



Thermal Capacitor

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PRODUCT DESCRIPTION

KULR Technology's patented Thermal Capacitor is a revolutionary solution designed to absorb and redistribute thermal energy in a system, effectively damping thermal spikes and delaying temperature rise. This customizable solution is available in various form factors and core thermal properties, thanks to its fully adaptable design. Utilizing KULR's unique oriented carbon fiber technology, the Thermal Capacitor can efficiently and evenly transfer heat into a phase change material (PCM), resulting in a lightweight and sustainable solution that can withstand harsh environments for decades. The Thermal Capacitor has been successfully implemented in high-reliability applications such as the Mercury Messenger, ISS NICER, and the Perseverance Mars Rover.

FEATURES AND BENEFITS

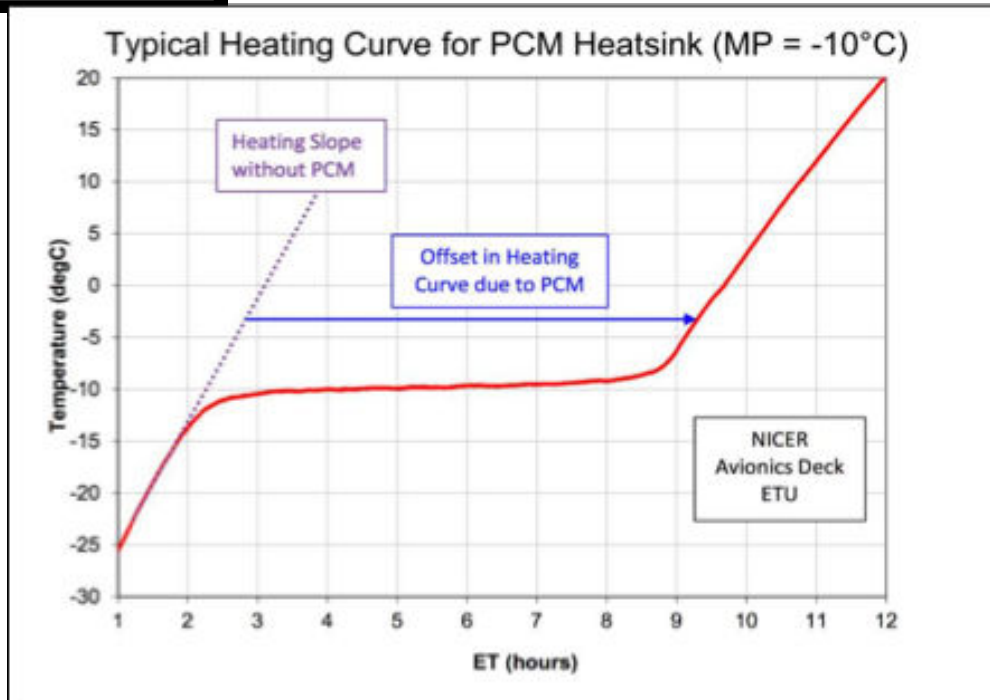
- Customizable size and shape
- Tailored thermal properties
- Reduces thermal spikes and delays temperature rise
- Lightweight and sustainable

TYPICAL APPLICATIONS

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

TYPICAL PROPERTIES

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



AVAILABILITY

Please contact KULR Technology Group for additional information.

DISCLAIMER

Data on this Technical Data Sheet (TDS) are typical values and for reference only. The information provided in this TDS, including but not limited to the recommendations for use and application of the product, are based on our knowledge and experience of the product. The product can have a variety of different applications, as well as differing working conditions and environments that are beyond our control. Factors or events that could cause actual results to differ may emerge from time to time, and it is not possible for us to predict all of them. We cannot guarantee future results, performance, or achievements. Furthermore, no representations or warranties are made as to the accuracy or reasonableness of any assumptions on which the data or information is based.

This product is not intended for use with any products containing lithium metal. KULR Technology Group, Inc. is, therefore, not responsible, or liable for the suitability of our products for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you conduct your own prior trials to confirm such suitability of our product for your use and application and within your working conditions and environments.