Honeywell
THE POWER OF CONNECTED

Thermal Interface Materials

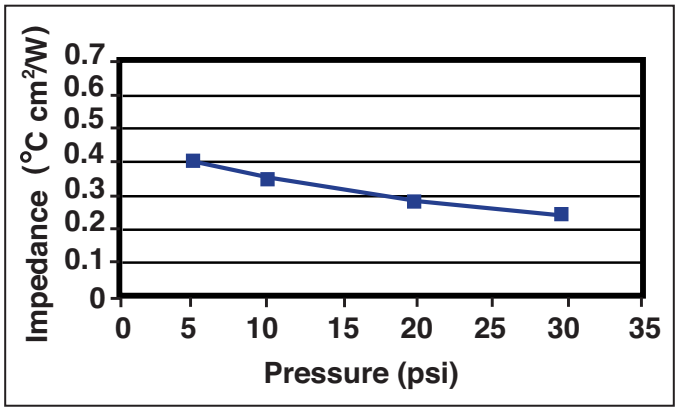
PCM45F

High Thermal Conductivity Phase Change Material

Honeywell's PCM45F, a highly thermally conductive Phase Change Material (PCM), 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. It is available in both pad and paste/printable formats.

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.

PCM45F Thermal Impedance (TI) vs. Pressure



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

Honeywell TIMs Serve Multiple Applications


Automotive & Power


IT/Enterprise


Telecomm


Consumer Electronics


High-Brightness LED

FEATURES & BENEFITS

- High performance filler and polymer technology
- Phase change at 45°C
- Highly conductive filler loading to optimize performance
- Superior handling and reworkability
- Superior reliable thermal performance
- Available in both pad and paste formats

PCM45F Technical Information

Physical Properties	Unit	Test Method	PCM45F	PCM45F-SP
Thermal Conductivity	W/m·K	ASTM D5470	2.35	2.35
Thermal Impedance @ no shim (Typical Value)	°Ccm2/W	ASTM D5470 Modified	0.12	0.12
Specific Gravity	g/cm3	ASTM D374	2.2	2.0
Viscosity (Typical Value)	Pa·s @2 1/s, 25°C	RehometerHON	NA	70
Volume Resistivity	Ω·cm	ASTM D257-700	$8.2x10^{14}$	$8.2x10^{14}$
Thickness Range	mm	NA	0.20-1.00	NA

STORAGE CONDITION

Refer to product label.

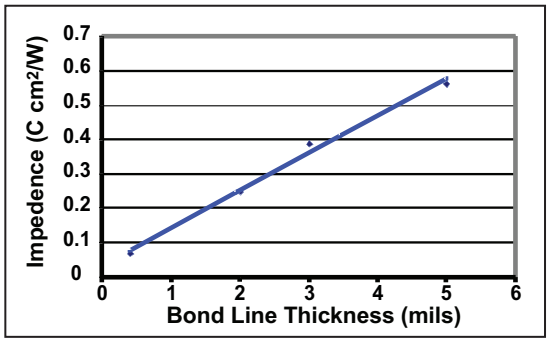
THERMAL IMPEDANCE POST RELIABILITY

(No shim @ 40psi)	PCM45F	PCM45F-SP
End of Line	0.12 °C-cm2/W	0.12 °C-cm2/W
1000 hrs T/C "B"	0.08 °C-cm2/W	0.08 °C-cm2/W
Baking 500 hrs @ 150°C	0.08 °C-cm2/W	0.08 °C-cm2/W

PCM45F is available in both pad and paste formats.

Product Use

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



PCM45F-SP Thermal Impedance vs. Bond Line Thickness

More Honeywell TIMs

PCM45F is part of Honeywell's TIM Solutions family of phase change materials. Whatever the thermal challenge, we offer a TIM product that provides just the right characteristics for your application. Find out more about:

PTM7000 Series PTM6000 Series
PTM5000 Series PCM45F Series
HT Series LTM Series

By visiting: electronicmaterials.com

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USA: 1-509-252-2102
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Korea: 82-2-3483-5076
Singapore: 65-6580-3593
Taiwan: 886-3-6580300 ext.312
www.electronicmaterials.com

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