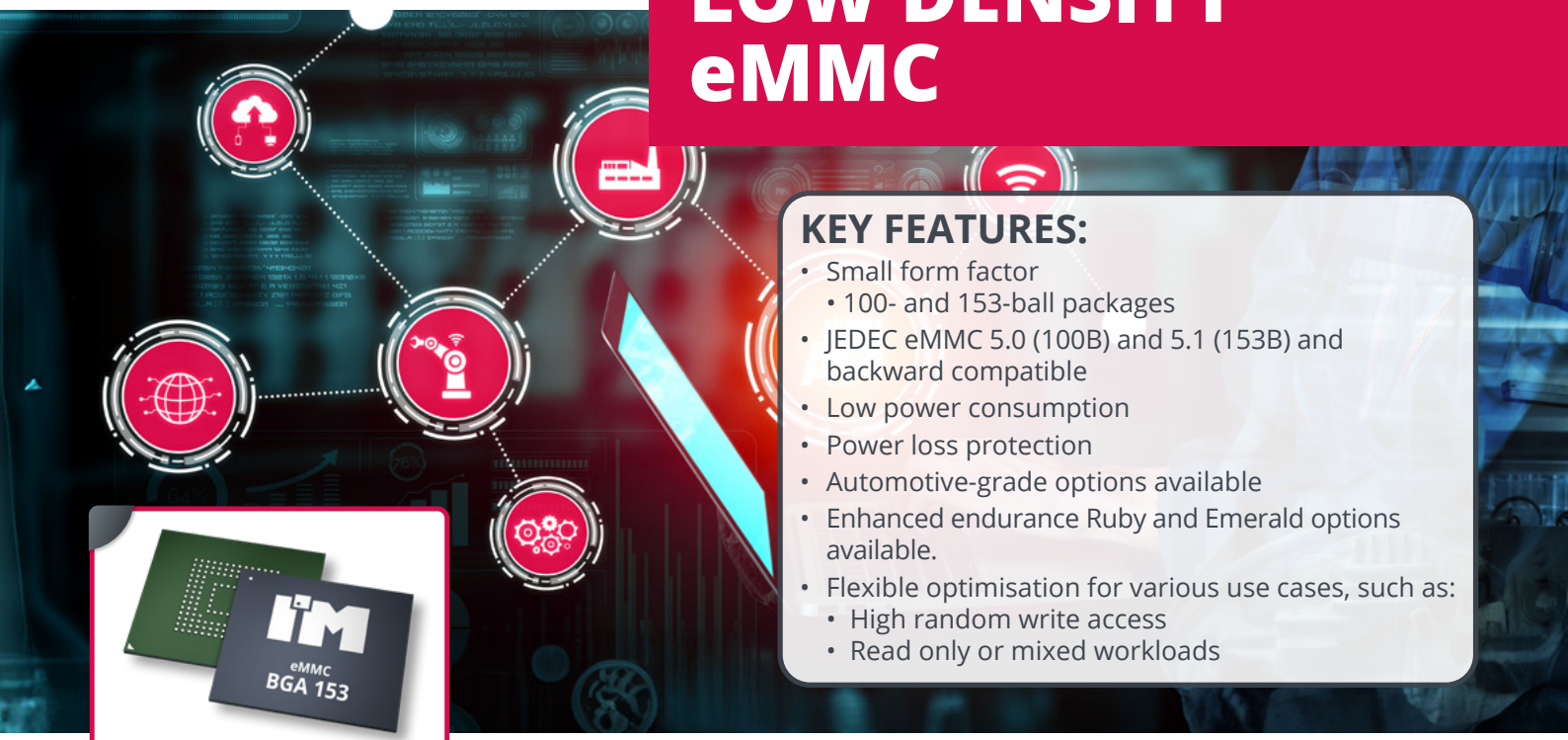
UNLIMITED INGENUITY

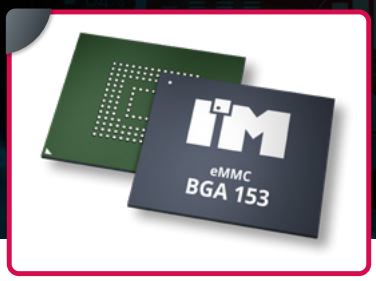
INTELLIGENT MEMORY

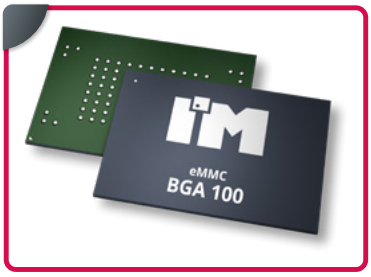
LOW DENSITY eMMC



KEY FEATURES:

