

Swissbit EM-30

Product Use Case

e.MMC for Boot Drives

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Challenges

- Fast read capabilities
- Small physical dimensions and low maintenance
- High robustness

Solution

- ✓ Swissbit EM-30, 153-ball BGA
- ✓ Fully compliant with JEDEC e.MMC 5.1 standard
- ✓ Density range: 4 GB – 256 GB

Benefits

- ✓ Robust embedded System-in-Package
- ✓ Dedicated boot mode
- ✓ Low maintenance costs and risk of failure



Boot drives play a critical role by storing essential code required for system initialization, including bootloaders and BIOS. Their integrity is paramount for system stability, as damage could compromise the entire system.

Traditionally, the reliance on expensive NOR flash memory for boot drives has posed challenges, particularly in cost-sensitive markets. e.MMC offers a compelling alternative, but its endurance can be limited.

The **Swissbit EM-30** addresses this by combining affordability, high reliability, and a compact size. Notably, it emulates large SSDs with automatic background data refresh, specifically for read-only areas like boot media, ensuring data integrity and extending lifespan.

This makes the EM-30 an outstanding choice for cost-effective and reliable boot drives.

The EM-30 product series (available as either a 153 or 100 Ball BGA) complies with the latest e.MMC-5.1 specifications and is fully downward compatible. This specification also incorporates a dedicated operation mode known as boot mode, streamlining and enhancing the security of booting from e.MMC.

In addition, similar to large SSDs, the EM-30 firmware supports automatic background data refresh of read-only areas, a common

attribute of boot media. This feature coupled with strong error correction, ensures that data availability is always highly reliable, even if the data has not been accessed under prolonged periods of exposure to high temperatures. A further special feature is the increased protection against data corruption in the event of sudden power loss.

Swissbit's EM-30 is designed for an industrial temperature range of -40 to +85 °C. Optionally, it's also available for an extended temperature range of -40 to +105 °C, designed to meet the requirements of demanding automotive applications.

Areas of Application

- Automotive
- Factory Automation
- IoT
- Medical Devices
- POS/POI Terminals
- Routers and Switches



**Do you have any questions?
Get in touch!**

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About Swissbit

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