KULR

cooler · lighter · safer

Internal Short Circuit (ISC)

WHAT IS IT?

KULR Technology's patented Internal Short Circuit Device (ISC) is industry-tested thermal runaway (TR) triggered method for lithium-ion cells. By using a cell with ISC implanted, thermal runaway events can be triggered that are much closer to a field failure than is allowed by nail- or heater-driven TR events.

The ISC device technology was exclusively licensed to KULR by NASA and NREL and can be included in a variety of different cells (18650, 21700, or pouch). These cells, and battery packs, can be tested for failure modes and safety issues, once the ISC device has been intentionally triggered on demand. This is a valuble tool for research institutes, battery manufacturers, and OEMs looking to improve the performance and safety of their Li-ion batteries.

FEATURES AND BENEFITS

- Provides a field representative thermal runaway trigger method
- Triggers an internal short circuit in a controlled, reliable, and simplified way
- Short circuit is triggered at a low temperature of 40°C to 60°C
- Cell structure is preserved prior to triggering
- Includes all the combined benefits of alternative trigger methods in a single solution

Features of TR Trigger Method	ISC Trigger Cell	Nail-Penetration	Overheat	Overcharge
Relevant Failure Mode	YES			
Reliable Triggering	YES	YES	YES	
No General Overheating to System	YES	YES		YES
No Cell Structure Breached or Weakened	YES			YES
Customize Trigger Location Friendly	YES		YES	YES
No Fail or Vent Prior to TR	YES	YES		

KULR

cooler · lighter · safer

ABOUT KULR

MAKING THE WORLD OF ELECTRONICS COOLER, LIGHTER, AND SAFER

Since 2016 we have witnessed dramatic changes in the world of electronics with an automotive industry transitioning into the electrification of vehicles and the advent of 5G communications technologies that will accelerate cloud computing growth. Such applications have progressively become more powerful and often require improved forms of thermal management or electronics and battery cooling technologies.

Our plan of execution starts with providing our customers with the best battery testing methodologies as well as cost-effective cooling technologies that outpreform traditional solutions, delivering a reliable, safer, and more energy-efficient product to the end-user.

KULR TECHONOLOGY GROUP, INC.
contact@kulrtechnology.com | (408) 675-7002
4863 Shawline Street, Suite B San Diego, CA 92111