



high thermal conductive phase change
material in pad format

Honeywell PCM45F Phase Change Thermal Interface Material

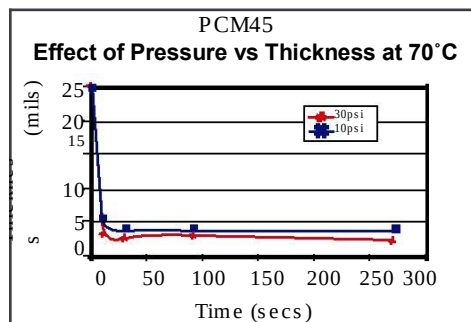
Honeywell PCM45F Phase Change Thermal Interface Material

high thermal conductive phase
change material in pad format

benefits

- High performance filler and resin technology
- Phase change at 45°C
- High conductive filler loading to maximize loading density
- Superior handling and reworkability
- Excellent thermal reliability after thermal cycling and HAST

Handling Benchmark (Typical Values)



overview

Honeywell PCM45F, a high thermal conductive Phase Change Material (PCM) in pad format, was designed to minimize thermal resistance at interfaces.



Based on a novel polymer PCM system, this material exhibits excellent wetting at interfaces during typical operating temperature range, resulting in very low surface contact resistance.

A proprietary filler material provides high thermal conductivity (2.0–5.0 W/m°C) and a low thermal impedance (<0.20°C cm²/W), suitable for high performance IC devices.

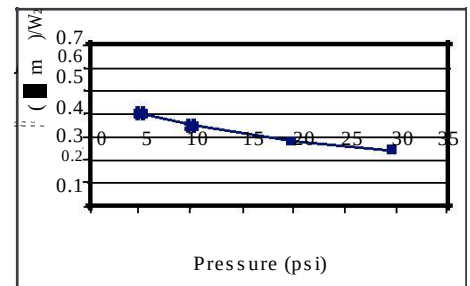
material characteristics

Physical Properties

(2 mil shim 40 PSI)	PCM45F
Thermal Conductivity	2.35 W/m°C
Thermal Impedance	0.20°C cm²/W
Volume Resistivity	$3 \times 10^{15} \Omega \text{cm}$
Specific Gravity	2.2gm/cm³
Typical Bond Line	1.0 mil
Thickness @ 30psi/60°C	

features

High Thermal Performance



Key outputs in thermal impedance for PCM45F have been measured to fit individual needs.

applications

Clamping pressure and temperature are suggested to achieve a minimum bond line thickness of the interface material, typically less than 1.5mil (0.038mm) for best thermal performance.

Tape Formats

- No Carrier
- Supplied Thickness: 10 mils

Thermal Impedance Post Reliability

(2 mil shim 40 PSI)	PCM45F
End of Line	0.20°C cm²/W
1000 hrs T/C "B"	0.20°C cm²/W
192 hrs 85C/85%RH	0.21°C cm²/W
96 hrs HAST	0.25°C cm²/W
500 hrs @ 150°C	0.20°C cm²/W

For more information

www.electronicmaterials.com

Specialty Materials

Electronic Materials Honeywell

International Inc. Customer &

Technical Support Hotline:

509-252-2102

Fax: 509-252-8617

www.honeywell.com

Honeywell

Although all statements and information contained herein are believed to be accurate and reliable, they are presented without guarantee or warranty of any kind, express or implied. Information provided herein does not relieve the user from the responsibility of carrying out its own tests and experiments, and the user assumes all risks and liability for use of the information and results obtained. Statements or suggestions concerning the use of materials and processes are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. The user should not assume that all toxicity data and safety measures are indicated herein or that other measures may not be required. ©2008 Honeywell International Inc. PB0520608Rev11