# SM2244LT

## SATA Solid-State Drive Controller

SM2244LT is the excellent SATAII SSD solution for the embedded system, industrial SATA DOM, CFast card, and low cost SATA storage for mobile devices with wide support in new process MLC NAND flash. The SSD controller provides good IOPS in small data access rate in random and sequential type by SMI noble flash management technology. Without any external DRAM, the SM2244LT is able to reach good IOPS for most random IOPS requirements and enables extreme stability for data integrity.

The SM2244LT is an extremely high-performance SATAII SSD controller, supporting the new generation high-speed synchronous mode NAND and delivering the world's highest transfer rate among 4-channel SATA Solid-State Drives. The SSD controller provides the small-form factor to be more adaptive to mobile consumer electronics applications such as tablet PC, Netbook, mini-SATA (MO-300A), Half-slim SSD (MO-297), etc.

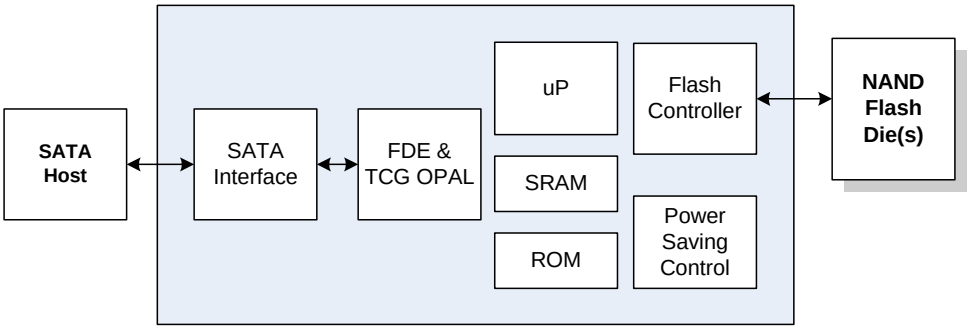
In addition to advanced features and customized supports, the SM2244LT offers longer SSD lifetime with lower write amplification and wear leveling factor (WLF). To satisfy the requirements for industrial, military and consumer storage systems, the SM2244LT is the best solution to the compromise between performance, power consumption, form size, and cost considerations.

### Applications

- SATA II Solid State Disk
- Embedded Application
- High-Speed NAND Storage

### Key Features

- **SATA Interface**
  - Compliant with Serial ATA Revision 2.6 specification
  - 1.5 Gbps/ 3.0 Gbps interface rate
  - Supports Native Command Queuing
  - Supports TRIM command based on ATA-8
  - Supports 72-bit Logical Block Addressing (LBA)
  - Supports partial and slumber mode
- **Flash Interface**
  - Supports Synchronous/Asynchronous Interface
  - 4 parallel channel flash interface
  - 8 CE pins per channel support up to 32 flash devices
  - Global Wear Leveling
- **Flash Memory Support**
  - Supports all 1x/2x nm MLC/SLC NAND Flash
  - Supports 2KB, 4KB, 8KB and 16KB page size
  - 2/4-plane Interleave structure
- **AES128/256 Encryption Security**
  - Supports FDE ( Full Disk Encryption) and TCG OPAL
  - Supports security erase
- **Robust Data Protection**
  - Solid hardware BCH ECC engine
  - Software/Hardware write protect option
  - StaticDataRefresh technology ensures data integrity
  - Early weak block retirement option
  - Multiple data security zones
- **Controller Core**
  - Built-in 1.2V Power-On-Reset
  - Built-in 2.5V and 2.3V voltage detectors for power fail protection
  - Automatic sleep and wake-up mechanism to save power
- **Upgradeable Firmware**
  - Supports firmware in system programming (ISP) function for firmware upgrade
- **Operating Temperature**
  - Commercial version: 0°C ~ 70°C
  - Industrial version: -40°C ~ 85°C
- **Package**
  - 9mm x 9mm BGA144
  - Lead-free and RoHS Compliant



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