



MINIATURE SOLID STATE BATTERIES FOR NEUROSTIMULATION



OPIOID CRISIS

The pharmaceutical industry has played a critical role in advancing global health, developing medications that have saved and improved billions of lives. However, the misuse of certain prescription drugs – particularly opioids – has led to a widespread public health crisis.

NEUROMODULATION

One of the most promising alternatives is neurostimulation, a medical technique that uses low-level electrical impulses to interfere with or mimic signals in the nervous system. Over the years, the applications for neurostimulation have broadened significantly, now encompassing treatment for chronic pain, epilepsy, hearing loss, Parkinson's disease, depression and irregular heart rhythms.

PAIN POINTS FOR DESIGNERS

Implanted neurostimulators typically require invasive surgery and come with risks such as infection, especially when external wires are used. Additionally, the size and power requirements of these systems can make them impractical for long-term or discreet use. Ideally, the next generation of neurostimulation devices would be compact, minimally invasive, and capable of delivering targeted therapy autonomously or on demand.







STEREAX SOLID STATE BATTERIES

Stereax M300 is a rechargeable, miniature solid state battery with:

- 300 μ Ah
- 3.5 V
- 3 mA pulse current
- 1000 cycles
- 5.6 x 3.6 x 1.1 mm



PRODUCT DESIGN BENEFITS

-  Millimetre-scale format, enable real miniaturisation
-  Rectangular form factor, fits easily on PCB
-  High power, capable of powering most comms and therapies
-  High cycle life, can be recharged numerous times
-  Can be recharged wirelessly
-  Rapid charging, improves patient compliance to charging at home

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