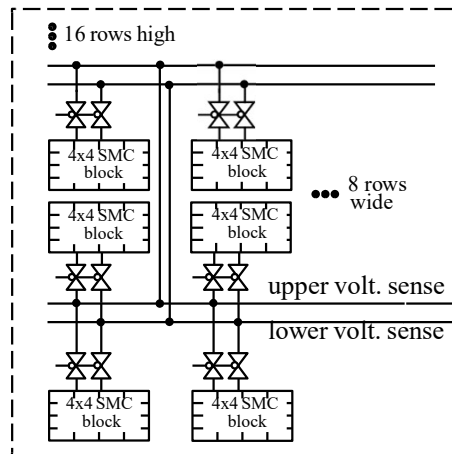
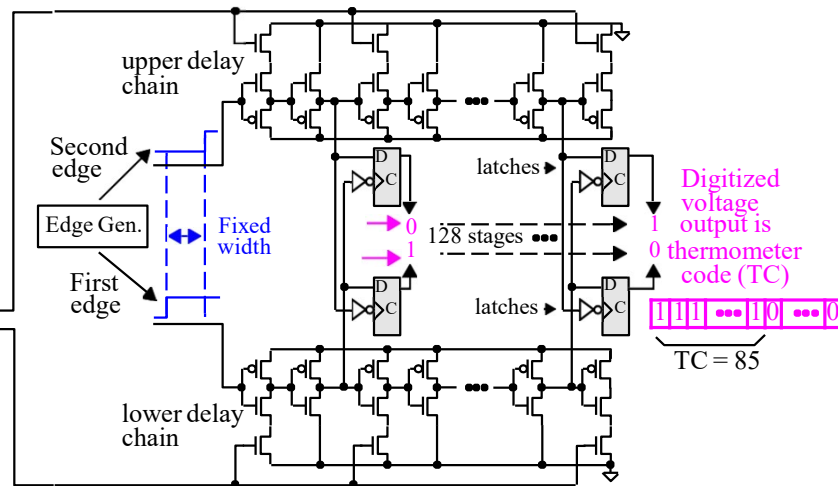


## SMC array of 2048 elements



D. Ismari and J. Plusquellic, "IP-Level Implementation of a Resistance-Based Physical Unclonable Function", HOST, 2014.

## Voltage-to-digital-converter (VDC)



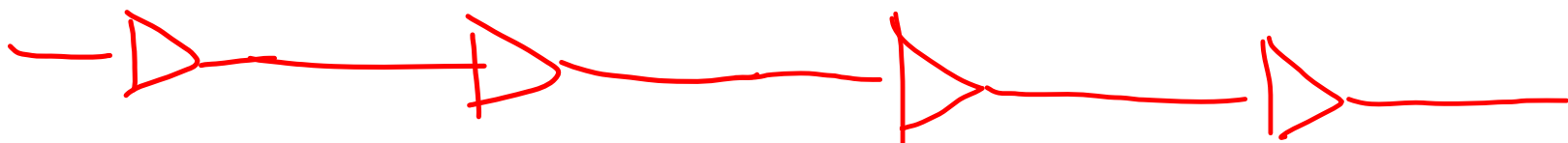
$$-\triangleright = -\triangleright\circ-\triangleright\circ-$$

$$-\triangleright-\triangleright-\triangleright-\triangleright-$$

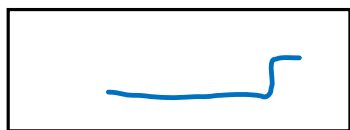
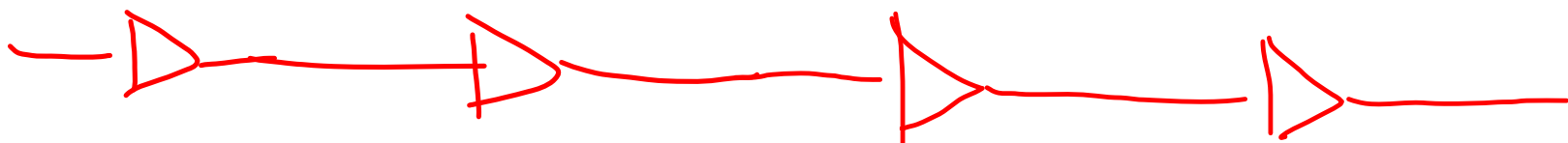


