

**CHARACTERIZATION OF NANOSTRUCTURED THERMAL INTERFACE  
MATERIALS – A REVIEW**

**Invited Paper**

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**ABSTRACT:** Due to high heat dissipation rates in current and projected future semiconductor devices, much attention has been given to improving paths of heat transport within the device package. One of the primary areas in which improvements are currently being made is in the development of thermal interface materials (TIMs). TIMs are used in joining surfaces in a microelectronic package to reduce interface thermal resistance. Recently, due to enhanced thermal performance of nanostructured materials, research has focused on using these materials as TIMs, or incorporating them within existing TIMs. The following will describe recent efforts in development and characterization of nanostructured TIMs and identify possible future research directions.