Product Detail Page)Ferri-UFS 3.1

PART NUMBER	DESCRIPTION
SM671PXC BFSS	20GB Ferri-UFS 3.1, WD BICS5 NAND, Wide Temp (-25C - 85C), SLC Mode
SM671PXD BFSS	40GB Ferri-UFS 3.1, WD BICS5 NAND, Wide Temp (-25C - 85C), SLC Mode
SM671PXE BFSS	80GB Ferri-UFS 3.1, WD BICS5 NAND, Wide Temp (-25C - 85C), SLC Mode
SM671PXF BFSS	160GB Ferri-UFS 3.1, WD BICS5 NAND, Wide Temp (-25C - 85C), SLC Mode
SM671PEC BFSS	20GB Ferri-UFS 3.1, WD BICS5 NAND, Extended Temp (-40C - 85C), SLC Mode
SM671PED BFSS	40GB Ferri-UFS 3.1, WD BICS5 NAND, Extended Temp (-40C - 85C), SLC Mode
SM671PEE BFSS	80GB Ferri-UFS 3.1, WD BICS5 NAND, Extended Temp (-40C - 85C), SLC Mode
SM671PEF BFSS	160GB Ferri-UFS 3.1, WD BICS5 NAND, Extended Temp (-40C - 85C), SLC Mode
SM671PAC BFSS	20GB Ferri-UFS 3.1, WD BICS5 NAND, AEC-Q100 Grade 3 (-40C - 85C), SLC Mode
SM671PAD BFSS	40GB Ferri-UFS 3.1, WD BICS5 NAND, AEC-Q100 Grade 3 (-40C - 85C), SLC Mode
SM671PAE BFSS	80GB Ferri-UFS 3.1, WD BICS5 NAND, AEC-Q100 Grade 3 (-40C - 85C), SLC Mode
SM671PAF BFSS	160GB Ferri-UFS 3.1, WD BICS5 NAND, AEC-Q100 Grade 3 (-40C - 85C), SLC Mode
SM671PBC BFSS	20GB Ferri-UFS 3.1, WD BICS5 NAND, AEC-Q100 Grade 2 (-40C - 105C), SLC Mode
SM671PBD BFSS	40GB Ferri-UFS 3.1, WD BICS5 NAND, AEC-Q100 Grade 2 (-40C - 105C), SLC Mode
SM671PBE BFSS	80GB Ferri-UFS 3.1, WD BICS5 NAND, AEC-Q100 Grade 2 (-40C - 105C), SLC Mode
SM671PBF BFSS	160GB Ferri-UFS 3.1, WD BICS5 NAND, AEC-Q100 Grade 2 (-40C - 105C), SLC Mode

PART NUMBER	DESCRIPTION
SM671PXC BFST	64GB Ferri-UFS 3.1, WD BICS5 NAND, Wide Temp (-25C - 85C), TLC Mode
SM671PXD BFST	128GB Ferri-UFS 3.1, WD BICS5 NAND, Wide Temp (-25C - 85C), TLC Mode
SM671PXE BFST	256GB Ferri-UFS 3.1, WD BICS5 NAND, Wide Temp (-25C - 85C), TLC Mode
SM671PXF BFST	512GB Ferri-UFS 3.1, WD BICS5 NAND, Wide Temp (-25C - 85C), TLC Mode
SM671PEC BFST	64GB Ferri-UFS 3.1, WD BICS5 NAND, Extended Temp (-40C - 85C), TLC Mode
SM671PED BFST	128GB Ferri-UFS 3.1, WD BICS5 NAND, Extended Temp (-40C - 85C), TLC Mode
SM671PEE BFST	256GB Ferri-UFS 3.1, WD BICS5 NAND, Extended Temp (-40C - 85C), TLC Mode
SM671PEF BFST	512GB Ferri-UFS 3.1, WD BICS5 NAND, Extended Temp (-40C - 85C), TLC Mode
SM671PAC BFST	64GB Ferri-UFS 3.1, WD BICS5 NAND, AEC-Q100 Grade 3 (-40C - 85C), TLC Mode
SM671PAD BFST	128GB Ferri-UFS 3.1, WD BICS5 NAND, AEC-Q100 Grade 3 (-40C - 85C), TLC Mode
SM671PAE BFST	256GB Ferri-UFS 3.1, WD BICS5 NAND, AEC-Q100 Grade 3 (-40C - 85C), TLC Mode
SM671PAF BFST	512GB Ferri-UFS 3.1, WD BICS5 NAND, AEC-Q100 Grade 3 (-40C - 85C), TLC Mode
SM671PBC BFST	64GB Ferri-UFS 3.1, WD BICS5 NAND, AEC-Q100 Grade 2 (-40C - 105C), TLC Mode
SM671PBD BFST	128GB Ferri-UFS 3.1, WD BICS5 NAND, AEC-Q100 Grade 2 (-40C - 105C), TLC Mode
SM671PBE BFST	256GB Ferri-UFS 3.1, WD BICS5 NAND, AEC-Q100 Grade 2 (-40C - 105C), TLC Mode
SM671PBF BFST	512GB Ferri-UFS 3.1, WD BICS5 NAND, AEC-Q100 Grade 2 (-40C - 105C), TLC Mode

Product specifications

Ferri-UFS is a highly integrated solution which combines a feature-wise flash controller compliant with the latest UFS 3.1 standard and standard NAND flash memory. Its high-performance storage accessing, better power efficiency, and ease of system design make the Ferri-UFS a fabulous solution for automotive, industry, embedded and portable applications.