$$-\triangleright-\triangleright-\triangleright-\triangleright-$$

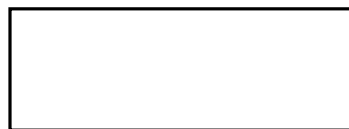
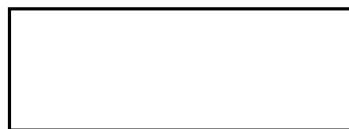
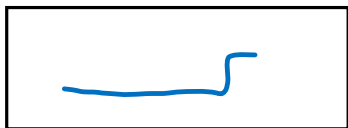
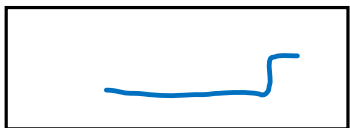
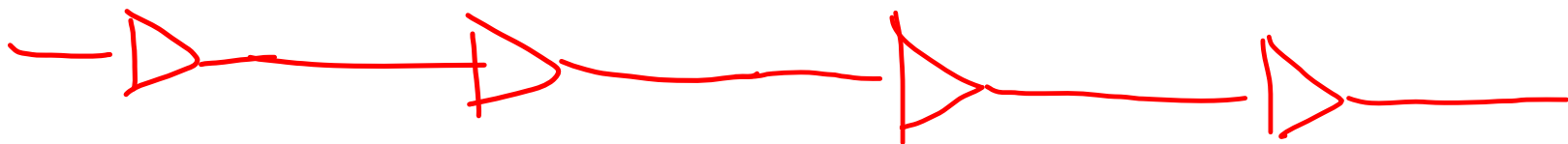
$$\neg D = \neg D \circ D$$



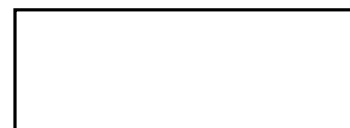
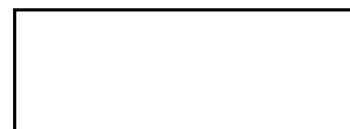
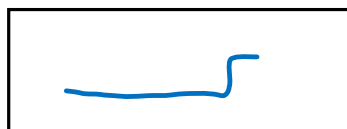
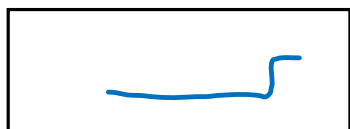
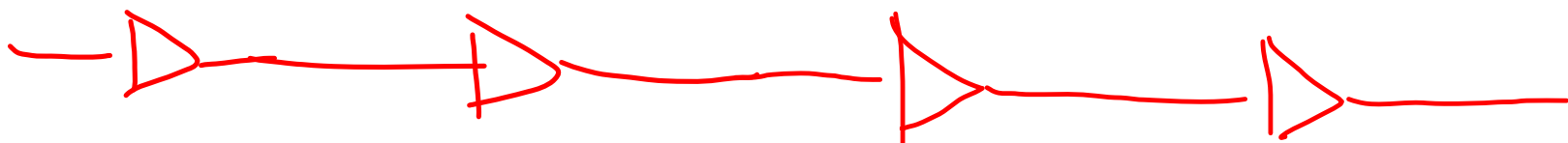
$$-\triangleright = -\triangleright\circ-\triangleright\circ-$$



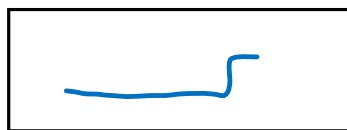
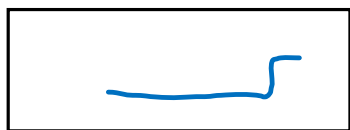
$$-\triangleright = -\triangleright\circ-\triangleright\circ-$$



