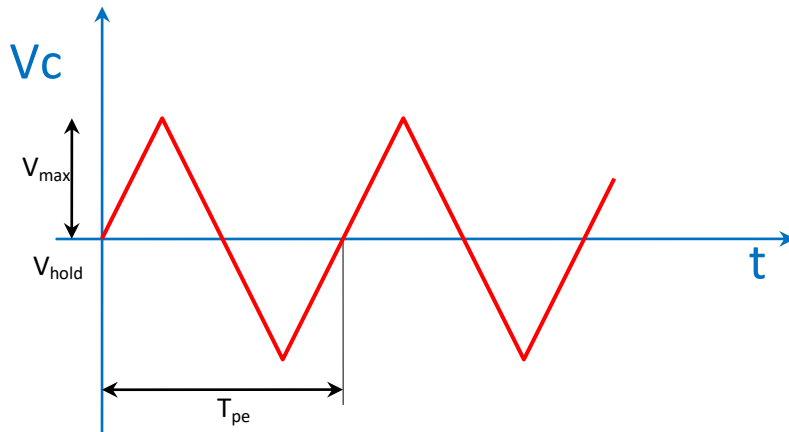


eONE-XV VOLTAGE PROTOCOL LIST

1) Triangular wave (infinite repetition)

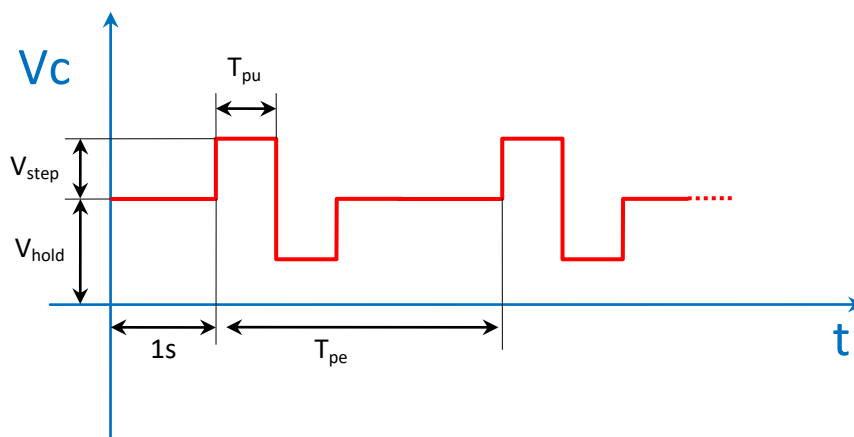


Triangular wave parametric. Possible values:

$V_{max} = 25, 50, 100 \text{ mV}$

$T_{pe} = \text{variable from } 10\text{ms to } 10000\text{ms}$

2) Seal Test

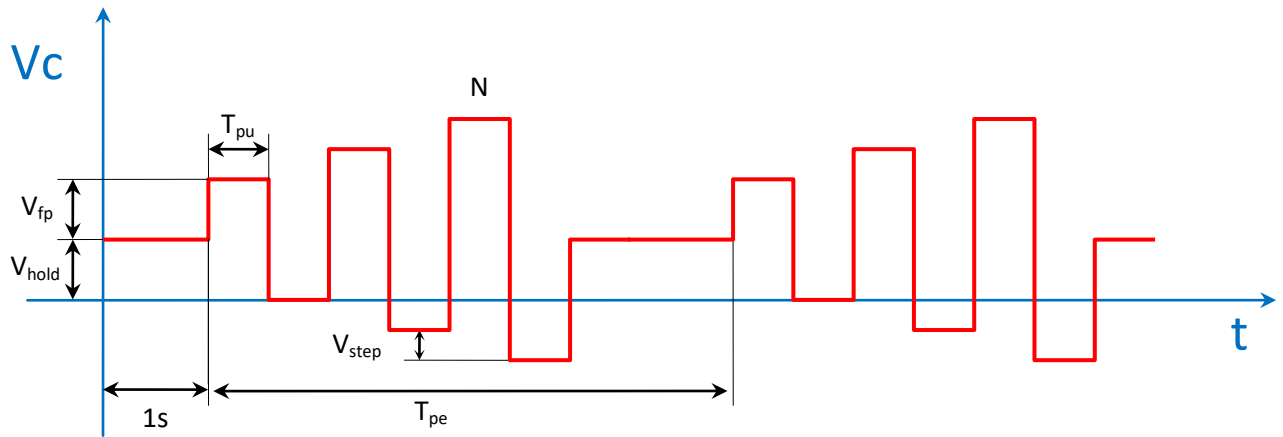


Parameters: V_{hold} , V_{step} , T_{pu} , T_{pe} , N_e

N_e : number of episodes of the protocol. If 0, infinite repetitions.

