

## Stereax<sup>®</sup> P180 Summary

### Extended Temperature Range Solid State Battery: -40° to + 150°C

#### Features

- ▲ Operates in Commercial, Industrial, Extended and Automotive Temperature Ranges
- ▲ Thin Form factor
- ▲ All Solid-State Construction
- ▲ Fast Charge
- ▲ High Current Pulses
- ▲ High Energy Density per Footprint
- ▲ Thousands of Cycles
- ▲ Low Self-discharge
- ▲ No Free Lithium
- ▲ Eco-friendly



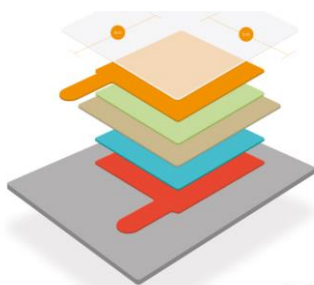
Stereax P180 solid state batteries deposited on 6" wafer

#### Physical Properties

- ▲ Active Materials Footprint: 10 x 10 mm
- ▲ Die Area: 18 x 20 mm
- ▲ Thickness <sup>a</sup>: 1.0 mm

#### Electrical Properties at +150°C

- ▲ Output Voltage (nominal): 3.4 V
- ▲ Capacity (nominal): 180 µAh
- ▲ Charging time to 80%: < 1 minute
- ▲ Peak current: 18 mA



Stereax P180 expanded construction diagram

Encapsulation (0.4 cm x 1.4 cm)	Cathode (1.0 cm x 1.0 cm)
Anode Current Collector (1.0 cm x 1.0 cm)	Cathode Current Collector (1.0 cm x 1.0 cm)
Anode (0.0 cm x 1.0 cm)	Substrate
Electrolyte (0.2 cm x 1.2 cm)	

a: Thickness value includes substrate (650 µm). Thinner substrates are available.

b: 5% DoD

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#### General Description

The Stereax<sup>®</sup> P180 is a unique solid state battery that can operate and be stored in the extended temperature range -40°C to +150°C. The size and performance of the Stereax P180 solid state battery make it ideal to power autonomous sensor devices in the Internet of Things. In particular, its performance at high temperature, up to +150°C, enable the deployment of end nodes situated near hot machinery in Industry 4.0 or engines and exhausts in smart cars. At low temperature, to -40°C, such end nodes may be deployed to monitor infrastructure such as pipelines or bridges.

The Stereax<sup>®</sup> technology platform is developed by Ilika who licenses its IP portfolio and know-how based on deposition processes and materials to systems and components OEMs and manufacturers. This format allows Ilika to respond to partners' requirements more efficiently than manufacturing standardised product lines, for an optimal outcome and greater flexibility in terms of shape, capacity, life cycle ...

#### Applications

- ▲ Autonomous Sensor Devices
- ▲ Industrial
- ▲ Automotive
- ▲ Aerospace
- ▲ Infrastructure monitoring

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