

8051 Microcontrollers: Frequently Asked Questions

The 8051 Microcontroller: Frequently Asked Questions offers the reader quick answers to possible problems encountered while using Dallas Semiconductor microcontrollers such as the DS89C450, DS80C320, DS80C323, DS80C390, DS5250. These high-speed and secure processors are pin and code 8051-compatible industry standard parts.

Where Can I Get More Detailed Information On The Features And General Operation For A Specific Microcontroller? Much Of The Information I Need Does Not Seem To Be In The Data Sheet.

The data sheet is intended to be a short overview and listing of electrical specifications. To properly use our microcontroller products, you must also download the appropriate User Guide (plus required supplements) from our Web site. The following list indicates which User Guides are associated with which products:

Microcontroller Family

Ultra High-Speed Flash Microcontroller: All Devices
(DS89C420/430/440/450)

High-Speed Microcontroller: All devices

DS80C390

DS80C400

DS87C550

DS5240

User Guides

[Ultra High-Speed Microcontroller User Guide](#)

[High-Speed Microcontroller User Guide \(HSMUG\)](#)

[HSMUG + DS80C390 User Guide Supplement](#)

[HSMUG + DS80C400 User Guide Supplement](#)

[HSMUG + DS87C550 User Guide Supplement](#)

[HSMUG + DS5240 User's Guide Supplement](#)

DS5250

Secure Microcontroller (Basic)

[HSMUG + DS5250 User's Guide Supplement](#)

[Secure Microcontroller User Guide](#)

What Development Tools, Such As Emulators, Development Boards And Compilers, Are Available For The Microcontroller Products?

Dallas Semiconductor maintains a list of some of the support tools vendors for our microcontroller products on our [Third-Party Hardware/Software Development Tools](#) Web page. This list includes compilers, emulators, development/prototyping kits, programming adapters, reference texts, and other items useful when designing or debugging embedded systems.

How Do I Program The DS87C5X0?

The DS87000 programmer from Dallas Semiconductor will program any of our EPROM- or Flash-based devices. The DS87001-XXX programming adapter may be required when programming surface-mount devices.

I Loaded My 8051 Code Into A DS87C550, But The Application Doesn't Seem To Work Correctly. Why?

The interrupt vector table and SFR map of the DS87C550 differ slightly from other members of the 8051 family. For a detailed explanation, see Application Note 2.

How Do I Program The Secure Microcontroller?

In most cases, they are programmed in-system through the serial port. Dallas offers the DS5000TK Evaluation Kit that has all the hardware and host software to program directly from a PC.

I Have Lost The Source Code For My Secure Microcontroller. If I Return It To Dallas, Can You Get The Code Out?

No. Once locked, the code can be erased, but not extracted.

The High-Speed Microcontroller Doesn't Work In My Old 8051 Design. Why?

Either the external memory interface is too slow or the code utilizes S/W timing loops. See Application Note 56.

Do I Have To Recalculate Baud Rates From My Old, Slow 8051 Code When Upgrading To The High-Speed Microcontroller?

No. The timers on the High-Speed Microcontrollers will default to 8051-compatible; divide by 12 mode on power-up.

Where Can I Buy A "Fundamental Mode" Crystal?

Any major crystal vendor can make fundamental mode crystals. The following crystal vendors have pledged to keep sample stock in order for customers to build prototypes:

- Statek (408-639-7810)
- C-MAC (+44 1460 74433)
- Abracon (714-448-7070)
- M-TRON (605-665-9321)

Can I Purchase An Industrial Temperature Version Of The DS500x/225x Module?

No. The lithium batteries are not designed for extreme temperatures. The DS5001FPN and DS5002FPN (industrial temperature processors) can be used along with a user-defined battery and SRAM to build an industrial temperature module.

Can I Get A Faster Version Of The DS5002FP Or Does Dallas Semiconductor Offer A Product With Security And A High-speed Core?

The DS5250 security processor provides the security features of the DS5002FP and the high-speed core of the DS80C320. Contact our Technical Support staff at Micro.Support@dalsemi.com for more information.

More Information

DS2250: [QuickView](#) -- [Full \(PDF\) Data Sheet](#)

DS2250T: [QuickView](#) -- [Full \(PDF\) Data Sheet](#)

DS2251T: [QuickView](#) -- [Full \(PDF\) Data Sheet](#)

DS2252T: [QuickView](#) -- [Full \(PDF\) Data Sheet](#)

DS5000FP: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)

DS5000T: [QuickView](#) -- [Full \(PDF\) Data Sheet](#)

DS5000TK: [QuickView](#) -- [Full \(PDF\) Data Sheet](#)

DS5001FP: [QuickView](#) -- [Full \(PDF\) Data Sheet](#)

DS5002FP: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)

DS5240: [QuickView](#) -- [Full \(PDF\) Data Sheet](#)

DS5250: [QuickView](#) -- [Full \(PDF\) Data Sheet](#)

DS80C310: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)

DS80C320: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)

DS80C323: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)

DS80C390: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)

DS80C400: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)

DS87000: [QuickView](#) -- [Full \(PDF\) Data Sheet](#)

DS87C520: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)

DS87C530: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)

DS87C550: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)

DS89C420: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)

DS89C430: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)

DS89C440: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)

DS89C450: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)