3) Conductance estimation

Test for the conductance estimation.



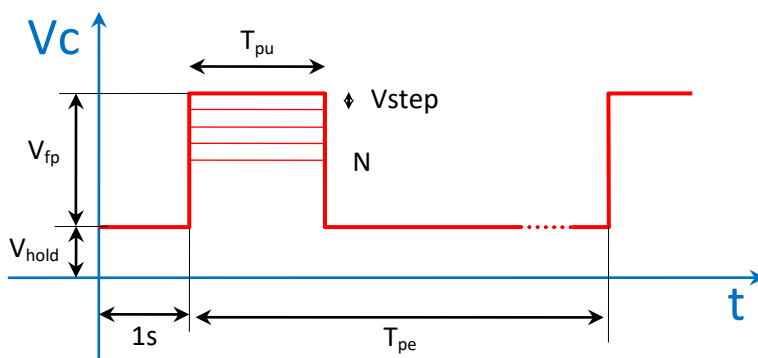
Parameters: V_{hold} , V_{fp} , V_{step} , T_{pu} , T_{pe} , N , N_e

N : number of symmetric pulses

N_e : number of episodes of the protocol. If 0, infinite repetitions.

4) Rectangular pulse with variable amplitude

Pulse with amplitude variable between two consecutive pulses of V_{step} quantity



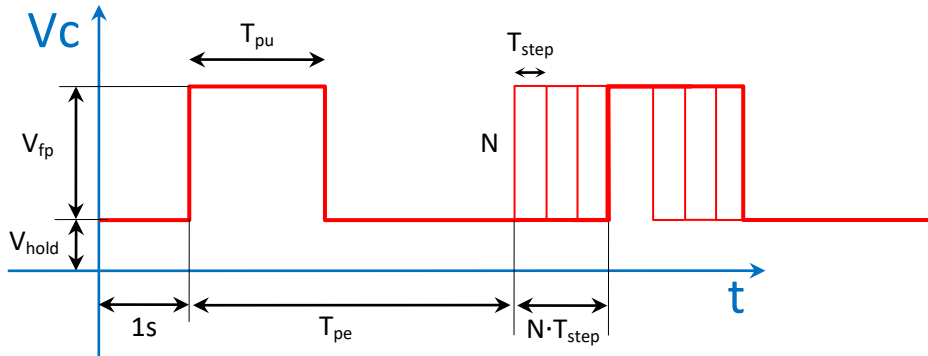
Parameters: V_{hold} , V_{fp} , V_{step} , T_{pu} , T_{pe} , N , N_e

N : number of pulses with changing amplitude from the previous pulse

N_e : number of episodes of the protocol. If 0, infinite repetitions.

5) Rectangular pulse at variable periodicity

Variation of the periodicity of the pulse of the quantity T_{step}



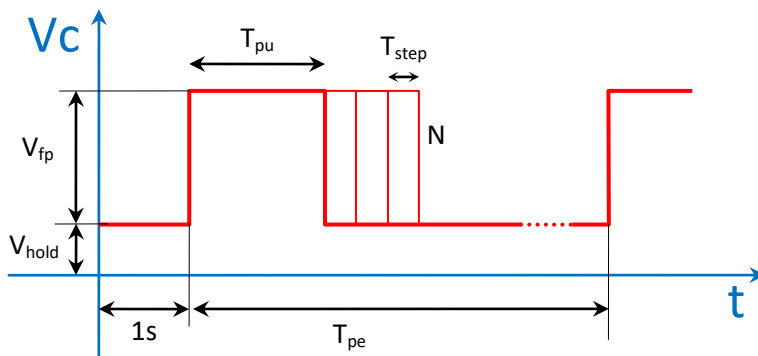
Parameters: V_{hold} , V_{fp} , T_{pu} , T_{step} , T_{pe} , N , N_e

N : number of pulses with changing periodicity from the previous pulse

N_e : number of episodes of the protocol. If 0, infinite repetitions.

