

8-Bit Microprocessor ICs - continued

Silicon Laboratories Microcontrollers - continued

Silicon Laboratories parts offer an enhanced 8051 compatible CPU delivering up to 25 MIPS at 25 MHz. Memory options are currently up to 64K Flash with 4K RAM. System cost, development time and parts count are all reduced by integrating UART, SMBus™, and SPI™ serial interfaces, four 8051-style timers, and a five-channel programmable counter array (PCA). Some parts have a dedicated parallel interface (capable of data rates up to 5Mbytes/second) that facilitates the easy expansion of data memory, and provides the means to attach external devices such as USB or Ethernet controllers.

Analogue peripherals include 12-bit or 10-bit 100ksps ADC and an 8-bit 500ksps ADC with performance figures normally only found on monolithic ADCs. Devices also feature a temperature sensor, two 12-bit digital-to-analogue converters, voltage comparator(s), and a voltage reference.

| Mfrs. List No. | MIPS (peak) | Flash Memory (bytes) | RAM (bytes) | UART | Timers (16-Bit) | Int. Osc (%) | Digital I/O Pins | ADC Resol. (bits) | ADC Speed (Ksps) | ADC inputs | DAC Resol. (bits) | DAC Outputs | Voltage Comparators | Pins/Package |
|----------------|-------------|----------------------|-------------|------|-----------------|--------------|------------------|-------------------|------------------|------------|-------------------|-------------|---------------------|--------------|
| C8051F002-GQ | 20 | 32 Kbytes | 256 | 1 | 4 | 20 | 8 | 12 | 100 | 4 | 12 | 2 | 1 | 32 / LQFP |
| C8051F005-GQ | 25 | 32 Kbytes | 2304 | 1 | 4 | 20 | 32 | 12 | 100 | 8 | 12 | 2 | 2 | 64 / TQFP |
| C8051F006-GQ | 25 | 32 Kbytes | 2304 | 1 | 4 | 20 | 16 | 12 | 100 | 8 | 12 | 2 | 2 | 48 / TQFP |
| C8051F007-GQ | 25 | 32 Kbytes | 2304 | 1 | 4 | 20 | 8 | 12 | 100 | 4 | 12 | 2 | 1 | 32 / LQFP |
| C8051F015-GQ | 25 | 32 Kbytes | 2304 | 1 | 4 | 20 | 32 | 10 | 100 | 8 | 12 | 2 | 2 | 64 / TQFP |
| C8051F020-GQ | 25 | 64 Kbytes | 4352 | 2 | 5 | 20 | 64 | 12 | 100 | 8 | 12 | 2 | 2 | 100 / TQFP |
| C8051F021-GQ | 25 | 64 Kbytes | 4352 | 2 | 5 | 20 | 32 | 12 | 100 | 8 | 12 | 2 | 2 | 64 / TQFP |
| C8051F022-GQ | 25 | 64 Kbytes | 4352 | 2 | 5 | 20 | 64 | 10 | 100 | 8 | 12 | 2 | 2 | 100 / TQFP |
| C8051F023-GQ | 25 | 64 Kbytes | 4352 | 2 | 5 | 20 | 32 | 10 | 100 | 8 | 12 | 2 | 2 | 64 / TQFP |
| C8051F040-GQ | 25 | 64 Kbytes | 4325 | 1 | 5 | 20 | 64 | 12 | 100 | 8 | — | — | 2 | 100 / TQFP |
| C8051F041-GQ | 25 | 64 Kbytes | 4325 | 1 | 5 | 20 | 32 | 12 | 100 | 8 | — | — | 2 | 64 / TQFP |
| C8051F043-GQ | 25 | 64 Kbytes | 4325 | 1 | 5 | 20 | 32 | 12 | 100 | 8 | — | — | 2 | 64 / TQFP |
| C8051F124-GQ | 50 | 128 Kbytes | 8448 | 1 | 5 | 20 | 64 | 12 | 100 | 8 | — | — | 2 | 100 / TQFP |
| C8051F125-GQ | 50 | 128 Kbytes | 8448 | 1 | 5 | 20 | 32 | 12 | 100 | 8 | — | — | 2 | 64 / TQFP |
| C8051F126-GQ | 50 | 128 Kbytes | 8448 | 1 | 5 | 20 | 64 | 12 | 100 | 8 | — | — | 2 | 100 / TQFP |
| C8051F127-GQ | 25 | 16 Kbytes | 1280 | 1 | 5 | 20 | 29 | 12 | 100 | 8 | — | — | 2 | 32 / LQFP |
| C8051F206-GQ | 25 | 8 Kbytes | 1280 | 1 | 3 | 20 | 32 | 12 | 100 | 32 | — | — | 2 | 48 / TQFP |
| C8051F221 | 20 | 8 Kbytes | 256 | 1 | 3 | 20 | 22 | 8 | 100 | 22 | — | — | 2 | 32 / LQFP |
| C8051F236-GQ | 25 | 8 Kbytes | 1280 | 1 | 3 | 20 | 32 | 8 | 100 | — | — | — | 2 | 48 / TQFP |
| C8051F231-GQ | 25 | 8 Kbytes | 256 | 1 | 3 | 20 | 22 | — | — | — | — | — | 2 | 32 / LQFP |
| C8051F226-GQ | 25 | 8 Kbytes | 1280 | 1 | 3 | 20 | 32 | — | — | 32 | — | — | 2 | 48 / TQFP |
| C8051F300-GM | 20 | 32 Kbytes | 256 | 1 | 3 | 20 | 32 | 8 | 500 | 8 | — | — | 1 | 11 / MLP |
| C8051F302-GM | 25 | 8 Kbytes | 256 | 1 | 3 | 20 | 8 | 8 | 500 | 8 | — | — | 1 | 11 / MLP |
| C8051F303 | 25 | 8 Kbytes | 256 | 1 | 3 | 20 | 8 | — | 500 | — | — | — | 1 | 11 / MLP |
| C8051F310-GQ | 50 | 128 Kbytes | 8448 | 1 | 5 | 20 | 32 | 12 | 100 | 8 | — | — | 2 | 32 / LQFP |
| C8051F311-GM | 25 | 16 Kbytes | 1280 | 1 | 5 | 20 | 25 | 12 | 100 | 8 | — | — | 2 | 28 / MLP |
| C8051F320-GQ | 25 | 16 Kb | 1280 | 1 | 4 | 20 | 25 | 12 | 100 | 1 | — | — | 2 | 32 / LQFP |
| C8051F321-GM | 25 | 16 Kb | 1280 | 1 | 4 | 20 | 21 | 12 | 100 | 1 | — | — | 2 | 28 / MLP |

