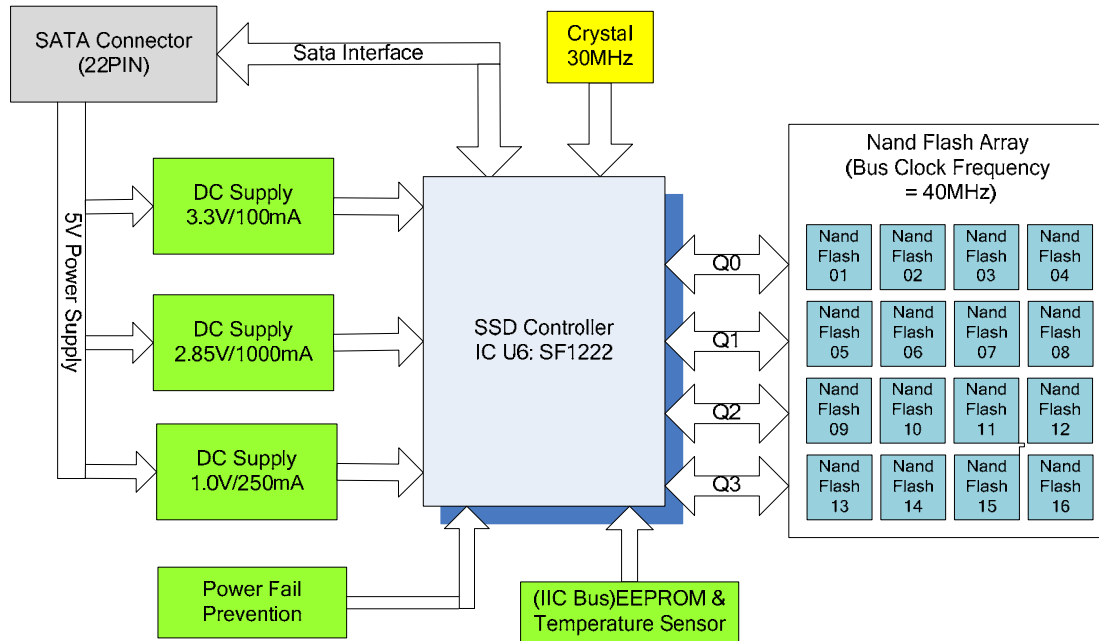


Operational Description

SuZhou CoreRise Electronics Co.,Ltd	
Block Diagram	2011-7-14



As the above figure shows, this series SSD products are mainly formed by these sections

1. SSD controller, which control the data's processing and transfer, also to implement all of the crucial SSD algorithm.
2. Standard SATA 22-pin Connector, which is in charge of the physical connection between the PC and SSD, so that to form the data's physical loop.
3. Multiple kinds of the Small-powered PWM controllers and their peripheral passive parts, which of all form the power supply system for overall the product.

4. Nand Flash Array, it can be formed by 4 or 8 or 12 or 16 pieces of the same type of big capacity Flash, which serve as the SSD's data stock. And All of the user's data are stored in this section.
5. Crystal, which provide the normal 30MHz clock input for the SSD controller when working with the SSD controller's PLL module .
6. EEPROM, storing the firmware-related information and user's configuration information.
7. Temperature Sensor. We use the classic LM73 temperature sensor to monitor the SSD's real time inner temperature.

SSD controller is the core CPU of such a system, it takes the responsibility of the implementation of SATAII protocol, Nand Flash Array management, inner clock generation and also some SSD algorithms such as ECC, RAISE, data compress and inner data DMA etc. certainly, to prove the system can work normally, the circuit design must provide the right power supply module, in this design, we take use of three similar power ICs to support the system with three kinds of different DC voltage output, such as 3.3V,1.0V,2.85V. which prove the controller's core and flash array and SATA bus can be properly driven. Besides, the SSD controller can work with a 30MHz crystal, by the inner PLL module, it can generate some different clock signal to support the Serial ATA bus and all of the flash ICs.

During the course of Data write, Data are generated from the PCs, and transferred through the SATA Connector to the SSD controller, after some processing of different algorithm in this controller, finally, they are stored in the Flash Array under some special rule. During the data read, the data information are read out from the Flash Array, and are reformed in this SSD controller, then present to PCs by the SATA bus. When power off, Nand Flash can keep those data that have been written into and guarantee that when we power on this SSD again, those data won't be lost.