

### Hardware Features

- Operating temperature: -40 to 105 °C
- 30 Kbytes of user RAM
- Up to 1280 Kbytes of user Flash memory with OTP area
- Asynchronous receiver transmitter supporting ISO/IEC 7816-3 T=0 and T=1 protocols (Slave mode supported)
- Single wire protocol (SWP) interface for communications with NFC router (ETSI 102-613 compliant)
- Industrial qualification (JEDEC)
- Serial peripheral interface (SPI) master/slave interface
- Three 16-bit timers with interrupt capability including one 16-bit timer with watchdog capability
- Seven general-purpose I/Os enabling proprietary protocol implementation
- 1.8 V, 3 V and 5 V supply voltage ranges
- External clock frequency from 1 up to 10 MHz
- Current consumption compatible with GSM and ETSI specifications
- Power-saving standby state
- Contact assignment compatible with ISO/IEC 7816-2
- ESD protection greater than 4 kV (HBM)



### Security Features

- Active shield
- Memory protection unit (MPU)
- Monitoring of environmental parameters
- Protection against faults
- 16- and 32-bit CRC calculation block (ISO 13239, IEEE 802.3, etc.)
- True random number generator
- Unique serial number on each die
- Hardware security-enhanced DES accelerator
- Hardware security-enhanced AES accelerator
- NESCRYPT coprocessor for public key cryptography algorithm

### Applications

- Industrial and machine-to-machine
- Vending machines
- Remote control/monitoring
- Access control, alarms and security
- Consumer electronics
- Mobile health (mHealth)