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Semiconductors - Integrated Circuits

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| Mfrs. List No. | Developmet Kit Part Number C8051- | Order Code | 1+ | 10+ | 100+ |
|----------------|--|------------|----------|----------|----------|
| C8051F005-GQ | F005DK-B, Order Code: 412-7973 (UK Plug); F005DK-E, Order Code: 412-7985 (Euro Plug) | 968-5677 | 1,943.00 | 1,590.00 | 1,345.00 |
| C8051F002 | F005DK-B, Order Code: 412-7973 (UK Plug); F005DK-E, Order Code: 412-7985 (Euro Plug) | 412-8096 | 1,584.00 | 1,296.00 | 1,097.00 |
| C8051F002-GQ | F005DK-B, Order Code: 412-7973 (UK Plug); F005DK-E, Order Code: 412-7985 (Euro Plug) | 968-5699 | 1,584.00 | 1,296.00 | 1,097.00 |
| C8051F006 | F005DK-B, Order Code: 412-7973 (UK Plug); F005DK-E, Order Code: 412-7985 (Euro Plug) | 412-8114 | 1,893.00 | 1,549.00 | 1,403.00 |
| C8051F006-GQ | F005DK-B, Order Code: 412-7973 (UK Plug); F005DK-E, Order Code: 412-7985 (Euro Plug) | 968-5685 | 1,893.00 | 1,549.00 | 1,320.00 |
| C8051F007 | F005DK-B, Order Code: 412-7973 (UK Plug); F005DK-E, Order Code: 412-7985 (Euro Plug) | 412-8126 | 1,874.00 | 1,534.00 | 1,298.00 |
| C8051F007-GQ | F005DK-B, Order Code: 412-7973 (UK Plug); F005DK-E, Order Code: 412-7985 (Euro Plug) | 968-5693 | 1,874.00 | 1,534.00 | 1,298.00 |
| C8051F015-GQ | F005DK-B, Order Code: 412-7973 (UK Plug); F005DK-E, Order Code: 412-7985 (Euro Plug) | 968-5707 | 1,692.00 | 1,384.00 | 1,172.00 |
| C8051F020-GQ | F020DK-B, Order Code: 412-7997 (UK Plug) | 968-5766 | 2,262.00 | 1,851.00 | 1,578.00 |
| C8051F021-GQ | F020DK-B, Order Code: 412-7997 (UK Plug) | 968-5774 | 2,166.00 | 1,772.00 | 1,499.00 |
| C8051F022-GQ | F020DK-B, Order Code: 412-7997 (UK Plug) | 968-5782 | 2,089.00 | 1,709.00 | 1,446.00 |
| C8051F023-GQ | F020DK-B, Order Code: 412-7997 (UK Plug) | 968-5790 | 1,918.00 | 1,569.00 | 1,328.00 |
| C8051F040-GQ | | 968-5839 | 2,391.00 | 2,151.00 | 1,956.00 |
| C8051F041-GQ | | 968-5847 | 2,268.00 | 2,041.00 | 1,856.00 |
| C8051F043 | | 423-8140 | 2,026.00 | 1,823.00 | 1,658.00 |
| C8051F124-GQ | | 968-5863 | 2,577.00 | 2,319.00 | 2,108.00 |
| C8051F125 | | 423-8163 | 2,460.00 | 2,214.00 | 2,013.00 |
| C8051F125-GQ | | 968-5871 | 2,460.00 | 2,214.00 | 2,013.00 |
| C8051F126 | | 423-8175 | 1,932.00 | 1,739.00 | 1,714.00 |
| C8051F126-GQ | | 968-5880 | 1,932.00 | 1,739.00 | 1,613.00 |
| C8051F127-GQ | | 968-5898 | 2,251.00 | 2,025.00 | 1,841.00 |
| C8051F206 | | 412-8205 | 1,189.00 | 973.00 | 822.00 |
| C8051F206-GQ | | 968-5715 | 1,189.00 | 973.00 | 822.00 |
| C8051F221 | F226DK-E, Order Code: 412-8047 (Euro Plug) | 412-8229 | 691.00 | 566.00 | 479.00 |
| C8051F226-GQ | F226DK-E, Order Code: 412-8047 (Euro Plug) | 968-5731 | 862.00 | 705.00 | 597.00 |
| C8051F231-GQ | F226DK-E, Order Code: 412-8047 (Euro Plug) | 968-5740 | 615.00 | 503.00 | 428.00 |
| C8051F236 | F226DK-E, Order Code: 412-8047 (Euro Plug) | 412-8266 | 721.00 | 589.00 | 502.00 |
| C8051F236-GQ | F226DK-E, Order Code: 412-8047 (Euro Plug) | 968-5758 | 721.00 | 589.00 | 502.00 |
| C8051F300 | | 412-8310 | 548.00 | 449.00 | 448.00 |
| C8051F300-GM | | 968-5804 | 548.00 | 449.00 | 422.00 |
| C8051F302 | | 412-8333 | 553.00 | 453.00 | 386.00 |
| C8051F302-GM | | 968-5812 | 553.00 | 453.00 | 386.00 |
| C8051F303 | | 412-8345 | 523.00 | 428.00 | 361.00 |
| C8051F310-GQ | F310DK-E, Order Code: 423-8266 (Euro Plug) | 968-5901 | 805.00 | 724.00 | 658.00 |
| C8051F311-GM | F310DK-E, Order Code: 423-8266 (Euro Plug) | 968-5910 | 791.00 | 712.00 | 648.00 |
| C8051F320-GQ | | 968-5928 | 943.00 | 772.00 | 654.00 |
| C8051F321-GM | | 968-5936 | 896.00 | 734.00 | 621.00 |

