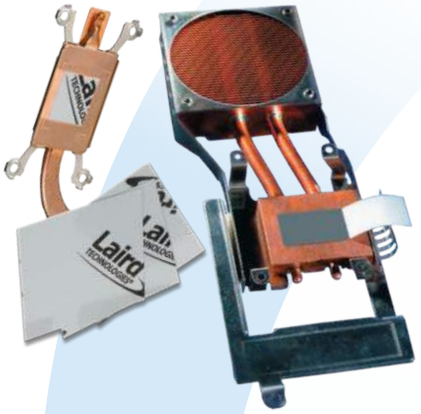
Laird TECHNOLOGIES®

Innovative **Technology** for a **Connected** World

Tpcm™ 900 Series



Tpcm™ 900 is a high performance, non-electrically conductive phasechange material. At 50°C, Tpcm™ 900 begins to soften and flow,filling the microscopic irregularities of both the thermal solution andthe component's surfaces, thereby reducing thermal resistance.It is a flexible solid at room temperature and freestandingwithout reinforcing components that reduce thermal performance.

Tpcm 900 shows no performance degradation after 1,000hours @130°C, or after 500 cycles, from -25°C to 125°C. The material softens and does not fully change state, resulting in minimal migration(pump out) at operating temperatures (see viscosity curve). Supplied in rolls with top tabbed liners for easy manual orlarge volume automatic application. Individually die cut parts can alsobe supplied.

FEATURES AND BENEFITS

- 0.03ºC-in2/watt thermal resistance
- Naturally tacky at room temperature, no adhesive required
- No heatsink preheating required
- Available in 3 thicknesses, 0.005", 0.010"and 0.020" (0.125 mm, 0.25 mm and 0.50 mm)

APPLICATIONS

- High frequency microprocessors
- Notebook and desktop PCs
- Computer servers
- DC/DC converts
- Memory modules
- Cache chips
- IGBTs

PROPERTIES	Tpcm™ 905C	Tpcm™ 910	Tpcm™ 920	Test Method
Construction & Composition	Non-reinforced boron nitride filled film	Non-reinforced boron nitride filled film	Non-reinforced boron nitride filled film	
Color	Yellow	Yellow	Yellow	Visual
Thickness	0.005" (0.13 mm)	0.010" (0.25 mm)	0.020" (0.51 mm)	
Thickness Tolerance	± 0.001" (± 0.025 mm)	± 0.001" (± 0.025 mm)	± 0.002" (± 0.05 mm)	
Density	1.31 g/cc	1.39 g/cc	1.39 g/cc	Helium Pycnometer
Temperature Range	-25 to 125°C	-25 to 125°C	-25 to 125°C	
Phase Change Softening Temperature	50°C to 70°C	50°C to 70°C	50°C to 70°C	
"Burn In" Temperature	70°C for 5 minutes	70°C for 5 minutes	70°C for 5 minutes	
Thermal Conductivity	0.7 W/mK	2.23 W/mK	2.23 W/mK	ASTM D5470 (modified)
Thermal Impedance @ 10 psi (69 KPa) @ 50 psi (345 KPa))	0.048 °C-in²/W (0.31 °C-cm²/W) 0.029 °C-in²/W (0.19 °C-cm²/W)	0.14 °C-in²/W (0.90 °C-cm²/W) 0.083 °C-in²/W (0.53 °C-cm²/W)	0.18 °C-in²/W (1.14 °C-cm²/W) 0.095 °C-in²/W (0.61 °C-cm²/W)	ASTM D5470 (modified
Volume Resistivity	2 x 10^{13} ohm-cm	2 x 10^{13} ohm-cm	2 x 10^{13} ohm-cm	ASTM D257
Dielectric Constant @1 MHz	3.1	3.1	3.1	ASTM D150

Standard Thicknesses: 0.005" (0.13 mm) 0.010" (0.25 mm) 0.020" (0.51 mm)
Consult the factory for alternate thicknesses
Standard Sheet Sizes: 9" x 9" (229 mm x 229 mm)
Tpcm™ 900 sheets are supplied with a white release paper and a bottom liner.
Tpcm™ 900 is available in rolls with an extended tab liner or individual die cut shapes.
Pressure Sensitive Adhesive: Pressure sensitive adhesive is not applicable for Tpcm™ products.
Reinforcement: No reinforcement is necessary.

global solutions: local support™

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THR-DS-Tpcm-900 0910