USB3.0 Flash disk PCBA Specification

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1. Introduction

USB3.0 is the next major revision to the Universal Serial Bus. It offers the same ease of-use as USB 2.0, and its performance increase is achieved through the super speed technology, which allows its peak bandwidth to 4.8Gbps(USB 2.0 bandwidth is 480Mpbs).

USB3.0 Flash Disk is backwards compatible with USB 2.0 interface which greatly expanded the range of usage on the interfaces of current computer, saving the cost of development.

USB3.0 Flash Disk support dual-channel technology, which greatly improves read and writing speed. Support ECC 24,27 bit/1Kbyte to ensure the accuracy of the data read and write.

2. Features

※Compliant with USB3.0 spec. version 1.0
※Compliant with USB2.0 spec. backward compatible with USB1
※Compliant with USB Mass storage Class spec. version 1.0
※Low power consumption
※Hot-plug
※LED indicator to show link status and r/w traffic
※Customized VID/PID with serial number

3. Product Specification (Typical value)

USB Interface	Super speed USB3.0 interface; backward compatible with USB2.0, USB1.1	
OS Support	Windows Vista/7/XP/2000/LinuX/MAC OS	
Environment		
Temperature	Operating	0℃~70℃
	Non-Operating	-20℃~85℃
Configuration		
Capacity		4GB~128GB
Reliability		
Erase cycles		TBD
Power Requirement		
Voltage		DC 5V±10%
Power Consumption		
Read		400mA
Write		400mA
Standby		200mA

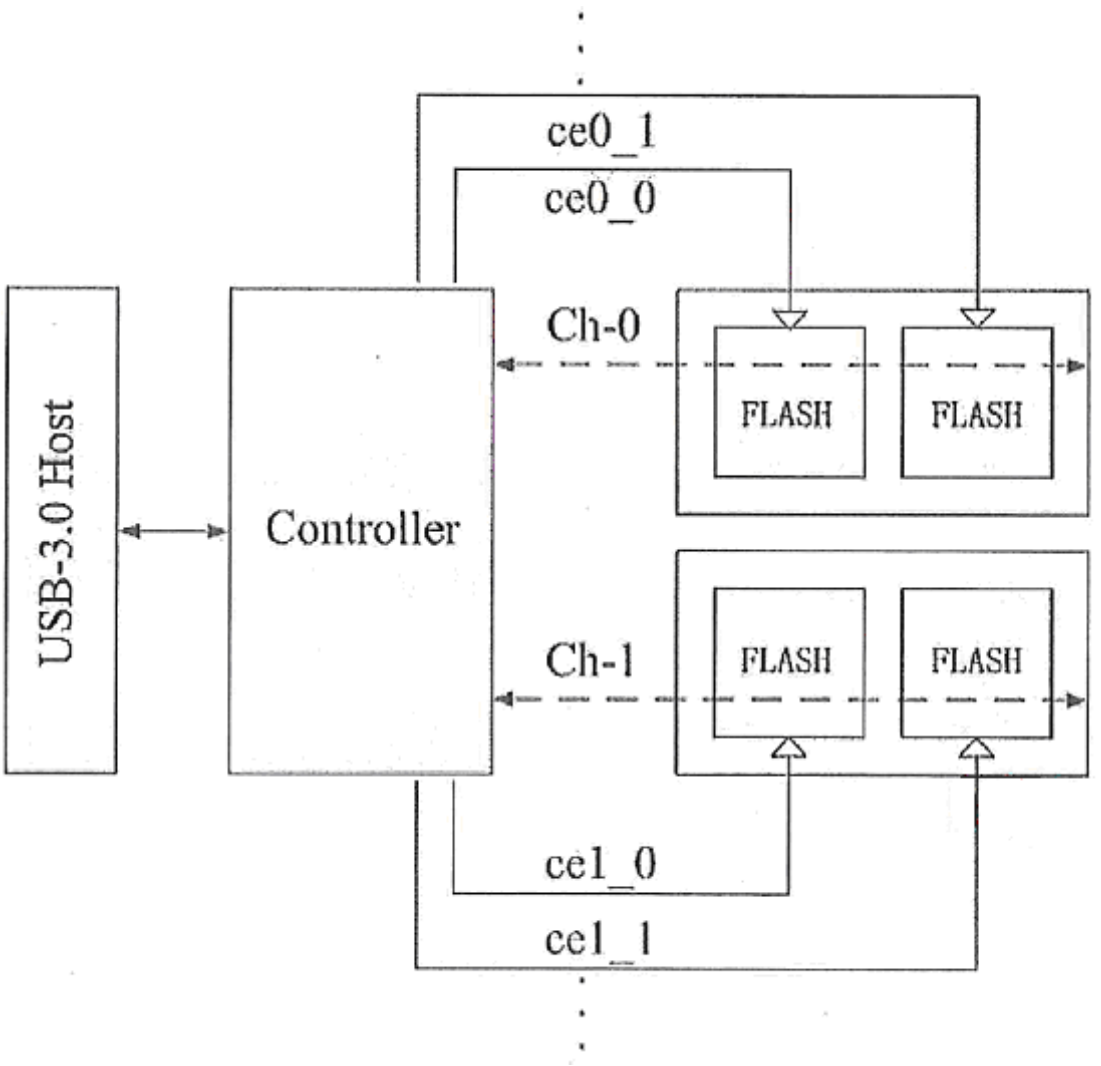
4. Product Specification (Typical value)