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| Mfrs. List No. | Mfrs. Pins Pkg | Description | Mfrs. List No. | Order Code | 1+ | 25+ | 100+ |
|----------------|----------------|--|------------------|------------|----------|----------|----------|
| 80C310 | MAX 40 | DIL 8-bit CMOS CPU, 256 bytes RAM - 25MHz | DS80C310-MCG | 700-617 | 791.00 | 629.00 | 531.00 |
| 80C310 | MAX 44 | PLCC 8-bit CMOS CPU, 256 bytes RAM - 25MHz | DS80C310-QCG | 700-629 | 726.00 | 570.00 | 509.00 |
| 80C320 | MAX 40 | DIL 8-bit CMOS CPU, 256 bytes RAM - 25MHz | DS80C320-MCG | 539-703 | 814.00 | 621.00 | 571.00 |
| 80C320 | MAX 40 | DIL 8-bit CMOS CPU, 256 bytes RAM - 25MHz | DS80C320+MCG | 972-5873 | 847.00 | 647.00 | 528.00 |
| 80C320 | MAX 40 | DIL 8-bit CMOS CPU, 256 bytes RAM - 25MHz (IND TEMP) | DS80C320-MNG | 700-605 | 1,145.00 | 874.00 | 701.00 |
| 80C320 | MAX 44 | PLCC 8-bit CMOS CPU, 256 bytes RAM - 25MHz | DS80C320+QCG | 972-6250 | 1,088.00 | 830.00 | 666.00 |
| 87C520 | MAX 40 | DIL 8-bit CMOS CPU, 16Kb OTP PROM, 256 bytes RAM - 33MHz | DS87C520-MCL | 787-188 | 2,054.00 | 1,607.00 | 1,477.00 |
| 87C520 | MAX 40 | DIL 8-bit CMOS CPU, 16Kb OTP PROM, 256 bytes RAM - 33MHz, Plastic | DS87C520+MCL | 972-6349 | 2,508.00 | 1,987.00 | 1,624.00 |
| 87C520 | MAX 44 | PLCC 8-bit CMOS CPU, 16Kb OTP PROM, 256 bytes RAM - 33MHz | DS87C520-QCL | 787-190 | 2,253.00 | 1,801.00 | 1,564.00 |
| 87C520 | MAX 40 | DIL 8-bit CMOS CPU, 16Kb EPROM, 256 bytes RAM - 33MHz | DS87C520-WCL | 787-206 | 3,662.00 | 3,002.00 | 2,452.00 |
| C515 | INF 80 | MQFP 8-bit Microcontroller, 64kb OTP ROM, 256b RAM, 48 I/O lines, CAN, 10MHz | SAF-C515C-8EM CA | 122-0082 | 719.00 | 575.00 | 475.00 |

Prices are in Thai Baht and exclude 7% VAT. Due to the volatile nature of certain products, prices are subject to change without notice.