KIOXIA

Serial Interface NAND

KIOXIA's Serial NAND is single-level cell (SLC) NAND, a 1-bit per cell, non-volatile memory device with a serial peripheral interface (SPI) that is similar to NOR Flash. As such, Serial NAND can be used with the same hardware interface as NOR Flash. NOR flash memory has commonly been used in consumer and industrial devices but, new, enhanced features found in today's embedded devices require larger memory densities. Additionally, many microcontroller manufacturers are moving away from the high-pin-count parallel address/data bus in favor of lower-pin-count interfaces

KIOXIA's Serial NAND lineup provides an excellent NOR flash alternative, giving users a higher density, more cost-effective solution. With only 6 active pins and a small WSON package, Serial NAND simplifies board layout and is ideal for applications in small form factors.

Adantages

- Standardized high speed (SPI) interface
- Hardware compatible with SPI NOR
- Lower bit cost than NOR flash
- Host can control the device with a low pint count interface
- Long data retention and high-performance write/erase capability

Key Features

- Quad SPI Program / Read Mode capable
- Embedded ECC function (on/off bit flip report)
- Program / Read x4 mode
- 3V and 1.8V options
- Spacing saving 6x8mm WSON package
- Operating temperature range: -40 ºC to 85 ºC

Applications

- Digital TVs
- Set-top-boxes
- Printers
- Digital Cameras
- DVD and Blu-Ray Players
- Toys/Games
- Robots
- Smart Meters
- IoT Devices
- GPON Modules
- M2M Modules
- Surveillance Cameras
- Wearables
- Medical

Densities

- 1Gb
- 2Gb
- 4Gb
- 8Gb
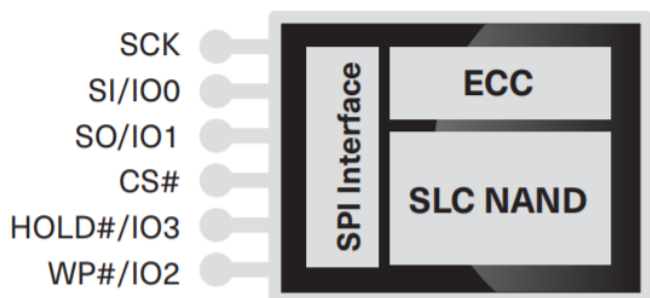
Low Pin Count Serial Interface NAND

Why KIOXIA Serial Interface NAND?

KIOXIA's SLC NAND memory products provide best-in-class endurance and reliability and are available in a range of densities and multiple package options to meet the diverse requirements of the embedded market. From raw SLC NAND to Serial Interface NAND to BENAND™, designers can choose an SLC NAND device based on the error correction capability and memory interface of the host controller used in their application.

Invented by KOXIA in 1987, SLC NAND is the original NAND architecture. Today, KIOXIA is one of the world's largest suppliers of SLC NAND and remains committed to support multiple SLC NAND generations to accommodate applications that have long product life cycles. In fact, we have an entire fab dedicated to support the production of SLC NAND.

▌ Serial Interface NAND

Part Number (24nm – 2nd Gen)	Capacity (bit)	VCC (V)	Page Size (bit)	Block Size (bit)	Operating Tem (℃)	Package	Number of Pins
TC58CVG0S3HRAIJ	1G	2.70 to 3.60	(2048+64)x8	(128K+4K)x8	-40 to 85	WSON8	8
TC58CYG0S3HRAIJ	1G	1.70 to 1.95	(2048+64)x8	(128K+4K)x8	-40 to 85	WSON8	8
TC58CVG1S3HRAIJ	2G	2.70 to 3.60	(2048+64)x8	(128K+4K)x8	-40 to 85	WSON8	8
TC58CYG1S3HRAIJ	2G	1.70 to 1.95	(2048+64)x8	(128K+4K)x8	-40 to 85	WSON8	8
TC58CVG2S0HRAIJ	4G	2.70 to 3.60	(4096+128)x8	(256K+8K)x8	-40 to 85	WSON8	8
TC58CYG2S0HRAIJ	4G	1.70 to 1.95	(4096+128)x8	(256K+8K)x8	-40 to 85	WSON8	8
TH58CVG3S0HRAIJ	8G	2.70 to 3.60	(4096+128)x8	(256K+8K)x8	-40 to 85	WSON8	8
TH58CYG3S0HRAIJ	8G	1.70 to 1.95	(4096+128)x8	(256K+8K)x8	-40 to 85	WSON8	8

Product image may differ from the actual product.
Read and write speed may vary depending on the host device, read and write conditions, and file size.
Product density is identified based on the density of memory chip(s) within the Product, not the amount of memory capacity available for data storage by the end user. Consumer-usable capacity will be less due to overhead data areas, formatting, bad blocks, and other constraints, and may also vary based on the host device and application. For details, please refer to applicable product specifications. The definition of 1GB = 2^{30} bytes = 1,073,741,824 bytes