FRONTGRADE PRODUCT BRIEF

32 GB eMMC Managed NAND



The 32GB eMMC Managed NAND is a high-performance, reliable storage solution for LEO space applications. With built-in advanced error correction and wear leveling, this eMMC device ensures data integrity and extended lifespan, making it ideal for embedded space systems. Offering a seamless balance between performance and efficiency, it delivers fast read and write speeds over an MMC interface to meet the demands of modern space applications. Its compact form factor and ease of integration make it a go-to

choice for designers seeking a cost-effective, durable, and high-capacity managed NAND storage solution.

Radiation effects characterization report will be available upon request.



Version: 1.0.3

6/16/2025

Features:	 32 GByte Density NAND operating in TLC eMMC 5.1 interface 300MB/s max read sequential 150MB/s max write sequential Retention: 10 years @ 55°C beginning of life, 1 year @ 55°C cycled life 40 TBytes Written (TBW) endurance NAND functions (ECC, wear leveling, block management, etc) handled by on board controller MSL 3
Applications:	 Solid State Drive Microcontroller/Microprocessor/FPGA image storage
Operational Environment:	 Temperature Range: -25°C to +85°C Characterized Total Dose: 50 krads (Si) Characterized SEL Immune: ≤ 63 MeV-cm2/mg
Physical:	 153-Ball FBGA unleaded (SAC305) or leaded (63Sn 37Pb) 0.5 mm ball pitch 13mm x 11.5mm
Power:	 Power: 330 mA peak current @3.3V/1.8V VCC: 2.70V – 3.60V, VCCIO 1.8V & 3.3V
Qualifications:	 Frontgrade's PEM L1/L2 Screening and Qualification Flow– Similar to NASA's PEM-INST-001

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Ordering Information



Notes:

- 1. Lead finish must be specified.
- 2. Space PEM L1/L2 per Frontgrade Manufacturing Flows Document. Based on NASA PEM-INST-001 Level 1/2 criteria.
- 3. Radiation assurance levels may be selected for Space PEM QD, L1/2 orders.