The Ferri-UFS leverages industry leading technology and experience in NAND management, and supports the UFS 3.1 advanced features such as HS-Gear4 x 2-lane mode and command queue. With extended temperature and various capacity support, offering easy and rapid design integration, the Ferri-UFS also ideally fits the requirements of point-of-sale terminals, networking and telecommunications equipment, and a variety of leading-edge industrial applications. With superior performance, multitasking support, and high stability, the Ferri-UFS can seamlessly serve the needs of a wide variety of mobile devices and new booming embedded/portable applications.

Why Ferri-UFS®

Easy to use
- Easy PCB traces routing and layout with high PCB/SMT yield
- Excellent long-term reliability and good heat dissipation

Lower total cost of ownership
- Eliminate requalification cost from NAND generation change
- Long product life cycle

Eliminate down time
- Supports self-monitoring, analysis and reporting health status
- Field programmable firmware update available

Customization available
- Configurable enhanced partition with content preload / protect
- Technical customization available

Key Features

High-Efficiency Error Correction
- Advanced Hardware LDPC (ECC) Engine
- StaticDataRefresh™ and EarlyRetirement™ technologies ensure the data reliability

Power Efficiency
- Dynamic power management technology enables multiple power saving modes

Advanced Global Wear Leveling to Enhance Reliability
- Even distribution of program / erase cycles across all NAND flash chips
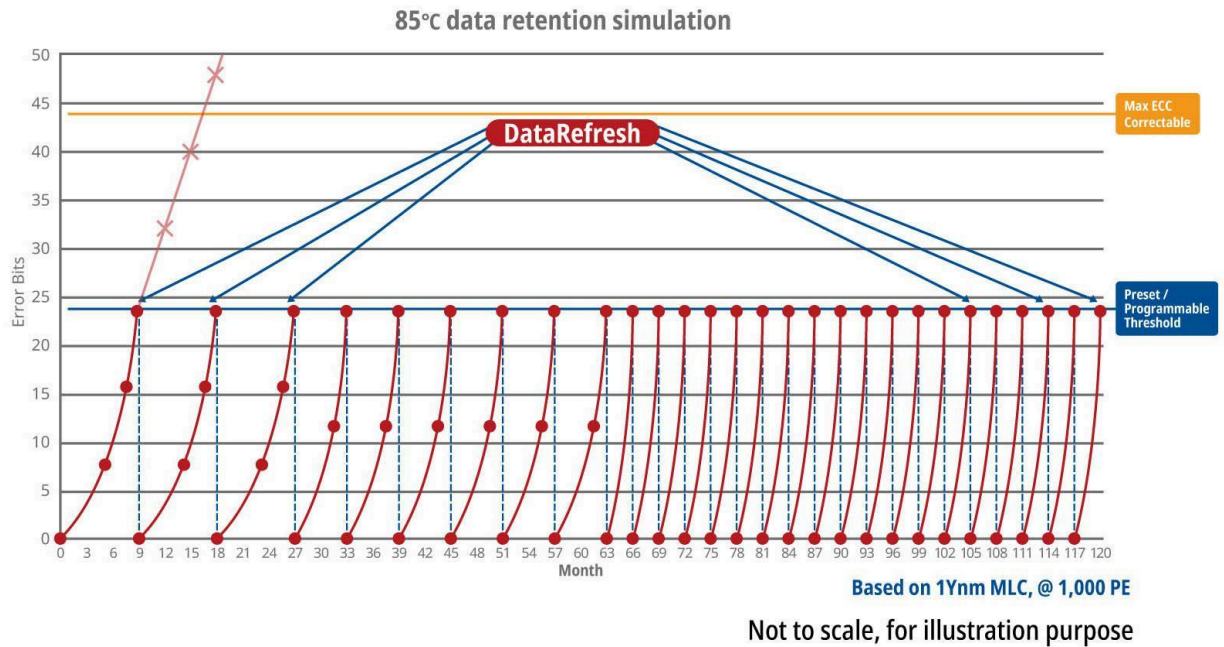- Maximizes the lifespan with low Write Amplification Index (WAI)

Robust Data Protection
- Advanced system level protection against unstable power
- Software / hardware write protect option
- Multiple user data security zones
- Software / hardware secure erase function
- PowerShield and DataPhoenix technologies support power-down data protection

Automotive IVI compliance to the AEC-Q100 requirements
IntelligentScan™ and DataRefresh™ to Enhance Data Retention in High Temperature Environment

Silicon Motion's proprietary IntelligentScan function will activate automatically to scan recharge, repair or retire the cell block (DataRefresh) according to the host behavior and working environment (eg.

ambient temperature). As a result of the combination of IntelligentScan and DataRefresh, Ferri-UFS® can effective prolong its service life much beyond typical NAND specifications.

85℃ data retention simulation

Based on 1Ynm MLC, @ 1,000 PE

Not to scale, for illustration purpose

Ferri Family Enabling the NAND Flash Storage in Comprehensive Applications

Video

Ferri-UFS: Industrial / Automotive UFS Memory
Unsurpassed Data Integrity and High Performance

SiliconMotion

Documents

[Silicon Motion's Ferri-UFS®: Sets new performance standard for Flash-based storage in automotive applications](#)