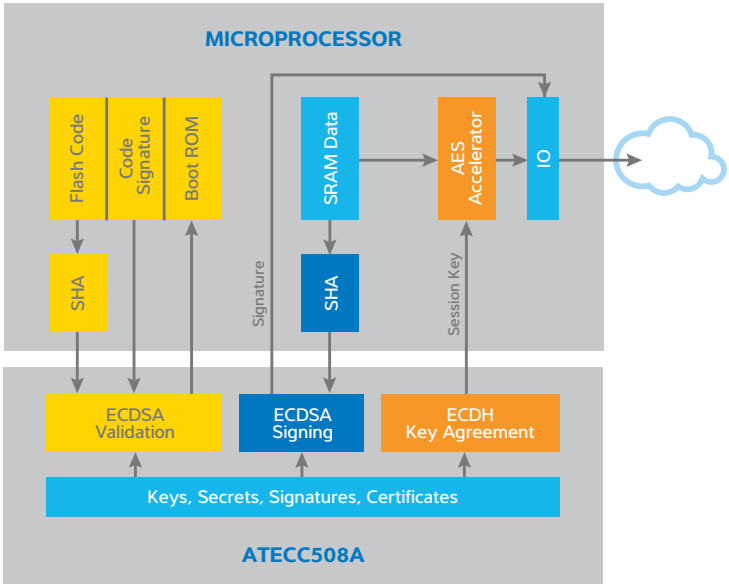
CryptoAuthentication™ ATECC508A

Crypto Element with ECDH and ECDSA

The Atmel® ATECC508A Crypto Element device with hardware-based key storage supports ECDH (elliptic-curve Diffie-Hellman) operation to provide key-agreement function. The ATECC508A is the second device with advanced elliptic-curve (ECC) capabilities in the Atmel CryptoAuthentication™ portfolio.



Target Applications

This device is ideal for emerging Internet of Things (IoT) and traditional applications because ECDH key agreement enables confidentiality when users employ it with microprocessors running encryption/decryption algorithms, such as AES (Advanced Encryption Standard). Built-in ECDH eases key agreement and increases security between network nodes and host/client applications. This Crypto Element addresses market segments such as home automation, industrial networking, accessory and consumable authentication, medical, mobile, and others. Users can employ the device with any microprocessor. It features extremely low power consumption and a wide voltage range. It requires only one GPIO (general-purpose input/output) pin and comes in tiny packages. A range of evaluation and development boards, software environments, code examples, and other materials support easy design-in.

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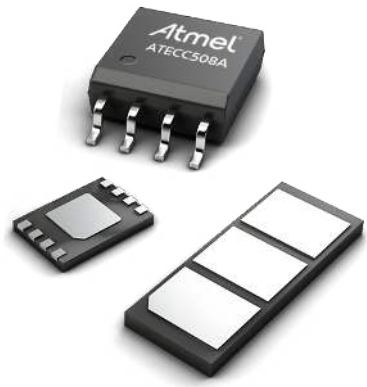
Key Features

- Optimized key storage and authentication
- ECDH operation using stored private key
- ECC-key generation
- ECDSA (elliptic-curve digital signature algorithm) Sign-Verify
- Support for X.509 certificate formats
- 256-bit SHA/HMAC (secure hash algorithm/ hash-based message authentication code) hardware engine
- Multilevel RNG (random number generator) using FIPS (Federal Information Processing Standard) SP 800-90A DRBG (deterministic random-bit generator)
- Guaranteed 72-bit unique ID
- I2C and single-wire interfaces
- 2 to 5.5V operation, 150-nA standby current
- 10.5-kbit EEPROM for secret and private keys
- Configuration ability for secret and private keys or data
- Ability for eight slots to store public keys, signatures, or certificates
- High Endurance Monotonic Counters
- UDFN, SOIC, and 3-lead contact packages

Part Number	Description
ATECC508A-SSHCZ	Crypto Element with ECDH and ECDSA, Single-Wire Interface in 8-lead SOIC
ATECC508A-SSHDA	Crypto Element with ECDH and ECDSA, I2C Interface in 8-lead SOIC
ATECC508A-MAHCZ	Crypto Element with ECDH and ECDSA, Single-Wire Interface in 8-pad UDFN
ATECC508A-MAHDA	Crypto Element with ECDH and ECDSA, I2C Interface in 8-pad UDFN
ATECC508A-RBHCZ	Crypto Element with ECDH and ECDSA, Single-Wire Interface in 3-lead Contact Package



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