

### **Achieving low driving voltages for micro-motors and fluid pumps by electronic resonance.**

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**Abstract:** *Electrostatic micro-motors and micro-actuators are driven by capacitive electrode structures which are connected to the driving electronic circuitry by conducting lines and bond wires. For synchronously operated devices the electric properties of the electrodes and their connections are of minor importance because of the low operating frequencies. The situation changes for asynchronous devices where the frequency of the driving signals may exceed the operational frequencies of the devices by far [1]. In this case, depending on the capacitance of the electrodes and the inductance of the connecting lines at a certain frequency a resonance increase of the electrode voltage can be observed [2]. For driving voltages of several volts this increase may reach several hundred volts, the range where electrostatic micro-motors and micro-actuators are usually operated.*

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