

Phase-Change Thermal Interface Materials

PC50 Series

PolyGore has developed the PC50 Series, a family of high thermal conductive Phase Change Materials designed to minimize thermal handling

PC50 Series is a low melting point thermal interface material. At 50 °C, PC50 series begins to soften and flow, filling the microscopic irregularities of both the thermal solution and the integrated circuit package surface, thereby reducing thermal resistance. PC50 series is a flexible solid at room temperature and freestanding without reinforcing components that reduce thermal performance.

PC50 Series shows no thermal performance degradation after 1,000 hours @ 125 °C, or after from -25°C to 120°C. The material softens and does not fully change state resulting in minimal migration (pump out) at operating temperatures.

1. BENEFITS

- High performance filler and resin technology
- Screen printable paste or tape format
- Phase change at 50°C
- High conductive filler loading to maximize loading density
- Superior handling and reworkability
- Excellent thermal reliability after thermal cycling and HAST



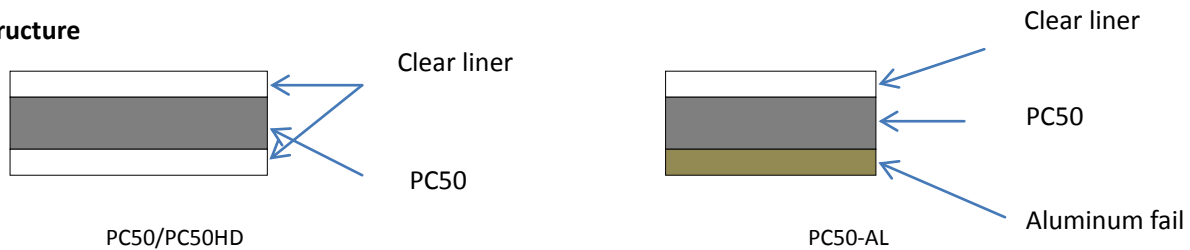
2. General Properties

	PC50-G	PC50HD-G	PC50-AL-G	Unit	Test Method
Color 颜色	Gray 灰色	Gray 灰色	Gray 灰色		
Thickness 厚度	0.005"/0.01" (0.13/0.25mm)	0.005"/0.01" (0.13/0.25mm)	0.005"/0.01" (0.25mm)	—	ASTM D374
Density 比重	2.6	2.6	2.6	g.cm ⁻³	—
Shelf Life 有效期限	1 Year	1 Year	1 Year	—	
Phase Change Softening Temperature 相变温度	50 to 70	50 to 70	50 to 70	°C	—
Temperature Range 工作温度	-25 to 125	-25 to 125	-25 to 125	°C	—
“Burn In” Temperature 定型温度	70°C for 5 minutes	70°C for 5 minutes	70°C for 5 minutes		—
Dielectric Constant 电介质常数	3.0	3.0	3.0	MHz	ASTM D150
Volume Resistivity 体积阻抗	2 x 10 ¹³ ohm-cm	2 x 10 ¹³ ohm-cm	2 x 10 ¹³ ohm-cm	ohm-cm	ASTM D257
Thermal conductive 导热值	2.5	3.8	5.0	Wm/K	ASTM D5470
Thermal Impedance@50psi(345KPa) 热阻抗	0.02°C-in ² /W 0.12°C-cm ² /W	0.01°C-in ² /W 0.12°C-cm ² /W	0.01°C-in ² /W 0.07°C-cm ² /W	—	ASTM D5470
Stander Sheet Size 标准片材尺寸	300*400	300*400	300*400	mm	—

3. Application

- High Frequency Microprocessors
- Notebook and Desktop PCs
- Computer Servers
- Memory Modules
- Cache Chips
- IGBTs

4. Structure



5. Handling instructions

- Best results for handling is obtained at 20-25 °C
- In case of contamination with oil and solvents, handling & thermal characteristics may be deteriorated. Before applying PCM, surface to be attached should be cleaned to remove dirt, water, oil etc.

Invenber Technology Co.,LTD

Andy Hu

MP: 186-8873-8945 Tel:0755-2696 2681 Fax:0755-2696 2682

Email: andy.hu@invenber.com.cn, andy.hu2004@163.com

Web Site: <http://www.invenber.com.cn>

Add: Room 26G,Yonghui Block,GuoQi Building,ShangBu South Road.,Futian Area,ShenZhen.China