	71.87	C8051F064EK
336-1224-ND	71.87	C8051F120DK
336-1237-ND	50.09	C8051F206DK
336-1241-ND	50.09	C8051F226DK
336-1246-ND	50.09	C8051F300DK
336-1253-ND	50.09	C8051F310DK
336-1260-ND	71.87	C8051F320DK
336-1306-ND	71.87	C8051F326DK
336-1264-ND	50.09	C8051F330DK
336-1307-ND	71.87	C8051F340DK
336-1083-ND	71.87	C8051F350DK
336-1410-ND	71.87	C8051F360DK
336-1412-ND	36.30	C8051F360-TB
336-1314-ND	71.87	C8051F410DK

Digi-Key Part No.	Price Each	Silicon Labs Part No.
336-1317-ND	21.05	C8051F411EK
336-1526-ND	36.30	C8051F500-TB
336-1527-ND	71.87	C8051F500DK
336-1488-ND	71.87	C8051F530ADK
336-1489-ND	36.30	C8051F530A-TB
336-1404-ND	71.87	C8051T600DK
336-1405-ND	13.79	C8051T600SDB
336-1406-ND	21.05	C8051T600QDB
336-1430-ND	71.87	C8051F360DK
336-1443-ND	93.65	C8051T610DK
336-1464-ND	107.99	C8051T630DK
336-1465-ND	31.76	C8051T630DB20
336-1473-ND	71.87	C8051F930DK
336-1472-ND	37.21	C8051F930-TB
336-1507-ND	35.57	C8051T610DB24
336-1505-ND	18.15	C8051T610DB32
336-1506-ND	35.57	C8051T610DB28

Description	Digi-Key Part No.	Price Each	Silicon Labs Part No.
USB Debug Adapter	336-1182-ND	25.41	DEBUGADPTR1-USB
ToolStick User's Guide	336-1278-ND	8.44	TOOLSTICK-EK
Wireless Voice Transceiver Reference Design Kit	336-1294-ND	161.17	WL-TRANSCVR-RD
Voice Recorder Reference Design Kit	336-1315-ND	35.57	VOICE-RECORD-RD
ToolStick Base Adapter	336-1345-ND	13.53	TOOLSTICKBA
ToolStick C8051F320/321 Daughter Card	336-1480-ND	7.62	TOOLSTICK321DC
ToolStick C8051F326/327 Daughter Card	336-1481-ND	7.62	TOOLSTICK327DC
ToolStick C8051F330 Daughter Card	336-1346-ND	7.62	TOOLSTICK330DC
ToolStick C8051F34x Daughter Card	336-1482-ND	7.62	TOOLSTICK342DC
ToolStick C8051F362 Daughter Card	336-1411-ND	7.62	TOOLSTICK360DC
ToolStick C8051F336 Daughter Card	336-1431-ND	7.62	TOOLSTICK336DC
ToolStick C8051F530 Daughter Card	336-1487-ND	7.62	TOOLSTICK530ADC
ToolStick C8051F931 Daughter Card	336-1474-ND	13.53	TOOLSTICK931DC
University Starter Kit and Book	336-1432-ND	39.93	MCUNIVERSITYKIT
University ToolStick Starter Kit	336-1433-ND	29.04	TOOLSTICKUNISK
University ToolStick Daughter Card	336-1434-ND	18.15	TOOLSTICKUNIDC
ToolStick Debug Adapter	336-1347-ND	6.90	TOOLSTICKDA
ToolStick Starter Kit	336-1348-ND	19.28	TOOLSTICKSK
ToolStick Adapter Program F300	336-1444-ND	50.09	TOOLSTICK300PP
ToolStick Adapter Program F310	336-1445-ND	50.09	TOOLSTICK310PP
ToolStick Adapter Program F311	336-1446-ND	50.09	TOOLSTICK311PP
ToolStick Adapter Program F316	336-1447-ND	50.09	TOOLSTICK316PP

