



Application Note

Common Flash Interface Operation



1. INTRODUCTION

The application note introduces how to use CFI Query operation for Eon flash.

2. CFI Operation:

The Common Flash Interface (CFI) specification outlines device and host system software interrogation handshake that allows specific vendor-specified software algorithms to be used for entire families of devices.

These provide all the necessary information for controlling Read/Write/Erase operations of a particular family of Flash devices according to a vendor-specified interface. The CFI specification will not specify detail command sets, status polling methods, and software algorithms of individual Flash vendors.

The device enters the CFI Query mode when the system writes the CFI Query command, 98h, to address 55h in word mode (or address AAh in byte mode), any time the device is ready to read array data. In word mode, the upper address bits (A7–MSB) must be all zeros. To terminate reading CFI data, the system must write the reset command F0h.

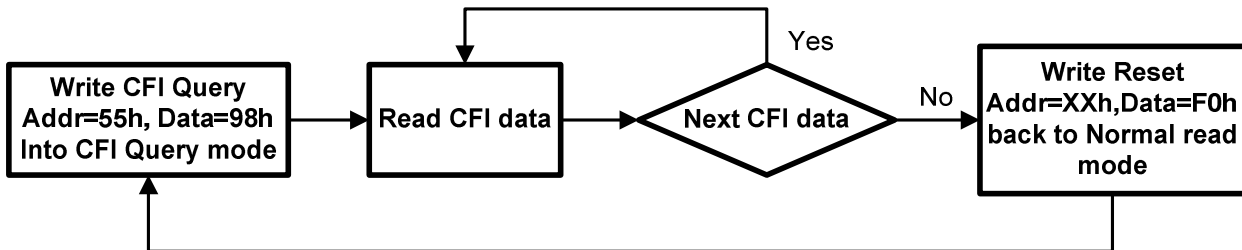
The system can not write the CFI query command when the device is in the autoselect mode.



3. CFI Query Example:

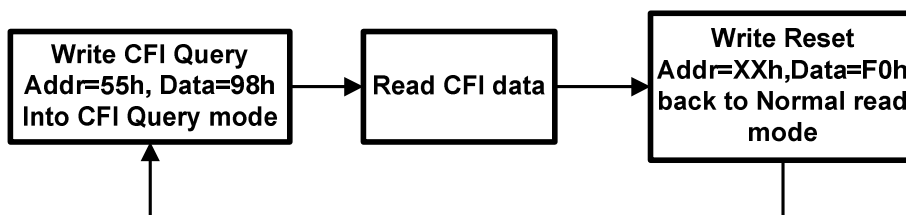
There are 2 ways to query CFI as below:

1. Write CFI Query and keep to Read CFI data, and then write Reset command in the end to back to normal read mode.



- [Step 1] Write (CFI Query): Addr=55h, Data=98h
- [Step 2] Read : Addr=10h, Data=51h
- [Step 3] Read : Addr=11h, Data=52h
- [Step 4] Read : Addr=12h, Data=59h
- [Step 5] Read : Addr=13h, Data=02h...
- [Step N] Write (Reset) : Addr=00h, Data=F0h

2. Write CFI Query, Read CFI data and then Reset to Normal read every time.

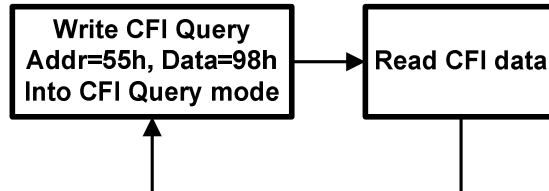


- [Step 1] Write (CFI Query): Addr=55h, Data=98h
- [Step 2] Read : Addr=10h, Data=51h
- [Step 3] Write (Reset) : Addr=00h, Data=F0h
- [Step 4] Write (CFI Query): Addr=55h, Data=98h
- [Step 5] Read : Addr=11h, Data=52h
- [Step 6] Write (Reset) : Addr=00h, Data=F0h...



Wrong example:

Write CFI Query to Read CFI data, and then write CFI Query again to Read CFI data without Reset to normal read mode.



[Step 1] Write (CFI Query): Addr=55h, Data=98h

[Step 2] Read : Addr=10h, Data=51h -OK

[Step 3] Write (CFI Query): Addr=55h, Data=98h

[Step 4] Read : Addr=11h, Data=00h -->**NG!** (It will get memory array data.)

[Step 5] Write (CFI Query): Addr=55h, Data=98h

[Step 6] Read : Addr=12h, Data=59h -OK

[Step 7] Write (CFI Query): Addr=55h, Data=98h

[Step 8] Read : Addr=13h, Data=00h -->**NG!** (It will get memory array data.)

After user write CFI query, the flash will into CFI Query mode and output data. If user writes CFI Query command again at step 3, the flash will return to read normal array. So user will get array data not CFI data in Step 4 and 8 in above wrong example.

Note: Spansion support to query CFI in above 3 methods and support to query CFI in Autoselect mode.



Eon Silicon Solution Inc.

Revisions List

Revision No	Description	Date
A	Initial Release	2009/8/26