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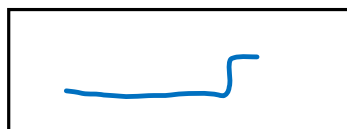
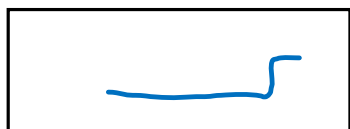


$$-\triangleright = -\triangleright\circ-\triangleright\circ-$$



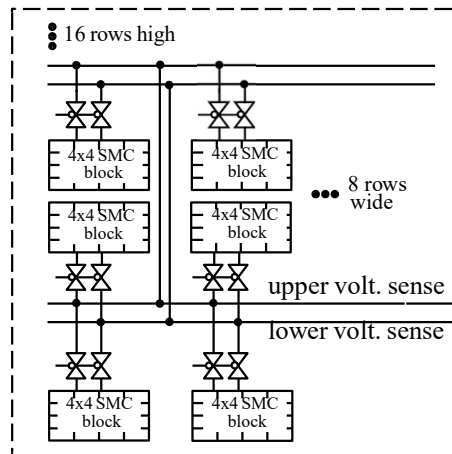
$$-\triangleright = -\triangleright\circ-\triangleright\circ-$$

$$-\triangleright-\triangleright-\triangleright-\triangleright-$$



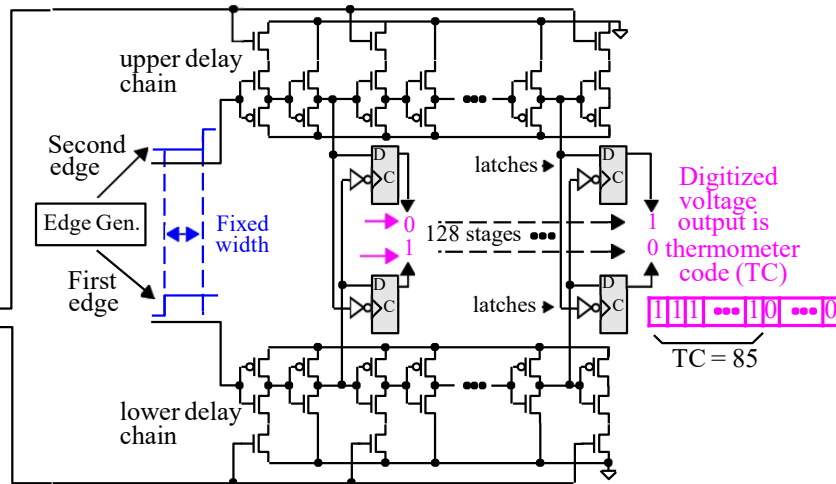
$$-\triangleright-\triangleright-\triangleright-\triangleright-$$