Description	Digi-Key Part No.	Price Each	Silicon Labs Part No.
ToolStick Adapter Program F320	336-1448-ND	50.09	TOOLSTICK320PP
ToolStick Adapter Program F321	336-1449-ND	50.09	TOOLSTICK321PP
ToolStick Adapter Program F326	336-1450-ND	50.09	TOOLSTICK326PP
ToolStick Adapter Program F330	336-1451-ND	50.09	TOOLSTICK330PP
ToolStick Adapter Program F340	336-1452-ND	50.09	TOOLSTICK340PP
ToolStick Adapter Program F360/363	336-1483-ND	49.91	TOOLSTICK360PP
ToolStick Adapter Program F410	336-1453-ND	50.09	TOOLSTICK410PP
ToolStick Adapter Program F411	336-1454-ND	50.09	TOOLSTICK411PP
ToolStick Adapter Program F520	336-1455-ND	50.09	TOOLSTICK520PP
ToolStick Adapter Program F530MPP	336-1456-ND	50.09	TOOLSTICK530MPP
ToolStick Adapter Program F530TPP	336-1457-ND	50.09	TOOLSTICK530TPP
ToolStick Programming Platform F930	336-1477-ND	49.91	TOOLSTICK930MPP
ToolStick Programming Platform F930	336-1478-ND	49.91	TOOLSTICK930MPP
ToolStick Programming Platform F931	336-1479-ND	49.91	TOOLSTICK931PP
Current Sensor Evaluation Board 10A	336-1425-ND	14.48	SI85XX-EVB
CAP TOUCH SENSE Start Kit	336-1475-ND	26.77	CAPTOUCHSENSEKIT
CAP TOUCH SENSE Daughter Card	336-1476-ND	14.52	CAPTOUCHSENSEDC
ToolStick Daughter Card F500	336-1528-ND	7.62	TOOLSTICK502DC
ToolStick Programming Platform F500	336-1529-ND	49.91	TOOLSTICK500MPP
ToolStick Adapter Program F500	336-1530-ND	49.91	TOOLSTICK500MPP
ToolStick Programming Platform F502	336-1531-ND	49.91	TOOLSTICK502MPP
ToolStick Adapter Program F502	336-1532-ND	49.91	TOOLSTICK502MPP

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## Microcontroller Reference Designs

Description	Digi-Key Part No.	Price Each	Silicon Labs Part No.
Digital Compass Reference Design	336-1165-ND	52.27	F350-COMPASS-RD
Stepper Motor Reference Design	336-1319-ND	86.39	STEPPER-MTR-RD
USB Mass Storage Reference Design	336-1320-ND	71.87	USB-MSD-RD
Temperature Compensated RTC Reference Design	336-1351-ND	71.87	TEMPCOMPATC-RD
Multi-Phase PQL Reference Design	336-1323-ND	144.47	MULTIPHSPQL-RD
POE with Voice Transmission Reference Design	336-1328-ND	50.09	POE-VOICE-RD
Sensorless BLDC Motor Reference Design	336-1329-ND	86.39	SLBLDC-MTR-RD

## SPI to I<sup>2</sup>C Bridge

A Single-chip SPI to I<sup>2</sup>C bridge and GPIO port expander that allows a SPI master to communicate as an I<sup>2</sup>C master device.

**Features:** • 4-wire SPI bus operates at frequencies up to 1MHz • Fully functional I<sup>2</sup>C master transmit and receive operation • I<sup>2</sup>C data at frequencies configurable up to 400kHz • 255 byte data receive and transmit buffers • Internal oscillator • 2.4V - 3.6V operation • Active LOW interrupt output • 5 volt tolerant I/O pins • 8 general purpose I/O pins

Description	Digi-Key Part No.	Price Each	1	25	100	Silicon Labs Part No.
SPI-I <sup>2</sup> C Bridge Device and GPIO Port Expander	336-1324-ND	2.32	1.86	1.55		CP2120-GM
Evaluation Kit for CP2120	336-1325-ND	28.31	—	—		CP2120EK

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## AC Current Sensors



The SI85xx products are unidirectional AC current sensors available in full-scale ranges of 5, 10 and 20A. SI85xx products are ideal upgrades for older current-sensing technologies offering size, performance and cost advantages over current transformers. Hall effect devices, DCR circuits and other approaches. The SI 85xx are extremely low loss, adding less than 1.3 mΩ of series resistance and less than 2 nH series inductance in the sensing path at 25°C. Current-sensing terminals are isolated from the other package pins to a maximum voltage of 1000 VDC.

**Features:** • Single-chip AC current sensor/conditioner • Leading-edge noise suppression eliminates need for leading-edge blanking • "Ping-Pong" output version allows one SI85xx to replace low current transformers in full-bridge applications • FAULT output helps safeguard operation • 1000 VDC isolation • Accurate to ±5% of measurement • Large 2 Vpp output pins signal at full scale • High-side or low-side current sensing • -40°C - 125°C operating range (SI85x4/5/6) • Low cost • 120FN package **Applications:** • Power supplies • Motor controls • Lighting equipment • Industrial equipment

