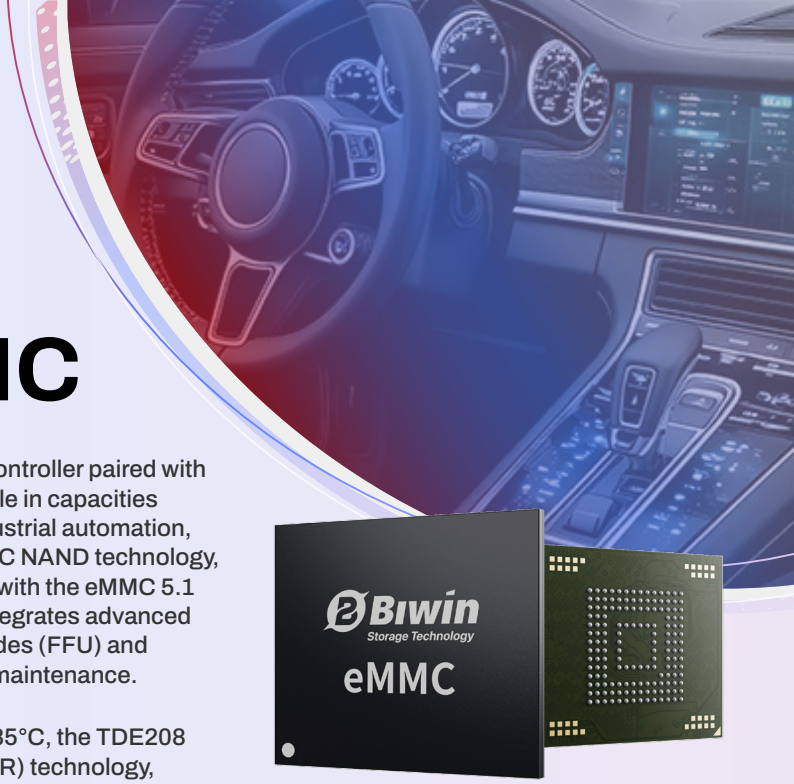
Biwin
Storage Technology

TDE208 Automotive eMMC



BIWIN TDE208 eMMC 5.1 features an advanced industrial-grade controller paired with premium TLC NAND to offer high capacity and affordability. Available in capacities ranging from 16 GB to 128 GB, TDE208 meets the demands of industrial automation, data communication, and various industrial sectors. Leveraging TLC NAND technology, the TDE208 adopts a compact BGA 153 package, which complies with the eMMC 5.1 standard, enabling seamless integration in industrial systems. It integrates advanced ECC to enhance data integrity and reliability. Firmware Field Upgrades (FFU) and firmware area backup are supported for safe and reliable firmware maintenance.

Designed to operate within a wide temperature range of -25°C to +85°C, the TDE208 incorporates BIWIN's proprietary cross-temperature Read Retry (RR) technology, ensuring outstanding stability and performance even under extreme conditions.

Compatible with industrial-grade CPUs from Allwinner, RK, and SemiDrive, the TDE208 delivers long-term stability, exceptional reliability, and cost-effectiveness for a wide range of industrial applications.

Key Features

High-Performance Storage with Advanced Data Integrity

The BIWIN TDE208 features the BGA 153 ball package and adheres to the eMMC 5.1 protocol, offering high-performance storage for critical applications. Equipped ECC for error detection and correction, TDE208 ensures data integrity and reliability.

Stable and Durable for Industrial Applications

Designed for operation in fluctuating temperature environments ranging from -25°C to +85°C, the BIWIN TDE208 leverages BIWIN's proprietary cross-temperature Read Retry (RR) technology for added stability under extreme thermal conditions. It is fully compatible with various industrial CPUs, ensuring long-term, reliable performance in demanding environments.

Comprehensive Data Protection for Consistent Reliability

The BIWIN TDE208 features proprietary firmware that supports online updates (FFU) and enables firmware area backups. It 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, enhancing data integrity and device reliability.

Long-Term Support and Customizable Service

The BIWIN TDE208 is backed by proprietary firmware and extensive testing to guarantee high-quality performance. The TDE208 offers reliable service and support, with over five years of on-hand assured 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	TDE208
eMMC Standard	eMMC 5.1
Flash Type	3D TLC
Capacity	16 GB / 32 GB / 64 GB / 128 GB
Sequential Read (Up to)	290 MB/s
Sequential Write (Up to)	250 MB/s
Operation Current (Max.)	115 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
16 GB	BWEFMD016GN7RJ	Firmware-Based
32 GB	BWEFMD032GN7RJ	Firmware-Based
64 GB	BWEFMD064GN7RJ	Firmware-Based
128 GB	BWEFMD128GN7RJ	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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