IAT10.5Kb

CryptoAuthentication™ Memory Token

Datakey®

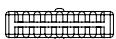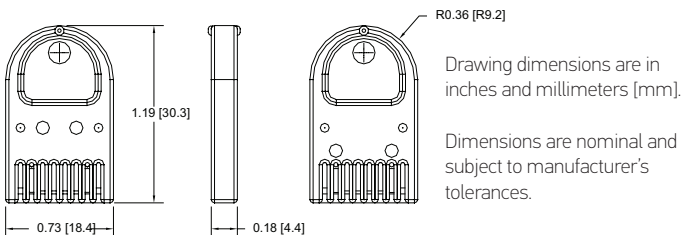**The power of memory. Secured.**

The IAT10.5Kb CryptoAuthentication™ memory token utilizes Microchip's ATECC608A IC, part of their CryptoAuthentication family of high-security hardware authentication ICs. The IAT10.5Kb memory token takes the ATECC608A's security features and puts them into a physically robust portable memory device, enabling embedded applications, like:

- Secure storage/transfer of keys, certificates, passwords
- Secure credential with unique, read-only serial number
- Crypto Ignition Key (CIK)
- Device authentication (anti-counterfeit) with countdown limit use
- Secure Boot and Secure Download Firmware Update

The token's internal IC contains a 1208-byte (9664-bit) Data Zone of EEPROM memory that is divided into 16 slots. 8 slots are 36 bytes (288 bits), 7 slots are 72 bytes (576 bits) and one slot is 416 bytes (3328 bits). Each slot can be configured for read-only or read/write access in either clear or encrypted modes. There is also a 64-byte (512-bit) One Time Programmable (OTP) Zone. Data may be written until the zone is locked. Two monotonic counters can be used for limit-use applications. The IC also includes a unique 9-byte (72-bit) non-changeable serial number. The ATECC608A also features a random number generator, hardware support for asymmetric Elliptic Curve Cryptography (ECDH and ECDSACC) and hardware support for symmetric algorithms SHA-256 and AES-128. The IC also incorporates security features to detect tampering and thwart attacks.

The memory token uses solid over-molded construction using a rugged composite that protects the internal IC from harsh environments. The token features redundant contacts so it can be inserted into the receptacle with either side up.

MECHANICAL	
Contact Life	10,000 Insertion/Removal Cycles Min.
Contact Arrangement	Fully Redundant (Front:Back)
ELECTRICAL[1]	
Power, Active	6.6 mW Typical at 3.3 V
Power, Idle	2.64 mW Typical at 3.3 V
Voltage	2.0 to 5.5 V
ESD Protection	15 kV (air), 8 kV (contact) per MIL-STD-461G CS118
I²C Device Address	Set in Configuration Register
ENVIRONMENTAL	
Storage Temperature	-40°C to +100°C
Operating Temperature	-40°C to +85°C
Relative Humidity	5% to 95% (non-condensing)
MEMORY[1]	
IC Mfg./Model	Microchip ATECC608A
Data Zone	9.7 Kb (9,664 bits) 16 Read-Only or Read/Write Slots
OTP Zone	0.5 Kb (512 bits) One Time Programmable Memory
Read Cycles	Unlimited
Write/Erase Cycles	400,000 Cycles Minimum
Data Life (Storage)	10 Years Minimum at 55°C
MATING COMPONENT(S)	
Panel-Mount Receptacle	SR4210, SR4310, SR4410, SR4310xL, SR4410xL
PCB Mount Receptacle	SR4210PCB/SM, SR4220PCB/SM, SR4230PCB/SM
Programmer/Dev Kit	Tokens Work With Microchip's CryptoAuthentication SOIC XPRO Starter Kit (p/n: DM320109)
ORDERING INFORMATION[2]	
IAT10.5Kb	611-0234-00xA
SR4210PCB Receptacle XPRO Extension Board	607-0087-000A
SR4220VRT Receptacle XPRO Extension Board	607-0088-000A

1: Refer to ATECC608A CryptoAuthentication IC datasheet available at www.microchip.com. See also I²C EEPROM Interface Specification available at www. datakey.com.
2: "x" indicates optional color number. "A" suffix on part number indicates RoHS compliance.

NOTES: Conforms with Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011, and as amended by Directive 2015/863/EU, on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

CryptoAuthenication is a trademark of Microchip Technology Incorporated in the U.S.A. and other countries and is used under license.

R0.36 [R9.2]

1.19 [30.3]

0.73 [18.4]

0.18 [4.4]

Drawing dimensions are in inches and millimeters [mm].

Dimensions are nominal and subject to manufacturer's tolerances.

⚠️ **WARNING**: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

221-0214-000 Rev. B 6/20

View our full product line at www.datakey.com