TECHNICAL DATA SHEET

Thermal Capacitor

July 2022

ABOUT KULR TECHNOLOGY

KULR'S disruptive thermal management technologies strive to fulfill an addressable $24 billion thermal management systems market. KULR's integrated design approach offers comprehensive solutions in thermal interface materials, lightweight heat exchangers, and protection against lithium-ion battery thermal propagation. Our high-performance solutions can be designed to fit almost any power or electronic configuration, including extremely demanding spaces or for applications where size and weight restrictions are a concern.

PRODUCT DESCRIPTION

KULR Technology's patented Thermal Capacitor is designed to absorb and redistribute thermal energy to dampen thermal spikes in a system and delay temperature rise. Thermal Capacitor is a fully customizable solution in both form factor and core thermal properties.

Using KULR's patented VerTherm technology, Thermal Capacitor can evenly and efficiently move heat into a PCM providing a lightweight and sustainable solution that can last for decades in the harshest environments. Thermal Capacitor has been used in high-reliability applications such as on the: Mercury Messenger, ISS NICER, and the Perseverance Mars Rover.

FEATURES AND BENEFITS

- Any size/shape/form factor
- Fully customizable thermal properties
- Dampens thermal spikes and delays temperature rise
- Sustainable and light weight

TYPICAL APPLICATIONS

Typical applications include hypersonic, optic, PCB, and solar cooling.

AVAILABILITY

Please contact KULR Technology Group for additional information.

DISCLAIMER

Property	Value
Charge Mass	300MG to 14.5kg
Latent Heat Capacity	75 Joules to 3.6MJ
Melting Point Range	-50°C to 76°C
Core Conductivity	As high as 230 W/m-K
Temperature Capability	-130°C to +130°C
PCM Mass Fraction	<70%
PCM Volume Fraction	<84%
Environmental Pressure Range	1 atm to hard vacuum
Lifetime in Space	11 years demonstrated
Cycle Life	10,000 tested without failure
Toxicity	Our primary PCMs of choice are non-toxic and non-corrosive