



# NXP ICODE SLI-S HF RFID smart label IC with password protection

## Take security to the next level

Now you can offer the smart label market an enhanced security option – password protection. With our ICODE SLI-S, you can deliver the perfect balance of security, privacy and cost effectiveness. It's your ideal smart label solution for secure, globally compliant applications.

### Key applications

- ▶ Libraries and rental services
- ▶ Pharmaceutical
- ▶ Fashion
- ▶ Retail
- ▶ Item-level tagging

### Key features

- ▶ Optional, configurable password-protected memory access for read / write, EAS and privacy-related applications
- ▶ 2048 bits of on-chip memory
  - 64 bits UID
  - 96 bits EPC (OTP)
  - 1280 bits programmable user memory
- ▶ Interface complies fully with ISO 15693, ISO 18000-3 and EPCglobal HF Class 1 standards
- ▶ Multi-label operation up to 60 tags/sec according to the ISO protocol and up to 200 tags/sec according to the EPC protocol
- ▶ Operating distances up to 2 m
- ▶ Runs on the same infrastructure as ICODE SLI, ICODE 1, ICODE EPC and ICODE UID
- ▶ 23.5 pF and 97.0 pF (for smaller labels) versions

### Key benefits

- ▶ World's first product with password-protected EAS functionality
- ▶ First ISO 15693-compliant IC offering privacy protection with specific destroy and privacy commands
- ▶ More customer-programmable memory
- ▶ Significantly improved response signal
- ▶ Robust and reliable RF technology suitable for noisy environments
- ▶ Supported by established reader infrastructure worldwide
- ▶ Tags, labels and readers available from numerous suppliers

The ICODE SLI-S is a dedicated IC for passive, intelligent tags and labels supporting the ISO 15693, ISO 18000 and HF EPCglobal/Auto ID standards. For enhanced security, it offers password-protected memory access that can be tailored to meet your specific needs. In particular, it's the world's first solution with password-protected EAS functionality – letting you address the need for higher security standards.

In addition to the configurable password-protected memory, the ICODE SLI-S features increased user memory. So you can use 32-bit or 64-bit passwords for even higher security in your applications.

With operating distances up to 2 m, the ICODE SLI-S is specifically designed for long-range applications. Combined with its security features and high anti-collision rates, this makes the ICODE SLI-S ideal for libraries, rental services, the fashion industry, pharmaceutical supply chain management and other item-level tagging applications. Furthermore to help you address consumer concerns, it offers the most comprehensive privacy-protection features currently available on a smart label IC.

Our ICODE platform is the industry standard for high-frequency (HF) smart label solutions. With more than 250 million ICs sold, representing the world's largest installed base, ICODE is a proven and reliable technology. The entire ICODE family is supported by ISO 15693, ISO 18000 and EPCglobal compliant infrastructure. This ensures you can seamlessly integrate the ICODE SLI-S into existing applications to improve performance and functionality.

Product Features	ICODE SLI-S	ICODE SLI-S HC (High Capacitance)
<b>Memory</b>		
Size [bit]	2048	2048
Write endurance [cycles]	100 000	100 000
Data retention [yrs]	10	10
Organization	16 pages each 4 blocks by 4 bytes	16 pages each 4 blocks by 4 bytes
<b>RF interface</b>		
Standards	ISO 15693, ISO 18000-3, EPC	ISO 15693, ISO 18000-3, EPC
Frequency [MHz]	13.56	13.56
Baud Rate	Up to 53 Kbit/s	Up to 53 Kbit/s
Anticollision	Acc ISO 15693, ISO 18000-3, EPC	Acc ISO 15693, ISO 18000-3, EPC
Operating distance	Up to 2.0 m*	Up to 2.0 m*
Resonance capacitance [pF]	23.5	97.0
<b>Security</b>		
Unique serial number [byte]	8	8
Write protection	Blockwise	Blockwise
Access passwords	32 bit or 64 bit	32 bit or 64 bit
Access conditions	Plain, Password	Plain, Password
Configurable password protection read / write	Pagewise	Pagewise
Encryption Algorithm	-	-
<b>Special Features</b>		
EAS (Electronic Article Surveillance)	Yes	Yes
AFI (Application Field Identifier)	Yes	Yes
EPC (Electronic Product Code)	Yes	Yes
Destroy command	Yes	Yes
Privacy command	Yes	Yes
<b>Packaging</b>		
Sawn wafer (Au bumped)	SL2ICS53	SL2ICS54
MOA2 Module	SL2MOS53	SL2MOS54
FCP Module	SL2FCS53	SL2FCS54

\* based on ECC regulations