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TPM350
Thermally Conductive Phase Change Material

Product Description

TPM350 is a high-performance screen printable thermally conductive phase change material, which rated at a thermal conductivity of 3.5W/m-K. The phase change temperature is 50°C.

TPM350 contains a solvent to allow for wetting of the surface, and assist in processing. Moreover, the product will dry to the touch after the solvent evaporates, so it will eliminate the mess associated with grease.

Features

- Screen printable
- Thermal conductivity: 3.5W/m-K
- Minimizes contact thermal resistance
- Lower phase change temperature:50°C
- Contain solvent, excellent wet ability

Approvals

RoHS Compliant Yes

Typical Applications

- High frequency microprocessors
- Notebook and desktop PCs
- Computer servers
- DC/DC converters
- Memory modules
- Cache chips
- IGBTs
- Automotive
- Optical

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Certificate No. FM 32082

Typical Properties

Colour:	Grey
Density:	2.2g/cm^3
Phase Change Temperature:	50 ℃
Operation Temperature Range:	-40~+125°C
Thermal Conductivity:	3.5 W/m-K
Thermal Resistance @70°C, 50psi:	0.026 °C-in²/W
Minimum Bond Line Thickness:	25µm

Storage

Store between 5°C and 35°C and below 50% relative humidity, upright away from corrosive materials. Keep lid tightly closed when not in use. Keep jar and jar lip clean to ensure a tight seal.

Directions for use

- Mix well by hand or jar roller before using. High shear mixing will result in accelerated solvent evaporation and high viscosities.
- Ensure the surface of the substrate is clean prior to application using an approved cleaning solvent (Toluene, Acetone, or IPA).
- A uniform coating 0.002-inches (0.05mm) to 0.010-inches (0.25mm) thick should be used.
- For high volume applications stenciling or screening is recommended. When screening, best results are achieved with a 61 (or less) threads per inch (TPI) screen, however the phase change has been successfully applied using up to a 140 mesh screen. (The higher the number = smaller screen opening).
- Material surface is dry to the touch within 2 hours at 60°C or 10 hours at room temperature varying upon the environment. Suggest to remove the solvent away completely at 60°C especially for the application with thickness higher than 0.1mm. Solvent evaporation does not affect the thermal performance of TPM350, but may result in difficulties during application.

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- If rework is required, remove TPM350 from the substrate surface and use an approved cleaning solvent (Toluene, Acetone, or IPA) to remove any residue.
- Best performance is achieved when using a constant pressure application such as springs. A minimum pressure of 5psi is recommended. Optimum thermal performance is reached at a pressure of 20psi or greater and a temperature of 60°C or greater.

If storage container is left open, the viscosity will increase due to solvent loss potentially resulting in application defects. Keep lid tightly closed on the container when not actively using material.

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