## SMC array of 2048 elements

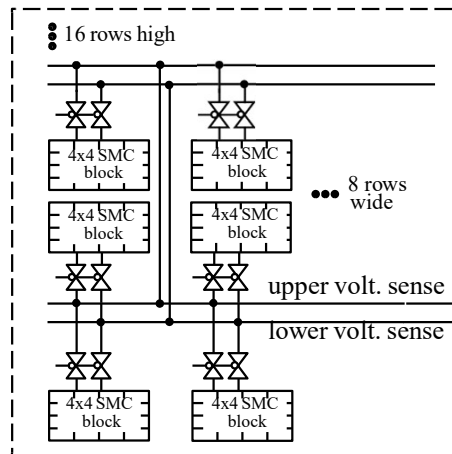


D. Ismari and J. Plusquellic, "IP-Level Implementation of a Resistance-Based Physical Unclonable Function", HOST, 2014.

## Voltage-to-digital-converter (VDC)

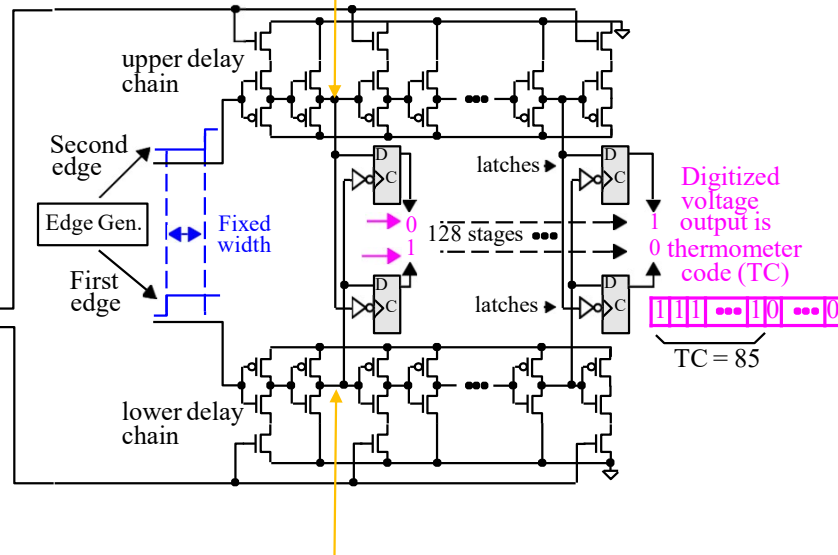


## SMC array of 2048 elements



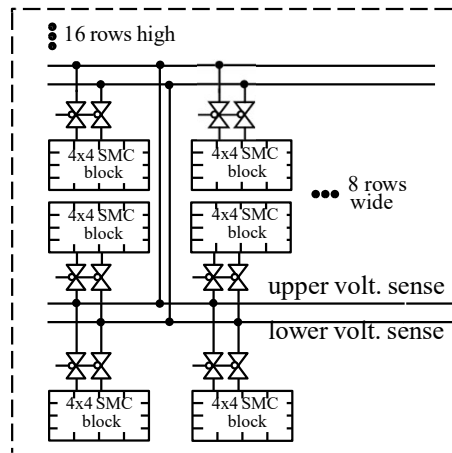
D. Ismari and J. Plusquellic, "IP-Level Implementation of a Resistance-Based Physical Unclonable Function", HOST, 2014.

## Voltage-to-digital-converter (VDC)



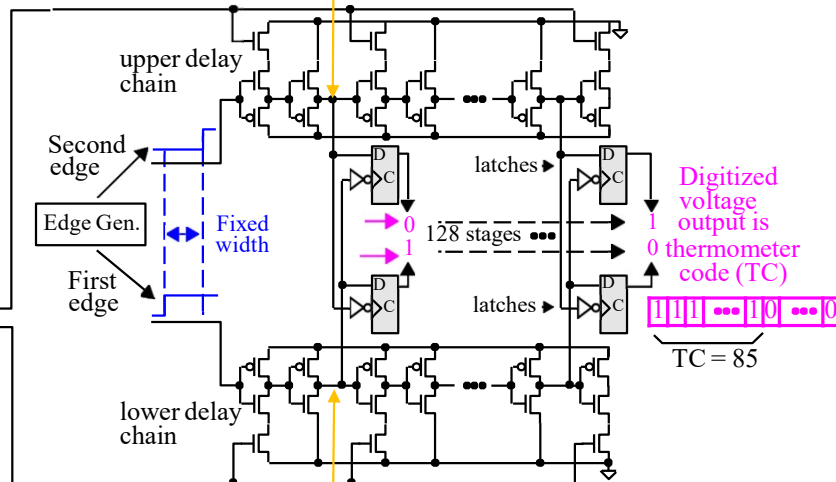
0 to 1 second

SMC array of 2048 elements



D. Ismari and J. Plusquellic, "IP-Level Implementation of a Resistance-Based Physical Unclonable Function", HOST, 2014.

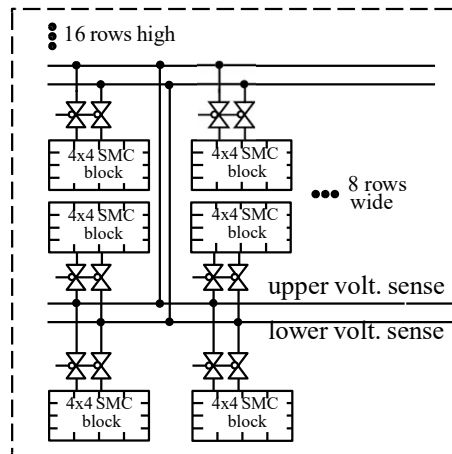
Voltage-to-digital-converter (VDC)



