

Enhancement of Soft Thermal Interface Materials with Carbon Nanotube Arrays

Track Code: 64091

Categories:

- Electrical Engineering
- Mechanical Engineering

Keywords:

- Carbon Nanotubes
- Electrical Engineering
- Heat Transfer
- Mechanical Engineering

Thermal interface materials experience the pump out effect and the dry out effect, which increases thermal resistance and degrades the effective interface material performance. Improvements in thermal interface materials is needed.

Purdue University researchers have developed a technology that uses carbon nanotube arrays to prevent the pump out effect and may prevent the dry out effect. Using carbon nanotubes improves effective thermal contact conductance of the interface when compared to a continuous layer of the thermal interface alone.

Advantages:

- Reduces thermal resistance
- Improved thermal contact conductance

Potential Applications:

- Power integrated circuits
- Single-chip devices

People:

- Fisher, Timothy Scott (Project leader)
- Xu, Jun

Intellectual Property:

Application Date: August 4, 2006

Type: Utility Patent

Country of Filing: United States

Patent Number: 8,093,715
Issue Date: January 10, 2012

Application Date: August 5, 2006
Type: PCT-Patent
Country of Filing: WO
Patent Number: (None)
Issue Date: (None)

Application Date: August 5, 2005
Type: Provisional-Patent
Country of Filing: United States
Patent Number: (None)
Issue Date: (None)

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