

MIFARE DESFire Cards

MIFARE DESFire EV3, EV2 and EV1 cards from 2K memory upward, plus 640-byte DESFire Light, for access control, hotel, campus and multi-application systems. Specify EV3 for new builds, match the approved generation for existing estates, and test free standard samples on your readers before a bulk order.

DESFire EV1 vs EV2 vs EV3 vs DESFire Light

Feature	DESFire EV1	DESFire EV2	DESFire EV3	DESFire Light
Memory options (NXP)	2 KB, 4 KB, 8 KB	2 KB to 32 KB (2/4/8/16/32 KB)	2 KB, 4 KB, 8 KB (larger sizes: confirm with current NXP data)	640 bytes
Cryptography	DES, 2K3DES, 3K3DES, AES-128	DES, 2K3DES, 3K3DES, AES-128	DES, 2K3DES, 3K3DES, AES-128	AES-128, with an LRP option
Applications	Up to 28	Limited only by memory	Limited only by memory	One predefined application with a fixed file set
Multiple key sets and key rolling	No	Up to 16 key sets per application	Up to 16 key sets per application	No
Transaction MAC	No	Yes	Yes	Optional Transaction MAC file
Proximity Check (relay-attack protection)	No	Yes	Yes	No
Secure Unique NFC (SUN) via Secure Dynamic Messaging	No	No	Yes, mirrored into the NDEF message	Not listed in NXP's product features; specify EV3 or NTAG 424 DNA when SUN is required
Transaction Timer	No	No	Yes	Not listed
Common Criteria (hardware and software)	EAL4+	EAL5+	EAL5+	EAL4
Backward compatibility	D40 mode	EV1 and D40 modes	EV2, EV1 and D40 modes	No legacy modes; uses a subset of EV2 secure messaging (NXP: compatible with DESFire EV2 systems)
NXP status for new designs	Not recommended	Not recommended; EV3 is the named replacement	Active, recommended	Active

DESFire 2K, 4K or 8K: how much memory do you need?

Memory	NXP parts (standard / "H" 70 pF)	Typical fit (confirm with your application plan)
2K (2 KB)	EV1 MF3ICD21 / MF3ICDH21; EV2 MF3D22 / MF3DH22; EV3 MF3D23 / MF3DH23	One access or hotel-key application with modest files
4K (4 KB)	EV1 MF3ICD41 / MF3ICDH41; EV2 MF3D42 / MF3DH42; EV3 MF3D43 / MF3DH43	Access plus a second application, such as cashless vending or attendance
8K (8 KB)	EV1 MF3ICD81 / MF3ICDH81; EV2 MF3D82 / MF3DH82; EV3 MF3D83 / MF3DH83	Multi-application campus, city or transport cards with record files and growth room
16K and above	EV2 16 KB and 32 KB parts; larger EV3 sizes confirmed against current NXP data	Large record histories or many applications; finished-card availability confirmed in the quotation

Ordering

- Free standard samples; customised samples carry a setup fee.
- Standard lead time is 2–3 weeks.
- Quote-only pricing—send your quantity for a quotation.
- Printing, numbering and encoding options are available for the selected product and material.

Contact

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