- Small form factor
  - 100- and 153-ball packages
- JEDEC eMMC 5.0 (100B) and 5.1 (153B) and backward compatible
- Low power consumption
- Power loss protection
- Automotive-grade options available
- Enhanced endurance Ruby and Emerald options available.
- Flexible optimisation for various use cases, such as:
  - High random write access
  - Read only or mixed workloads



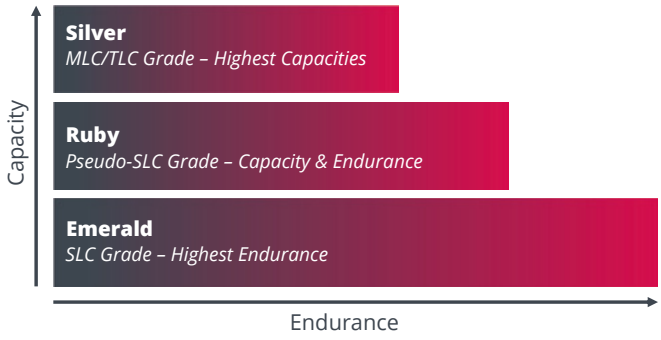


eMMC integrates the flash memory and controller into a single chip, providing a compact and cost-effective storage solution for devices with limited space and power constraints.

Intelligent Memory's eMMC family offers vibration resistant options with superior power efficiency for all of your smaller designs. With a small form factor and low power consumption, this JEDEC-compliant and automotive-grade optional product is designed to offer a variety of options for customization.

IM's NAND Product Lineup

- IM's NAND Lineup includes 3 family categories:
  - ***Emerald***, ***Ruby*** and ***Silver***, classified by their endurance
- Longevity options for extended, long-term availability without BOM changes
- Comes with IM's full range of technical support and tools



For more information or to request samples, please visit us at **www.intelligentmemory.com**

You may also contact our sales team directly at **sales@intelligentmemory.com**

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UNLIMITED INGENUITY

INTELLIGENT MEMORY

Silver

For Applications

- That require highest possible capacities
- With normal write workload, e.g.
  - No 24/7 write access
  - More sequential than random workload

Ruby

For Applications

- That require mid- to high-capacity ranges
- With a high write workload or very long required system lifetime

Emerald

Addressing All Requirements Towards an SLC-Based Product

- Highest endurance
  - Equivalent to min. 60.000 P/E cycles;
  - Highest endurance under random workload
- Performance in combination with latest firmware architecture
  - Superior sequential and random performance
- Reliability
  - Highest quality HW, combined with sophisticated firmware
  - Mechanisms ensure high level of reliability and data integrity

APPLICATIONS

eMMC is used in various electronic devices, including:

- **Smartphones & Tablets**: eMMC is commonly used for storing the operating system, applications, and user data in mobile devices due to its compact size and cost-effectiveness.
- **Smart TVs and Set-Top Boxes**: It can be found in smart TVs and set-top boxes for storing firmware, applications, and other data.
- **Digital Cameras**: eMMC is utilized in some digital cameras for storing photos, videos, and firmware.
- **Automotive Systems**: In-vehicle infotainment systems and other automotive applications often use eMMC for storage purposes.
- **Wearable Devices**: Some wearables, such as smartwatches and fitness trackers, use eMMC for storing firmware and user data.
- **Networking Equipment**: eMMC is employed in certain networking devices like routers and switches for storing firmware and configuration data.
- **IOT & Industrial Applications**: They have various uses in industrial devices and equipment for reliable data storage.
  - Robotics
  - Industrial Automation
  - Industrial Control Systems
- **Embedded Systems**: eMMC is suitable for embedded systems where space constraints and cost considerations are crucial.

In these applications, eMMC provides a balance between performance, reliability, and affordability, making it a practical choice for many industrial and embedded systems. Embedded MultiMediaCards are designed for extended product life cycles. These versions prioritize durability and reliability to ensure sustained performance over a more extended period. This is crucial for applications where the devices are expected to operate for many years.

	Silver	Ruby	Emerald
Interface	eMMC 5.1	eMMC 5.1	eMMC 5.1
Capacity Range	4GB - 256GB	2GB - 64GB	1GB - 32GB
Temperature Range	Extended Commercial: -25°C to +85°C Industrial: -40°C to +85°C Automotive Grade 3: -40°C to +85°C Automotive Grade 2: -40°C to +105°C		
Endurance (Total Drive Writes)			
JEDEC Client	3000	40000	640000
JEDEC Enterprise	2400	32000	512000
Performance (MB/s)			
Seq. read (MB/s)	320	320	320
Seq. write (MB/s)	265	260	300
Data Retention (min/max)		1Y / 10Y	

KEY FEATURES

- Small form factor
- Soldered solution
- 100- and 153-ball packages
- JEDEC eMMC 5.1 and backward compatible
- Low power consumption
- Automotive-grade option available