

SM3257EN

High Speed USB2.0 Flash Memory Controller

The SM3257EN is a feature-enhanced USB2.0 Flash Disk controller with high compatibility and best performance designed to support MLC and TLC NAND flash. The controller also supports high speed ONFI 2.x and Toggle mode NAND. Compliant with USB version2.0 specification and USB Mass Storage Class version 1.0 specification, the SM3257EN provides write protect, PC boot-up from USB2.0 Flash Disk, password protection, secured partitioning functions, etc.

The SM3257EN delivers high data transfer rate, and ensures data accuracy and reliability with the powerful ECC engine which can overcome the read/write disturbances in 3nm and 2nm MLC/TLC flash. By integrating an embedded crystal, regulators and other components, the controller can reduce customer overall cost at a system level. The SM3257EN is available for LQFP/TQFP 48/64-pin package and QFN 40-pin package with a manufacturing-ready turnkey solution.

Applications

- USB Flash Drive
- USB Solid State Disk
- Embedded Application
- High-Speed NAND Storage

Key Features

- Embedded crystal offers lower BOM cost
- 1.8V low-power core operation
- Built-in 5V/3.3V and 3.3V/1.8V voltage regulators
- Complete compatibility with USB (Universal Serial Bus) Specification Rev. 2.0
- Complies with USB Mass Storage Class Specification Rev. 1.0
- USB Mass Storage Class Bulk-Only Transport Protocol
- Complies with USB power specifications for bus-powered devices
- Integrated 80C51-compatible, 8-bit microprocessor with enhanced features
- Supports suspend mode and wake-up resume
- Configurable BCH error control coding (ECC)
- Supports high-speed DDR Toggle NAND and ONFI NAND flash
- Supports MLC/TLC up to 8 NAND flash devices
- Supports Bad Column Management
- Supports the operating systems: Windows 7, Windows Vista, Windows XP, Windows 2000, Windows ME, Windows 98/98SE, Mac OS 9.x and above, and Linux kernel 2.4 and above
- Supports Windows Vista and Windows 7 ReadyBoost function
- In System Programming (ISP) firmware update capability
- Supports VID, PID, serial number, and vendor information updates
- Supports LED indicator to indicate the USB Flash Disk is in the Ready/Working mode
- Supports "Write Protect" security function to protect the data in USB Flash Disk
- Available in LQFP/TQFP 64/48pin and QFN 40pin