Parameter	Range									
Type	4GB		8GB		16GB		32GB		64GB	
Actual Size	A	T	A	T	A	T	A	T	A	
	3.5GB		7GB		14GB		28GB		56GB	
Write speed	12MB/S		20MB/S		20MB/S		30MB/S		30MB/S	
Read speed	20MB/S		25MB/S		25MB/S		25MB/S		25MB/S	

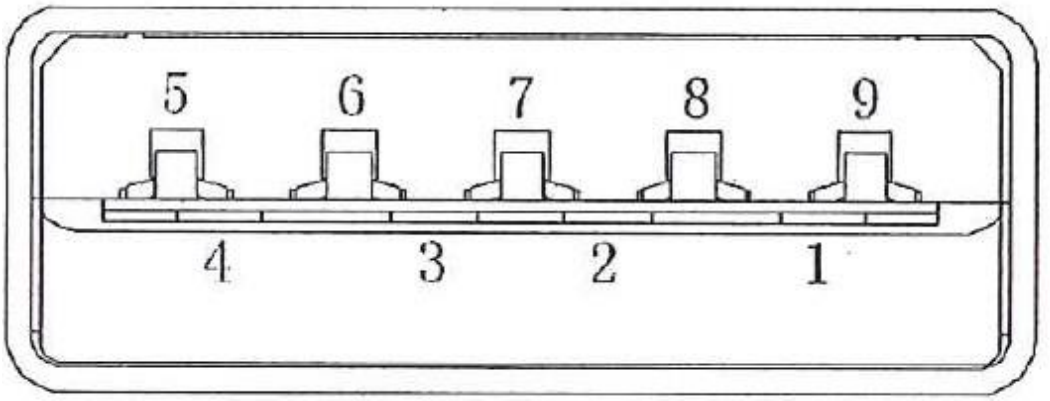
Test environment: Intel P55 Motherboard,4GB DDRIII DRAM,Intel Core i5 750 USB3.0 Host, WindowsXP+SP3 OS, HDBENCH3.4.0 Software, Total Length>256MB,Transfer size>64KB.

*1 gigabyte (GB) = 1 billion bytes. Some capacity not available for data storage

4.Block Diagram



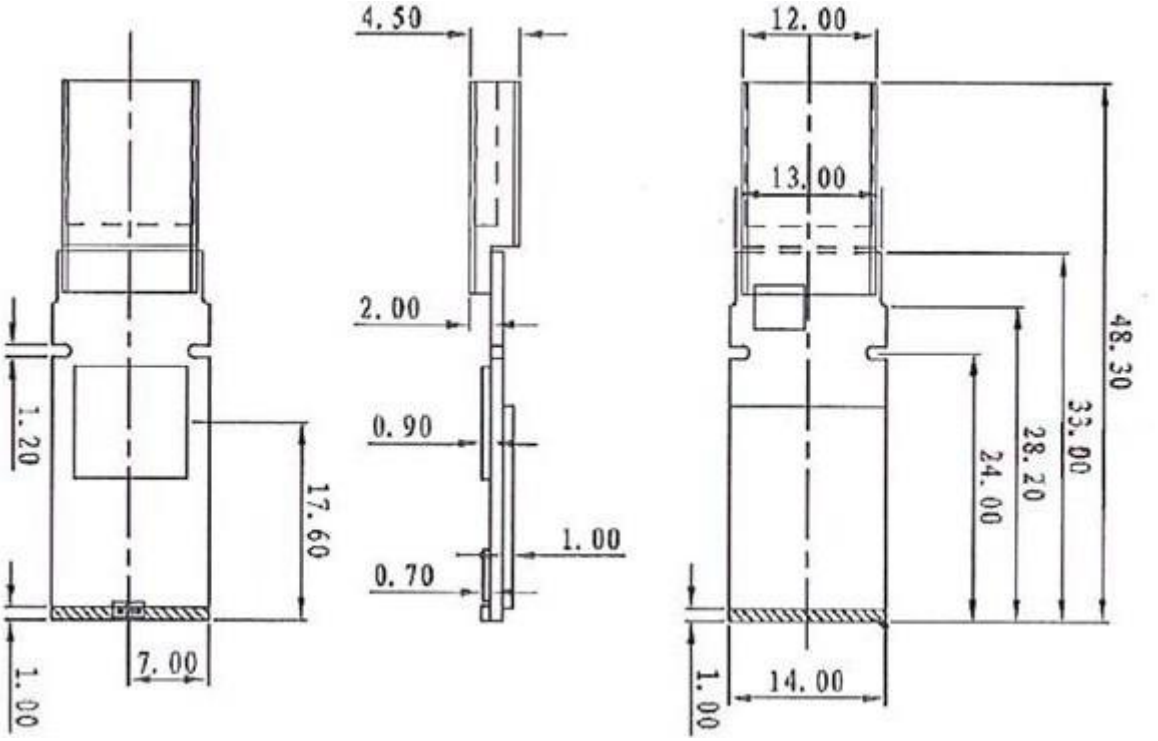
5. USB connector Pin Assignments



Pin No.	Pin Name	Description
1	VBUS	USB power
2	D-	USB 2.0 differential pair
3	D+	
4	GND	Ground for power return
5	Stda_SSRX-	Super Speed recelver differential pair
6	Stda_SSRX+	
7	GND_DRAIN	Ground for signal return
8	Stda_SSTX-	Super Speed transmitterer differential pair
9	Stda_SSTX_	
Shell	Shield	Connector metal shell

6. PhysicalSpecifications

6.1 Dimensions



6.2PCBA Outline of top view

TOP (T Type)

Bottom (T Type)