

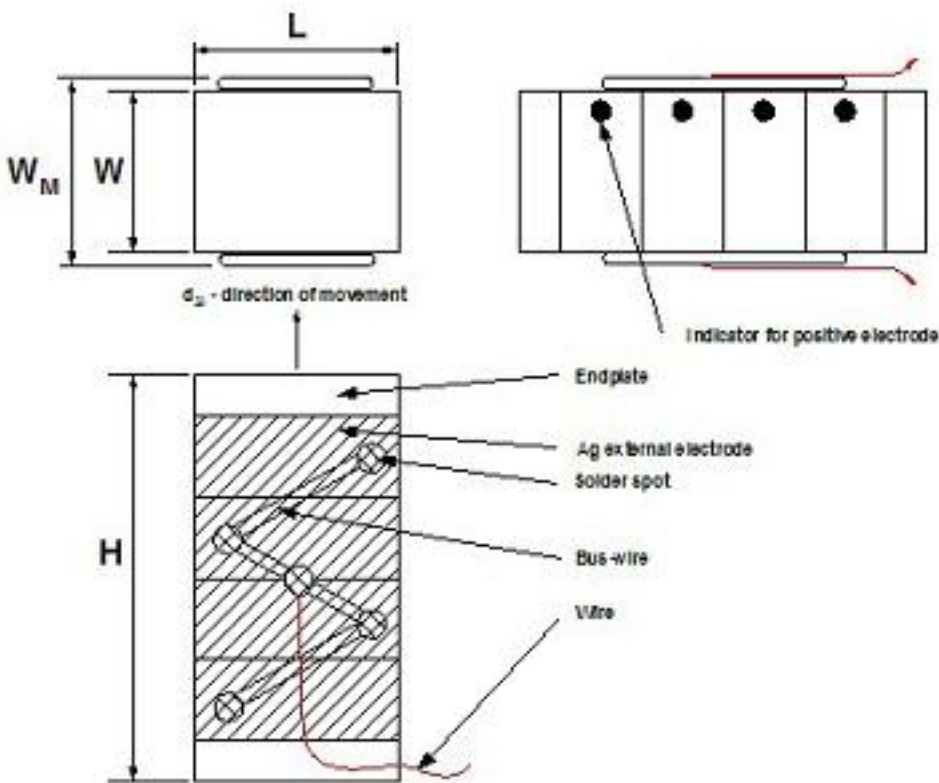
Design your own stack

Noliac Piezo Actuators



Download "Design Your Own Stack" as pdf

Noliac's standard stacks are designed with 1 mm thick PZT endplates on top and bottom of the actuator, and n active single actuators.



Height

The total height of a SCMA can be estimated by the following equation:

$$H_{SCMA} = n \times H_{CMA} + 2$$

Where: n = number of single actuators constituting the stack
 H_{CMA} = height of the single actuators constituting the stack [mm]

Example:

Height of a a stack made of 14 CMAP7.

$$H_{CMAP7} = 2\text{mm}$$

$$H_{SCMA} = 14 \times 2 + 2 = 30\text{mm}$$

Free displacement at maximum operating voltage

The maximal free displacement ΔL of a SCMA can be estimated by the following equation:

$$\Delta L_{SCMA} = 0,9 \times n \times \Delta L_{CMA}$$

Where:

n = number of CMA's constituting the SCMA

ΔL_{CMA} = maximal displacement of the CMAs constituting the SCMA [m]

Example:

Displacement at 3KV/mm of a SCMA made of 14 CMAP7.

Displacement ΔL CMAP7 = 3,1 μ m

Displacement $\Delta L = 0,9 \times 14 \times 3,1E-6 = 39E-6m = 39\mu m$

Note that those equations are only given as an indication. Please refer to Noliac for exact specifications.

- [Piezo Materials](#)
- [Blocking Force and Stroke](#)
- [Capacitance](#)
- [Curie Temperature](#)

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