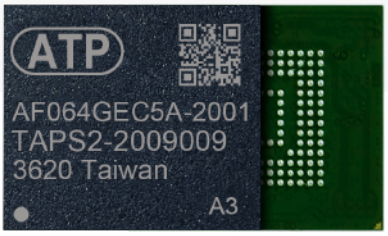
e.MMC Automotive

The Global Leader in Specialized Storage and Memory Solutions



KEY FEATURES

- AEC-Q100 Grade 2 (-40°C to 105°C), and Grade 3 (-40°C to 85°C) compliant*
- Robust Data Integrity* (AutoRefresh and Dynamic Data Refresh)
- Extra-high endurance: 2-3X higher than standard e.MMC*
- Complies with JEDEC e.MMC v5.1 Standard (JESD84-B51)
- 153-ball FBGA (RoHS compliant, ""green package"")
- LDPC ECC engine*

* May vary by product and project support

ATP Electronics shifts into high gear with automotive grade e.MMC solutions. These soldered-down solutions are constructed for maximum reliability on the road. They deliver consistent, stable performance amidst the challenging and unpredictable conditions that vehicles are commonly subjected to, such as intense shocks and vibrations, temperature variability, and constricted spaces. Infotainment systems, advanced driver assistance system (ADAS), telematics, and other automotive applications will benefit greatly from the extra-high endurance, which is 2-3X higher than standard e.MMC.

The automotive grade e.MMC solutions are compliant with AEC-Q100 and are available in two temperature grades for peace-of-mind journeys, whether in sub-zero winters or in scorching summers. Automotive Grade 3 (AG3) typically covers an operating range of -40°C to 85°C), while Automotive Grade 2 (AG2) offers an extended range for even more extreme conditions with elevated temperatures, from -40°C to 105°C.

ATP's automotive grade e.MMC solutions incorporate low-density parity-check error correction codes (LDPC ECC) to maintain data accuracy over their rated lifespan and beyond. AutoRefresh and Dynamic Data Refresh technologies prevent read disturb errors in often-accessed (hot zone) areas as well as seldom-accessed areas (cold zone).

Specifications

Product Line	Automotive Grade 2		Automotive Grade 3	
	Premium	Superior	Premium	Superior
	E700Paa[1]	E600Saa[1]	E700Pia[1]	E600Sia[1]
Flash Type	3D MLC (pSLC mode)	3D TLC	3D TLC (pSLC mode)	3D TLC
IC Package	153-ball FBGA			
JEDEC Specification	v5.1, HS400			
Power Loss Protection Options	Firmware Based			
Operating Temperature	-40°C to 105°C		-40°C to 85°C	
Capacity	20 GB to 80 GB	64 GB to 256 GB	20 GB to 80 GB	64 GB to 256 GB
Performance				
Sequential Read/ Write up to (MB/s) (Max.)	310 / 240			
Bus Speed Modes	x1 / x4 / x8			
ICC (Typical RMS in Read/Write) mA (Max.)	90 / 145			
ICCQ (Typical RMS in Read/Write) mA (Max.)	105 / 150	100 / 150	105 / 150	100 / 150
Endurance and Reliability				
Endurance TBW (Max.) [2]	2,000 TB	280 TB	2,000 TB	280 TB
Reliability MTBF @ 25°C	>3,000,000 hours			
Others				
Dimensions (mm)	11.5 x 13.0 x 1.2			
Certifications	AEC-Q100, RoHS, REACH			
Warranty	One Year			

1 Product specifications may be subject to change.
2 All performance is collected or measured using ATP proprietary test environment, without file system overhead.

Technologies		S.M.A.R.T/ Life Monitor	Industrial Temperature	SiP	Vibration-Proof BGA Package	Firmware-Based Data-At-Rest Power Loss Protection	Advanced Wear Leveling	AutoRefresh	Dynamic Data Refresh	ETEDP	Content Preload	Joint Validation and Test
Premium	E700Paa / E700Pia	○	○	○	○	○	○	○	○	○	▲	▲
Superior	E600Saa / E600Sia	○	○	○	○	○	○	○	○	○	▲	▲

▲: Customization option available on a project basis.

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Product spec and its related information are subject to change without advance notice.
Please refer to www.atpinc.com for latest information

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