

## Physically Unclonable Function (SAMPUF™)

### Overview

The SAMPUF™ generates a unique and reliable cryptographic key or a chip ID based on intrinsic random process variations. This solution as a fingerprint of a chip, provides a root of trust in your product which is never cloned and revealed. SAMPUF™ satisfies two challenging properties of uniqueness and robustness.

The integration of SAMPUF™ will make your product state-of art secure and a game changer in the security market.

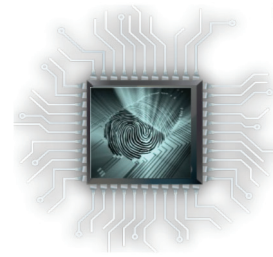
### Key Features

- Silicon-Proven  
(45nm/28nm/14nm/10nm/8nm)
- Extremely Low Key Error Rate ( $5.83 \times 10^{-63}$ )<sup>2)</sup>
- 0.999999999965 Shannon Entropy per Bit<sup>2)</sup>
- Embedded Error Correction Logic
  - Bit/Block Error Correction
- Power Gating for High Reliability
- Custom Design for Variable Key Size
- 0.8V power supply
- 128/256-bit security strength

### Deliverables

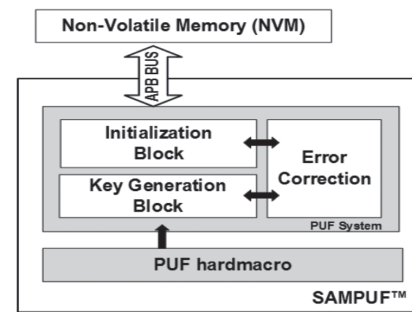
- Encrypted RTL source
- PUF Hardmacro DK / LEF / GDS
- User / Integration / Test Guide Documents

SAMPUF™ is a fingerprint of a chip



- Physical Objects
- Process Variation
- Unpredictable Behavior
- Easy to Evaluate
- Hard to Clone

### Architecture of SAMPUF™



### Applications

- Cryptographic Key Generation
- Authentication and Identification
- SoC / IoT / Automotive
- Anti-Counterfeiting
- Tamper-Resistance Required Devices

# SAMSUNG Foundry

For more information, please contact us at [IP@silvaco.com](mailto:IP@silvaco.com).

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