EXASCEND

EM500 Series

Tailored e.MMC Solutions for Connected and Autonomous Vehicles

EXASCEND
ESEMSA256GYMG-T
Y2Q1602482

eMMC 5.1 HS 400	153-ball FBGA	AEC-Q100 Grade 2	Up to 256GB	Up to 295MB/s
Specilications	Package	Tasting in progress	Capacity	Sequential performance

Temperature Resilience: Withstands extreme temperatures ranging from -40°C to +105°C, while actively pursuing AEC-Q100 Grade 2 qualification.

Quality Assurance: Adheres to the Production Part Approval Process (PPAP) and is manufactured on an IATF16949-certified production line.

High-Speed Data Transfer: Utilizes HS400 DDR mode for rapid data transfer, with sequential read speeds of up to 295 MB/s and sequential write speeds of up to 210 MB/s.

Customization and Support: Offers customizable firmware, long-term support, and fixed BOM solutions.

Advanced Technologies: Incorporates advanced features such as LDPC ECC, power loss protection, wear leveling, IOPS optimization, read disturb prevention, secure erase, write protection, and Field Firmware Update (FFU).

Automotive Optimization: Specifically optimized for automotive applications, including ADAS, infotainment, navigation systems, and high-definition mapping.

Specifications

	pSLC	TLC
Edition	EM500 Series	
Compliance	e.MMC v5.1 (backward compatible with v4.41/v4.5/v5.0)	
Interface Data transfer mode	HS400 DDR mode	
Package	153-ball FBGA	
Capacity	4GB-16GB	32GB-256GB
Flash type	176-layer 3D TLC NAND	
Sequential read/write up to	295/210 MB/s	
4K random read/write up to	8400/6000 IOPS	
Input voltage	3.3V±5%	
Power consumption	Active <3.3W; Idle <1.8W	
Operational temperature	-40°C to 105°C	
Storage temperature	-50°C to 115°C	
Features	LDPC ECC. Firmware power loss protection. Field Firmware Update (FFU). Firmware read disturb protection. Secure erase. Write protection.	
TBW up to	382TB	614TB
DWPD (JESD218) up to	26.6	2.33
Warranty	3 years	

Ordering Information

Density	Part Number	Package	PKG size (mm)	Remark
4GB	ESEMSA004GPMG-T	FBGA153	11.5 x 13.0 x 1.0	1 stack
8GB	ESEMSA008GPMG-T	FBGA153	11.5 x 13.0 x 1.0	1 stack
16GB	ESEMSA016GPMG-T	FBGA153	11.5 x 13.0 x 1.0	1 stack
32GB	ESEMSA032GYMG-T	FBGA153	11.5 x 13.0 x 1.0	1 stack
64GB	ESEMSA064GYMG-T	FBGA153	11.5 x 13.0 x 1.0	1 stack
128GB	ESEMSA128GYMG-T	FBGA153	11.5 x 13.0 x 1.0	2 stack
256GB	ESEMSA256GYMG-T	FBGA153	11.5 x 13.0 x 1.2	4 stack

*4GB~16GB with pSLC solution / 32GB~256GB with 3D TLC solution

Exascend's Commitment to Driving Innovation in Automotive Storage

Exascend delivers customer-focused high performance, low power, reliable storage solutions for automotive and industrial applications. We have a wide range of in-house developed flash products, from SSDs to PCIe BGA and eMMC solutions, for ADAS and autonomous driving markets. Visit exascend.com/automotive/ for more information.