

# SOLID FLASH™ Chip Card Controllers

## German Quality. Full Flexibility. Certified Security.

### Safety has relied on Infineon Flash for years – What about Security?

Governments are becoming more demanding in terms of flexibility of their electronic ID documents that allows seamless citizen services. Infineon contributes to this end with an outstanding memory concept for its secure controllers that replaces mask ROM with SOLID FLASH™.

**Flexibility:** All players contributing to the value chain can benefit from the advantages of SOLID FLASH™ in terms of flexibility. Samples can be shipped to customers, approval bodies and other addressees in only a fraction of the time needed for conventional mask ROM products. OS developers can reduce their valuable development time. Card manufacturers and state printers can save logistic costs by not having to order one specific ROM mask with lengthy semiconductor production cycles. Finally, the personalization entity can drastically cut down their stock level due to on demand programming capabilities of SOLID FLASH™.

**Quality:** Infineon flash has been chosen by all major automotive players for safety relevant applications (e.g. airbag, braking) since many years. Drawing from this experience Infineon offers SOLID FLASH™ for secure chip card controllers. Complex failure detection and correction mechanisms together with highly robust cycling take care that Infineon's SOLID FLASH™ is able to run in the field as long and as reliable as mask ROM memory.

**Security:** SOLID FLASH™ controllers seamlessly integrate into the high security standards that are valid for all secure controllers from Infineon. The SOLID FLASH™ memory concept features unique security mechanisms, such as strong encryption of the flash memory. SOLID FLASH™ in security ICs offers a specific flash loader for secure flash memory programming and effective locking. All SOLID FLASH™ functionality is covered by the Common Criteria security certification of the respective controllers, ranging up to CC EAL 6+.

### SOLID FLASH™ at a glance

#### Time to market

- Transform new ideas quickly into products
- Fast reaction on changing customer demand
- Win projects with samples as others still show slides

#### Flexible development & logistics

- Fast prototyping and immediate learning cycles
- Cut down certification risk & cost
- Optimize stock level and capital lockup

#### Quality & security



- Infineon flash reliability proven in automotive
- Comprehensive security including secure code loading and locking
- Full flash functionality covered by Common Criteria security certification



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Secure SOLID FLASH™ controllers for electronic ID documents such as ePassport, national eID, eDriving License, eHealth and social security cards.

Product	 INTEGRITY GUARD	 SOLID FLASH™ [kB]	RAM [kB]	Cryptography	Interface	Certification Level
SLE 78CLFX4000P	●	404	8	3DES, AES, RSA, ECC	ISO 14443A/B, ISO18092 (NFC), ISO 7816	EAL 5+, EAL 6+
SLE 78CLFX3000P	●	300	8	3DES, AES, RSA, ECC	ISO 14443A/B, ISO18092 (NFC), ISO 7816	EAL 5+, EAL 6+
SLE 78CLFX2000P	●	200	8	3DES, AES, RSA, ECC	ISO 14443A/B, ISO18092 (NFC), ISO 7816	EAL 5+, EAL 6+
SLE 78CFX4000P	●	404	8	3DES, AES, RSA, ECC	ISO 7816	EAL 5+, EAL 6+
SLE 78CFX3000P	●	300	8	3DES, AES, RSA, ECC	ISO 7816	EAL 5+, EAL 6+
SLE 78CFX2000P	●	200	8	3DES, AES, RSA, ECC	ISO 7816	EAL 5+, EAL 6+
SLE 77CLFX2400P	–	240	6	3DES, AES, RSA, ECC	ISO 14443A/B, ISO18092 (NFC), ISO 7816	EAL4+
SLE 77CLFX2000P	–	200	6	3DES, AES, RSA, ECC	ISO 14443A/B, ISO18092 (NFC), ISO 7816	EAL4+
SLE 77CLFX1840P	–	184	6	3DES, AES, RSA, ECC	ISO 14443A/B, ISO18092 (NFC), ISO 7816	EAL4+
SLE 77CLFX1560P	–	156	6	3DES, AES, RSA, ECC	ISO 14443A/B, ISO18092 (NFC), ISO 7816	EAL4+
SLE 77CLFX1360P	–	136	6	3DES, AES, RSA, ECC	ISO 14443A/B, ISO18092 (NFC), ISO 7816	EAL4+
SLE 77CFX2400P	–	240	6	3DES, AES, RSA, ECC	ISO 7816	EAL4+
SLE 77CFX2000P	–	200	6	3DES, AES, RSA, ECC	ISO 7816	EAL4+
SLE 77CFX1840P	–	184	6	3DES, AES, RSA, ECC	ISO 7816	EAL4+
SLE 77CFX1560P	–	156	6	3DES, AES, RSA, ECC	ISO 7816	EAL4+
SLE 77CFX1360P	–	136	6	3DES, AES, RSA, ECC	ISO 7816	EAL4+
SLE 77CLF1001P	–	100	6	3DES, AES	ISO 14443A/B, ISO18092 (NFC)	EAL4+
SLE 77CLF801P	–	80	6	3DES, AES	ISO 14443A/B, ISO18092 (NFC)	EAL4+
SLE 77CLF601P	–	60	6	3DES, AES	ISO 14443A/B, ISO18092 (NFC)	EAL4+
SLE 77CF1200S	–	120	6	3DES, AES	ISO 7816	EMVCo
SLE 77CF1000S	–	100	6	3DES, AES	ISO 7816	EMVCo
SLE 77CF800S	–	80	6	3DES, AES	ISO 7816	EMVCo

### Governments' eID partner of choice

Infineon is an innovative and long-standing supplier of hardware-based secure ID solutions. Leading the chip card controller market for more than 14 consecutive years, this depth of experience reassures many governments looking for a trustworthy and stable supplier.

Speaking of governmental ID programs nowadays, Infineon is the only IC company in 2011 that shipped controllers to the ePassport projects of the world's five biggest countries. In Europe, the leading region for new governmental applications, 70% of the national eID projects rely on chips from Infineon. In addition, many high economic growth countries such as Brazil, Turkey, India, Indonesia & China trust in Infineon secure controllers for their new eID documents. In the field of healthcare, 60% of the smart health cards worldwide use Infineon chips.

With a global support network and multiple production sites, Infineon effectively serves projects around the world. Infineon is the preferred semiconductor supplier for many global ID solutions, and our continued investment in R&D ensures we will be able to serve them for many years to come.

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