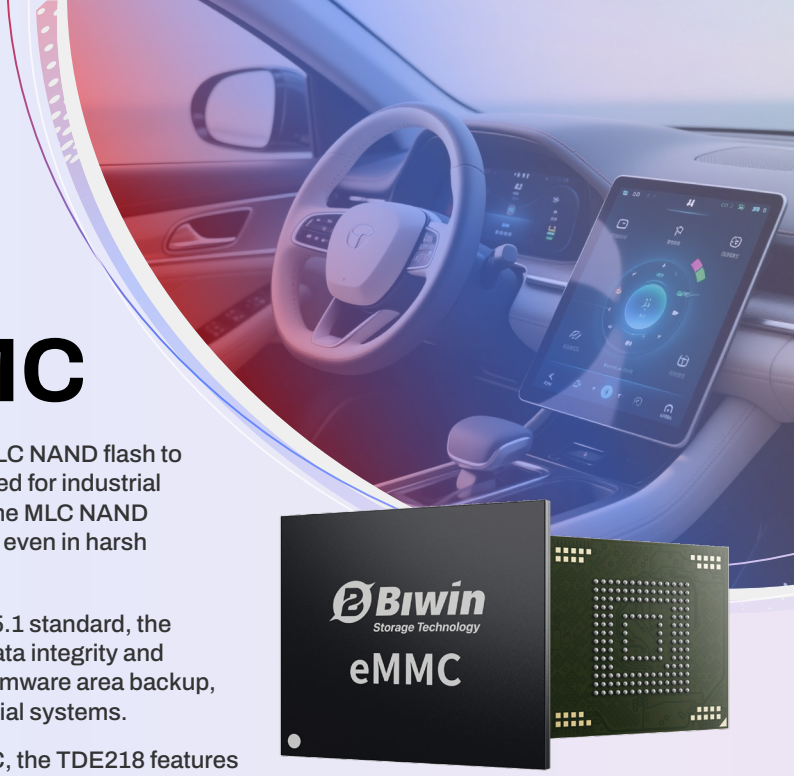
Biwin
Storage Technology

TDE218 Automotive eMMC



BIWIN TDE218 adopts an industrial-grade controller and robust MLC NAND flash to deliver higher endurance and faster read/write performance. Tailored for industrial automation, data communication, and other critical applications, the MLC NAND technology ensures enhanced reliability and operational efficiency even in harsh environments.

Packaged in a BGA 153 ball format and compliant with the eMMC 5.1 standard, the TDE218 integrates advanced error correction (ECC) to enhance data integrity and system reliability. It supports Firmware Field Upgrade (FFU) and firmware area backup, providing a safe and flexible firmware maintenance path for industrial systems.

Built to operate across a wide temperature range of -25°C to +85°C, the TDE218 features BIWIN's proprietary cross-temperature Read Retry (RR) technology, for consistent stability and data access under extreme thermal fluctuations.

Fully compatible with industrial-grade CPUs from Allwinner, RK, and SemiDrive, the TDE218 offers long-term stable performance and excellent cost-effectiveness, ideal for embedded and industrial deployments that demand durability and longevity.

Key Features

High-Performance Storage with Advanced Data Integrity

The BIWIN TDE218 features the FBGA 153 ball package and adheres to the eMMC 5.1 protocol, offering high-performance storage for critical applications. Equipped with error detection and correction (ECC), it ensures data integrity and reliability for a seamless and dependable performance.

Wide Temperature Range for Industrial Applications

Designed for operation in fluctuating temperature environments ranging from -25°C to +85°C, the BIWIN TDE218 leverages BIWIN's proprietary cross-temperature Read Retry (RR) technology to enhance stability under extreme thermal conditions. It is also fully compatible with various industrial CPUs, ensuring long-term, reliable performance in demanding environments.

Comprehensive Data Protection for Consistent Reliability

The BIWIN TDE218 features proprietary firmware that supports Field Firmware Update (FFU) and enables firmware area backups. For enhanced data integrity and device reliability, TDE218 supports regular inspection of the User Data Area (UDA), Extended User Data Area (EUDA), BOOT Area, and Replay Protected Memory Block (RPMB), including data and entry validation.

Long-Term Support and Customizable Service

The BIWIN TDE218 is backed by proprietary firmware and extensive testing to guarantee high-quality performance. The TDE218 offers reliable service and support, with over five years of assured on-hand supply and an extended product lifecycle. Customization options are available to meet specific industrial application needs, providing a fully tailored solution for your requirements.

Technologies

Bad Block Management	Power Loss Protection	Global Wear Leveling	RPMB Partition (Replay Protected Memory Block)	FFU (Firmware Field Upgrade)	ECC (Error Correction Code)

Applications

- Industrial Automation
- Security Surveillance
- IoT
- Financial and Retail Device
- Smart Healthcare

Specifications

Model Name	TDE218
eMMC Standard	eMMC 5.1
Flash Type	MLC
Capacity	8 GB
Sequential Read (Up to)	290 MB/s
Sequential Write (Up to)	190 MB/s
Operation Current (Max.)	75 mA
Standby Current (Max.)	100 μA
Dimensions	11.50 x 13.00 x 1.10 mm
Package	FBGA 153 Ball
Operating Temperature	-25°C to +85°C
Storage Temperature	-40°C to +85°C
Endurance	3000 P/E cycles
MTBF	>3,000,000 hours
Certifications	RoHS, REACH
Warranty	3-Year Limited

Order Information

Capacity	Part Number	Power Loss Protection
8 GB	WEFMD008GN8RC	Firmware-Based

1. Tested by BIWIN labs. Actual performance may vary due to systems, devices, or environment.
2. Maintenance and future updates are required throughout the product lifecycle. Specifications are subject to change without notice.
3. The pictures are for illustration only. Actual products may vary due to product enhancements or changes.
4. Not all products are sold in all regions of the world.
5. As used for storage capacity, one megabyte (MB)= one million bytes, one gigabyte (GB) = one billion bytes, and one terabyte (TB) = one trillion bytes. Total accessible capacity varies depending on the operating environment. As used for buffer or cache, one megabyte (MB) = 1,048,576 bytes. As used for transfer rate or interface, megabyte per second (MB/s) = one million bytes per second, and gigabyte per second (GB/s) = one billion bytes per second.
6. MTBF = Mean Time Between Failures based on internal testing using the Telcordia stress testing standard.
7. Please visit www.biwintechnology.com for warranty details in your region.
8. For more information, please contact sales@biwintech.com.

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