SL2007 SSD Controller IC - with SIGLEAD's high reliability ECC *SIGLEAD*
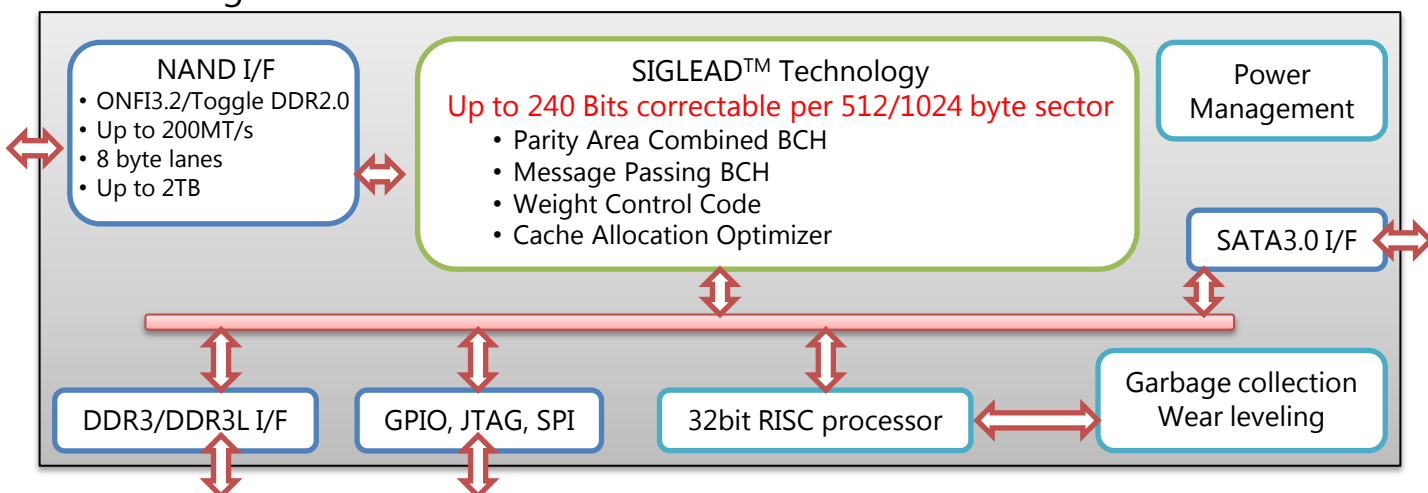
■ Summary

This controller IC is developed for SSD(Solid State Drive). Equipped by Siglead's original ECC technologies, it achieves high reliability SSD even using MLC/TLC NAND flash memory. Moreover, interfaced by SATAIII, this controller enables high-speed data rate by Read: 550MB/s and Write: 450MB/s.

■ Specification

Name	SL2007	SL2008
Sequential Read	500MB/s	
Sequential Write	500MB/s	
Cache	DDR3/DDR3L Max.1GB	
Host I/F	SATA III (6.0Gbps) with NCQ, SSC and IPM support SMART Command Transport	
Max. Capacity	Up to 2TB (using 128Gb/die)	Up to 4TB
Flash memory support	3Xnm to 1Ynm SLC/MLC/TLC (Asynch, Synch, ONFI3.1, Toggle2.0 : Up to 200MT/s)	
ECC	80bits/1kB BCH + SIGLEAD original high power ECC	
Wear leveling	dynamic / static	
Security	AES-256/128	
CPU	32bit RISC	
Power Consumption	Typical : 1.5W (est.)	2.0W (target)
Package	441-pin LFBGA, 14mm x 14mm 0.65mm pitch	529-pin LFBGA, 15.5mm x 15.5mm 0.65mm pitch
Schedule	ES : 2014/5	ES : 2014/10
Support	FW and PCB reference designs	

■ Block Diagram


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NAND I/F
• ONFI3.2/Toggle DDR2.0
• Up to 200MT/s
• 8 byte lanes
• Up to 2TB

SIGLEAD™ Technology
Up to 240 Bits correctable per 512/1024 byte sector
• Parity Area Combined BCH
• Message Passing BCH
• Weight Control Code
• Cache Allocation Optimizer

Power Management

SATA3.0 I/F

DDR3/DDR3L I/F    GPIO, JTAG, SPI    32bit RISC processor    Garbage collection Wear leveling
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The content might change without a previous notice due to the improvement.

Please contact us for further works such as IP customization and peripheral circuit design.

SIGLEAD Inc.

1-38-10-203 Nakagawachuo Tsuzuki-ku
Yokohama-city Kanagawa
224-0003, Japan

■ Contact and Ordering Information
TEL/FAX : +81-45-509-1885
E-mail : info@siglead.com

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http://www.siglead.com