

All-Solid-State Batteries using Protected Lithium Metal Anode Cassette (PLC) using Flexible Ceramic Solid Electrolyte

Unique Selling Point

- Flexible Ceramic Solid Electrolyte Membrane
- No risk of thermal run-away or Fire Hazard
- High Dendrite Resistance
- High Energy Density >350 Wh/kg
- Longer Cycle life (>2000)
- Plug n Drive using Replaceable Lithium metal Anode Cassettes (PLC) for Li/Air Technology



Monolithic Protected Lithium Cassette Anode Embedded on Ceramic Solid Electrolyte

Inventor

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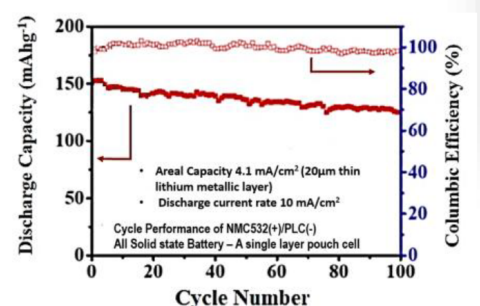
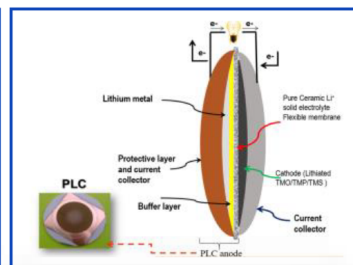
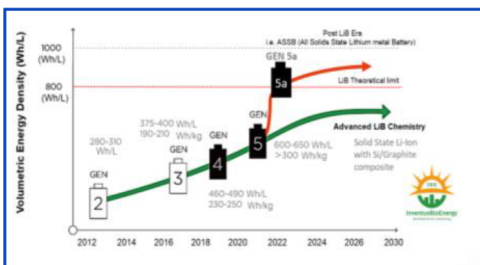
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Categories of this invention

- Energy
- Energy Storage
- Batteries
- Lithium Batteries - Solid State Batteries

Work Flow



Intellectual Property

MONOLITHIC PROTECTED LITHIUM CASSETTE ANODE AND METHODS FOR ITS FABRICATION

Applicant(s) –

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Patent Granted: IN385777

Key Features

- ▶ Technology Readiness Level: 6-7
- ▶ Energy Density :
 - Li/NMC811 : >350 Wh/kg
 - Li/S : > 550 Wh/kg
- ▶ Nominal Voltage: > 4.4 V
- ▶ Number of Cycles- >2000
- ▶ % capacity remains >80% after 2000 cycles

Advantages

- Light Weight & Portable
- Better Compatibility
- Low Migrant Factor
- Usage of Lithium metal anode in the form of monolithic stacked cassette
- Increased Energy Density and compatible for all Lithium metal anode based advanced cell chemistries
- Environment Friendly

Potential Value

- 1 Global lithium-ion battery market size growth with CAGR of 34.2 % by 2030 (Source: IDTEchEx)
- 2 Market shift for Electric Vehicles with high-energy density Li-Ion batteries.
- 3 Applications in EV, smartphones, power tools, and digital cameras and more.

Reach Us

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