IAX4.5Kb

CryptoAuthentication™ Extended Length Memory Token

Datakey®

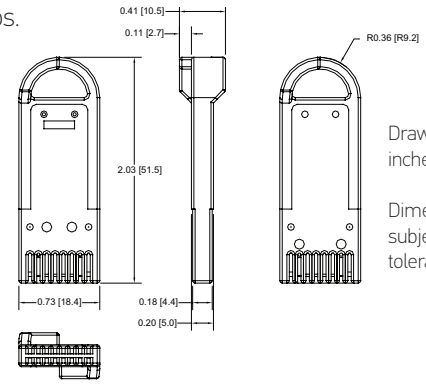
The power of memory. Secured.

The IAX4.5Kb CryptoAuthentication™ extended length memory token utilizes Microchip's ATSHA204A IC, part of their CryptoAuthentication family of high-security hardware authentication ICs. The IAX4.5Kb memory token takes the ATSHA204A'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

The token's internal IC contains a 512-byte (4096-bit) Data Zone of EEPROM memory that is divided into 16 slots. Each 32-byte (256-bit) slot can be configured for read-only or read/write access in either clear or encrypted modes. There is also a 64-byte One Time Programmable (OTP) Zone. Data may be written until the zone is locked. The OTP zone can also be used to track usage, where once a bit has been flipped it cannot be changed back.The IC also includes a unique 9-byte (72-bit) non-changeable serial number. The ATSHA204A also features a random number generator, a secure challenge-response protocol for host/memory token authentication and a SHA-256 hash algorithm for data encryption. 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. Customization options are available, including color-matching and custom logos.



Drawing dimensions are in inches and millimeters [mm].

Dimensions are nominal and subject to manufacturer's tolerances.

MECHANICAL	
Contact Life	10,000 Insertion/Removal Cycles Min.
Contact Arrangement	Fully Redundant (Front:Back)
ELECTRICAL[1]	
Power, Active	1.65 mW Typical at 3.3 V
Power, Idle	0.66 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 ATSHA204A
Data Zone	4 Kb (4,096 bits) 512 x 8 16 Read-Only or Read/Write Slots
OTP Zone	0.5 Kb (512 bits) 64 x 8 One Time Programmable Memory
Read Cycles	Unlimited
Write/Erase Cycles	100,000 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]	
IAX4.5Kb	611-0233-00xA
SR4210PCB Receptacle XPRO Extension Board	607-0087-000A
SR4220VRT Receptacle XPRO Extension Board	607-0088-000A

1: Refer to ATSHA204A 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.

CE

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

221-0213-000 Rev. B 6/20

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