6) Rectangular pulse with variable duration

Variation of the time duration of the pulse of the quantity T_{step}



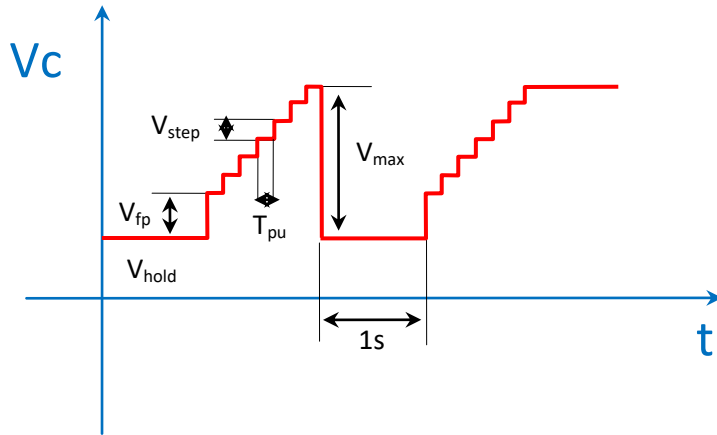
Parameters: V_{hold} , V_{fp} , T_{pu} , T_{step} , T_{pe} , N , N_e

N : number of pulses with changing duration from the previous pulse

N_e : number of episodes of the protocol. If 0, infinite repetitions.

7) Ramp

The min voltage step is 1 mV.

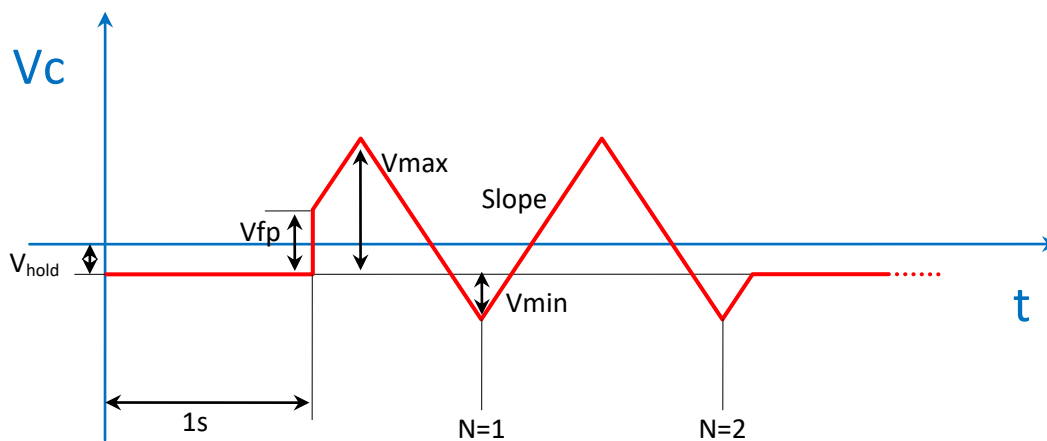


Parameters: V_{hold} , V_{fp} , V_{step} , T_{pu} , N_e , V_{max}

N_e : number of episodes of the protocol. If 0, infinite repetitions.

8) Cyclic voltammetry

The min voltage step is 62,5 μV .



Parameters: V_{hold} , V_{fp} , V_{min} , V_{max} , Slope, N , N_e

N : number of cycle $(V_{max}+V_{hold})-(V_{min}+V_{hold})-(V_{max}+V_{hold})$

Ranges for Voltage protocol parameters:

Vhold: ± 1650 mV, min step 1mV

Vfp: ± 1650 mV, min step 1mV

Vstep: ± 1650 mV, min step 1mV

Vmax: ± 1650 mV, min step 1mV

Vmin: ± 1650 , min step 1mV

Tpu: from 0 to 9000 ms

Tpe: from 0 to 90000 ms

Tstep: from 0 to 9000 ms, with sign

N: number of repetition of pulses, from 1 to 127

Ne: number of episodes of the full set of pulses, from 1 to 127. If 0, infinite repetition of the full set of pulses.

Slope: inclination of the ramp, in mV/s, variable from 1mV/s to 100mV/s