Packaging Materials

Honeywell

HIGH THERMAL CONDUCTIVE
PHASE CHANGE MATERIAL IN
A NEW PRINTABLE FORMAT

Honeywell PCM45F-SP Printable Thermal Interface Material

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BENEFITS

- First printable phase change material
- Ease of application
- Superior handling and reworkability
- Applies like grease without the pump out
- More applications per kilogram due to lower specific gravity
- Excellent thermal reliability after thermal cycling and HAST

FEATURES

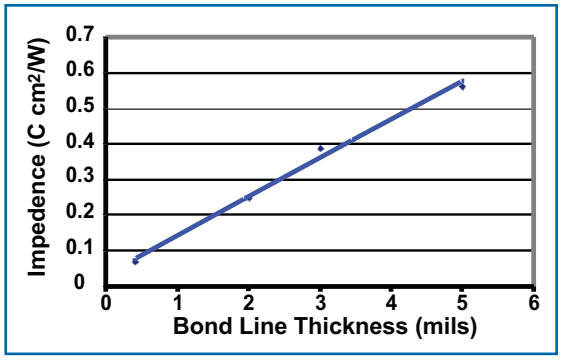
OVERVIEW

The PCM45F-SP phase change thermal interface consists of a sophisticated thermally conductive material. It has optimum filler size distribution to achieve maximum packing density compared to conventional phase change materials. PCM45F-SP changes phase at 45°C to assure maximum surface conformance. PCM45F-SP may be applied to a component, heat sink or thermal spreader, providing the same industry leading performance as Honeywell PCM45F tape and roll format phase change materials.

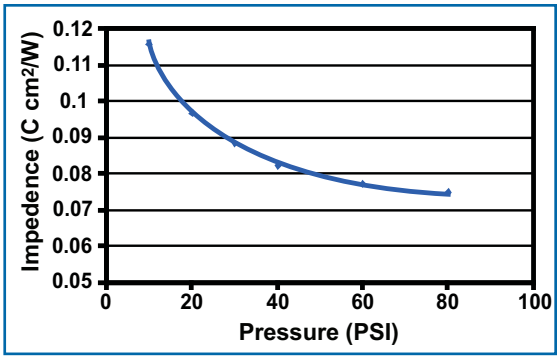
PCM45F-SP is available in paste form in various size containers.

Application of PCM45F-SP is not limited to heat sink design; different shapes are possible depending on the screen print design.

Thermal Impedance vs. Bond Line Thickness



Thermal Impedance vs. Pressure



MATERIAL CHARACTERISTICS

Physical Properties

(no shim 40 PSI)	PCM45F	PCM45F SP
Thermal Conductivity	2.35 W/m°C	2.35 W/m°C
Thermal Impedance	0.08°C cm²/W	0.08°C cm²/W
Volume Resistivity	3.0x10¹⁵ Ωcm	3.0x10¹⁵ Ωcm
Specific Gravity	2.2 g/cm³	2.0g/cm³
Typical Bond Line No Shim @ 40 PSI	0.50 mil	0.50 mil

Thermal Impedance Post Reliability

(no shim 40 PSI)	PCM45F	PCM45F SP
End of Line	0.08°C cm²/W	0.08°C cm²/W
1000 hrs T/C "B	0.07°C cm²/W	0.07°C cm²/W
300 hrs 85°C/85%RH	0.06°C cm²/W	0.07°C cm²/W
96 hrs HAST	0.06°C cm²/W	0.07°C cm²/W
500 hrs @ 150°C	0.07°C cm²/W	0.05°C cm²/W

For more information
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 PB0XX0206Rev1