Honeywell
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Thermal Interface Materials

PTM6000HV

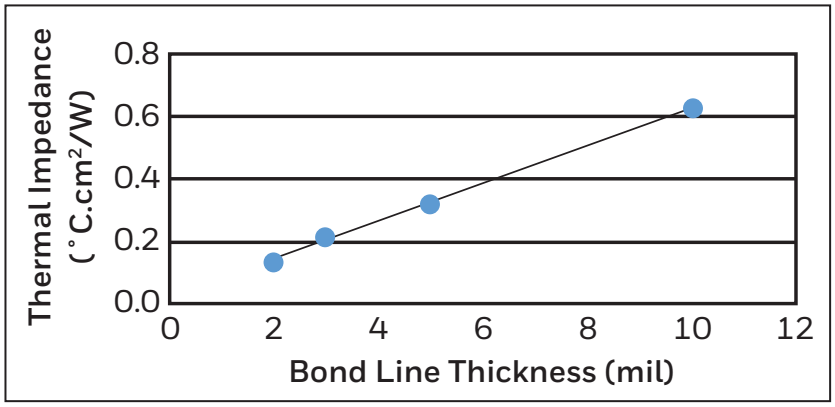
High Thermal Conductivity, High Viscosity Phase Change Material

Honeywell's PTM6000HV, a highly thermally conductive Phase Change Material (PCM) in both pad and paste formats, is designed to minimize thermal resistance at interfaces and maintain extremely stable performance through reliability testing required for long product life applications.

Based on a robust polymer PCM structure, this material exhibits excellent wetting properties during typical operating temperature ranges, resulting in very low surface contact resistance.

The proprietary material provides superior reliability (pass 150˚C baking 2000 hours, temperature cycling 2000 cycles, and HAST 288 hours) and maintains low thermal impedance (<0.12 ˚Ccm^2/W no shim), making PTM6000HV desirable for high-performance integrated circuit devices.

PTM6000HV Thermal Impedance vs Bond Line Thickness



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

PTM6000HV Technical Information

Physical Properties	Unit	Test Method	PTM6000HV
Thermal Conductivity	W/m·K	ASTM D5470	5.2
Thermal Impedance @ no shim	°Ccm2/W	ASTM D5470 Modified	0.09
Thermal Impedance @ 50µm	°Ccm2/W	ASTM D5470 Modified	0.14
Specific Gravity	g/cm3	ASTM D374	2.6
Viscosity	Pa·s @2 1/s, 25 °C	RehometerHON	>1500
Volume Resistivity	Ω·cm	ASTM D257-700	2.1x10^{14}

STORAGE CONDITION

Refer to product label.

THERMAL IMPEDANCE POST RELIABILITY (ASTM E1461)

End of Line	0.10 °C-cm2/W
Temperature Cycling "B" (-55 °C to 125 °C, 2000 cycles)	0.07 °C-cm2/W
Bake 125 °C, 2000 h	0.09 °C-cm2/W
Bake 150 °C, 2000 h	0.09 °C-cm2/W
HAST, 288h	0.09 °C-cm2/W

PTM6000HV is available in both pad and paste/ printable 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 performance. The material must go through the phase change temperature to exhibit entitlement performance.

PTM6000HV applied to IGBT module

More Honeywell TIMs

PTM6000HV 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

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