Description	Out-Put Mode	Current (A)	Digi-Key Part No.	Price Each	1	25	100	Silicon Labs Part No.
IC AC Current Sensor	Single	5	336-1413-5-ND	1.11	80	61		SI8501-B-GM
IC AC Current Sensor	Single	10	336-1414-5-ND	1.11	80	61		SI8502-C-GM
IC AC Current Sensor	Single	20	336-1415-5-ND	1.24	89	69		SI8503-B-GM
IC AC Current Sensor	Single	5	336-1416-5-ND	1.17	84	64		SI8504-B-IM
IC AC Current Sensor	Single	10	336-1417-5-ND	1.23	88	68		SI8505-B-IM
IC AC Current Sensor	Single	20	336-1418-5-ND	1.31	93	72		SI8506-B-IM
IC AC Current Sensor	Dual	5	336-1419-5-ND	1.74	125	96		SI8511-B-GM
IC AC Current Sensor	Dual	10	336-1420-5-ND	1.83	131	101		SI8512-B-GM
IC AC Current Sensor	Dual	20	336-1421-5-ND	1.95	140	108		SI8513-B-GM
IC AC Current Sensor	Dual	5	336-1422-5-ND	1.83	131	101		SI8514-B-IM
IC AC Current Sensor	Dual	10	336-1423-5-ND	1.92	138	106		SI8515-B-I
IC AC Current Sensor	Dual	20	336-1424-5-ND	2.05	147	113		SI8516-B-IM

## USB to UART Bridge

The CP210x is a single-chip USB to UART bridge that converts data traffic between USB and UART formats. The chip includes a complete USB 2.0 full-speed function controller, bridge control logic and a UART interface with transmit/receive buffers and modem handshake signals. The device also features on-board EEPROM, a voltage regulator, a USB transceiver

and an integrated internal oscillator, eliminating external components generally required in USB applications. System development is further simplified by the CP210x evaluation kit, which includes a complete USB to RS-232 evaluation board and royalty-free device drivers for PC and Macintosh platforms.

EEPROM (bytes)	RAM (bytes)	Digital Port I/O Pins	Serial Buses	Internal Osc.	Other	Package	Digi-Key Part No.	Price Each	Silicon Labs Part No.
1024	1kB	—	UART to USB Bridge	Yes	Voltage Regulator host I/O	28-QFN	336-1161-ND	21.05	CP2102EK
1024	1kB	4	UART to USB Bridge	Yes	Voltage Regulator RS485, Split V <sub>DDIO</sub>	28-QFN	336-1163-ND	21.05	CP2103EK

USB 2.0 (Mbps)	EEPROM	Clock	UART Baud Rates	RX/TX Buffer	Package	Digi-Key Part No.	Price Each	1	25	Silicon Labs Part No.
12	512B	Internal	300bps to 921.6kbps	512B	28-MLP (5mm x 5mm)	336-1162-ND	3.63	2.91		CP2101-GM
12	1024B	Internal	300bps to 921.6kbps	640B	28-MLP (5mm x 5mm)	336-1160-ND	2.89	2.32		CP2102-GM
12	1024B	Internal	300bps to 1Mbaits	576B / 640B	28-QFN (5mm x 5mm)	336-1164-ND	3.89	3.11		CP2103-GM

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## Ethernet Controllers

The CP220x is a single-chip Ethernet controller containing an integrated IEEE 802.3-compliant Media Access Controller (MAC), a 10 Base-T Physical Layer (PHY), and 8 kB of non-volatile Flash memory available in either a 28-pin QFN (5mm x 5mm), or 48-pin TQFP (9mm x 9mm) package. The on-chip Flash memory may be used to store user constants, web server

content, or can be used as general purpose nonvolatile memory. The Flash is factory pre-programmed with a unique 48-bit MAC address stored in the last six memory locations. Having the unique MAC address stored in the CP220x often removes the necessary serialization step from the product manufacturing process of most embedded systems.

Flash (kB)	Parallel Host Interface	Parallel Host Interface Speed	Auto-Negotiation	Pre-Programmed MAC Address	RAM Size	LEDs	Temperature Range	Package	Digi-Key Part No.	Price Each	1	25	Silicon Labs Part No.	Development Kit Part No.
8	8-bit Non-Multiplexed EMIF	30 Mbps	Yes	Yes	2 kB TX and 4 kB RX Buffer	Separate Link and Activity	-40°C - 85°C	48-TQFP (9mm x 9mm)	336-1312-ND	6.13	4.91		CP2200-GQ	ETHERNETDK
8	8-bit Multiplexed EMIF	25 Mbps	Yes	Yes	2 kB TX and 4 kB RX Buffer	Combined Link and Activity	-40°C - 85°C	28-QFN (5mm x 5mm)	336-1313-ND	5.20	4.16		CP2201-GM	ETHERNETDK
Evaluation Kit for CP2201 Ethernet Controller										21.78	—		CP2201EK	—

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