

## Data Carrier

### SLE 5542

INTELLIGENT 256 BYTE EEPROM with Write Protection and Programmable Security Code (PSC) and with ISO 7816 smart card interface. SLE 5542 is fully functional compatible with SLE 4442 and can easily replace the previous product in any application. To ensure the future availability of this product type, whilst still ensuring backward compatibility to previous products, Infineon has migrated the data carrier family to the IMEM CMOS technology. IMEM is conceived for security applications and offers unsurpassed physical and electrical protection schemes. IMEM is recommended for use with Infineon's advanced FCOS (Flip Chip On Substrate) module package.

#### Applications

- Membership card
- Access Control
- Healthcare & Health Insurance card
- Loyalty card

#### Features

- 100% functional compatibility to SLE 4442
- 256 x 8 bit EEPROM organization of Data Memory
- 32 x 1 bit Protection Memory
  - Byte-wise write protection of first 32 Bytes of Data Memory
  - Not alterable Manufacturer Code (chip coding and unique coding by application identifier RID according to ISO/IEC 7816-5)
- Data Memory alterable only after verification of 3 Byte PSC
- PSC verification trials limited by Error Counter
- Ambient temperature range -40 to +80°C
- EEPROM endurance of minimum 100,000 write/erase cycles<sup>1)</sup>
- Data retention of minimum 10 years<sup>1)</sup>
- Advanced CMOS-technology optimised for security layout

<sup>1)</sup> Values are temperature dependent

<sup>2)</sup> Green Products according to EU directives. EN ISO 14001 multi-site certification



#### Advantages

- Product well established and trusted for use in applications for well over a decade
- Use of application identifiers provide convenient card acceptance test
- Most cost effective when combined with green FCOS module package<sup>2)</sup>
- Compatible with existing mechanical handling techniques
- Infineon's world-class wafer thinning techniques (grinding + additional chemical etching) drastically improve robustness of ICs

#### Security

- Access to EEPROM protected by transport code on delivery
- Probing and forcing hindered by FCOS module bonding process
- EEPROM-cells protected by shield
- Shielding of deeper layers via metal
- Sensory- and logical security functions

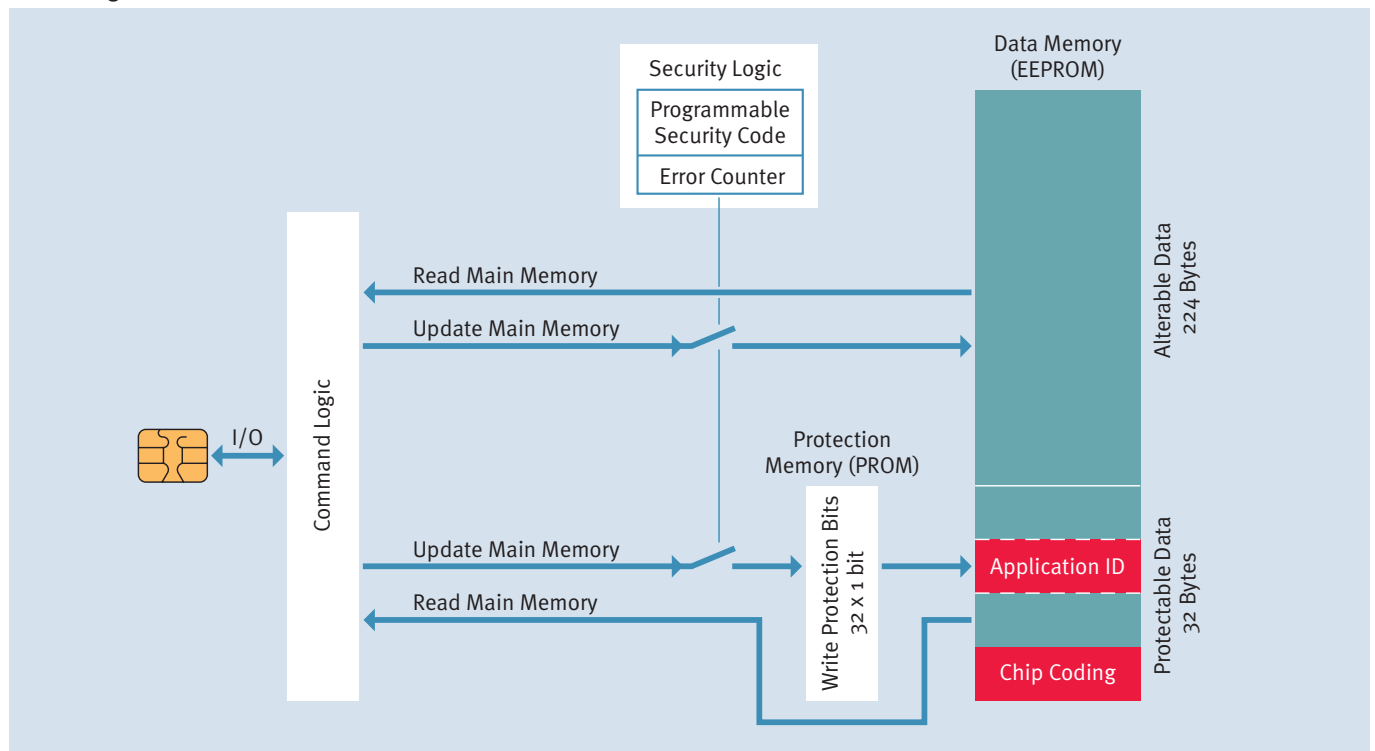
[www.infineon.com/datacarrier](http://www.infineon.com/datacarrier)

## Chip Card & Security ICs



Never stop thinking

## Block Diagram



## Product Summary

Type	Description	Package
SLE 5542	256 byte EEPROM with Write Protection and Programmable Security Code (PSC)	Die (on Wafer), M3.2, MFC3.1

## Related Products

Type	Description	Package
SLE 5532	256 byte EEPROM with Write Protection	Die (on Wafer), M3.2, MFC3.1
SLE 5552	256 byte EEPROM with Read/Write Protection and Programmable Security Code (PSC)	Die (on Wafer), M3.2, MFC3.1
SLE 5518	1 Kbyte EEPROM with Write Protection	Die (on Wafer), M3.2, MFC3.1
SLE 5528	1 Kbyte EEPROM with Write Protection and Programmable Security Code (PSC)	Die (on Wafer), M3.2, MFC3.1
SLE 5538	1 Kbyte EEPROM with Read/Write Protection and Programmable Security Code (PSC)	Die (on Wafer), M3.2, MFC3.1

## Development Tools

Type	Description	Ordering No
Evaluation Kit	Evaluation Kit Security Memories	Q67100-Z3044

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