0 to 1 first

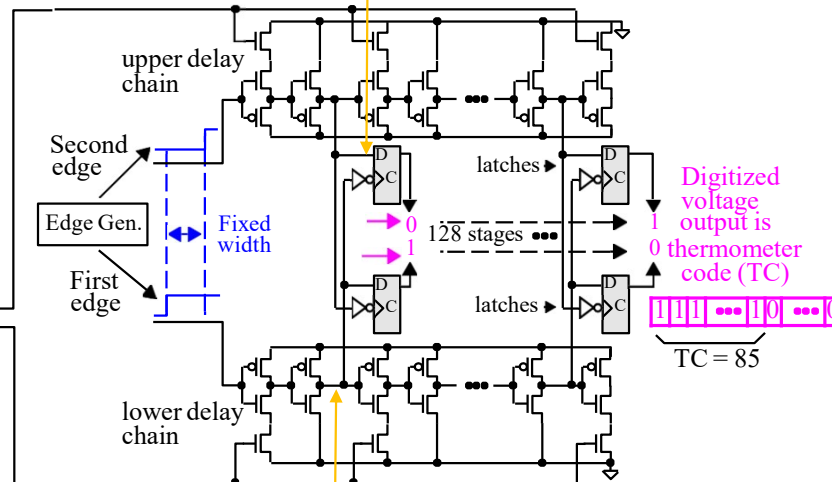
0 captured first

SMC array of 2048 elements



D. Ismari and J. Plusquellic, "IP-Level Implementation of a Resistance-Based Physical Unclonable Function", HOST, 2014.

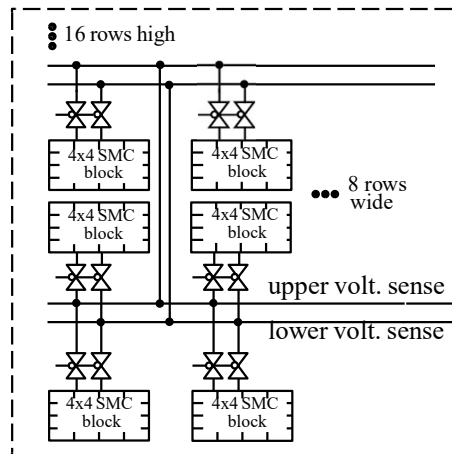
Voltage-to-digital-converter (VDC)



0 to 1 first

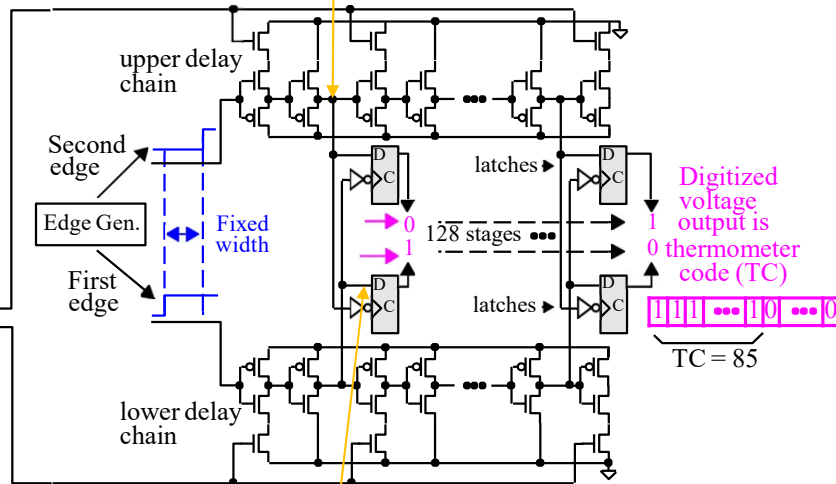
0 to 1 second

SMC array of 2048 elements



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Voltage-to-digital-converter (VDC)



1 captured second