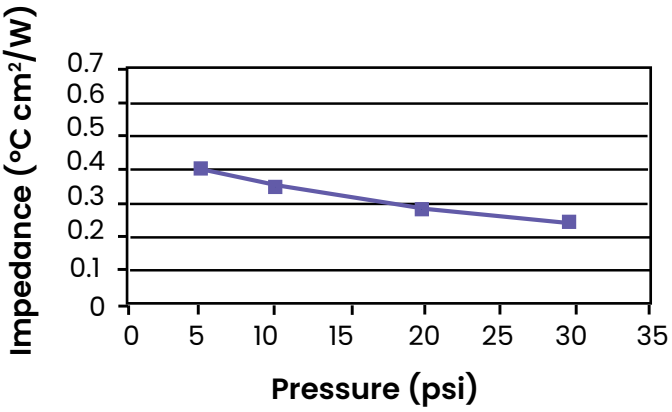
PCM45F

HIGH THERMAL CONDUCTIVITY PHASE CHANGE MATERIAL

Solstice'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.

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

Solstice TIMs Serve Multiple Applications


Automotive & Power


IT/Enterprise


Telecomm


Consumer Electronics

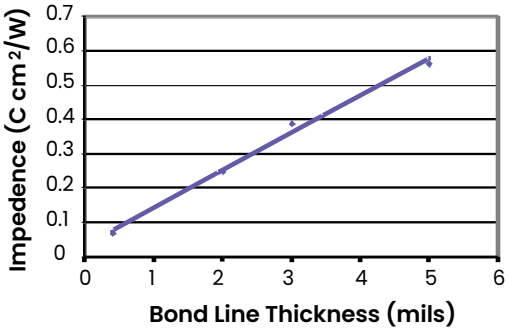

High-Brightness LED

Solstice

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	Rheometer	NA	70
Volume Resistivity	Ω·cm	ASTM D257-700	$8.2x10^{14}$	$8.2x10^{14}$
Thickness Range	mm	NA	0.20-1.00	NA

PCM45F is available in both pad and paste/ printable formats.



PCM45F-SP Thermal Impedance vs. Bond Line Thickness

STORAGE CONDITION
Refer to product label.

THERMAL IMPEDANCE POST RELIABILITY (ASTM E1461)

(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

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.

More Solstice TIMs

PCM45F is part of Solstice'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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