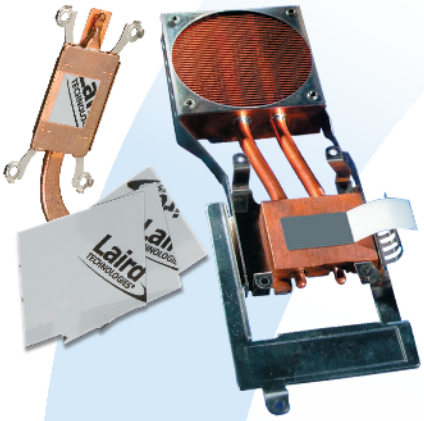
Laird TECHNOLOGIES

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

Tmate™ 2900 Series
Phase Change Material



FOR EXCEPTIONALLY LOW THERMAL RESISTANCE

The Tmate™ 2900 Series is a reusable phase change material (PCM) designed for ease of testing and rework ability. It has a composite construction of a special malleable metal alloy and a high-performance PCM.

At 50°C, the Tmate 2900 Series begins to soften and flow, filling the microscopic irregularities of the thermal solution, thus reducing thermal resistance.

It shows no thermal performance degradation after 1,000 hours @130°C, or after 500 cycles from -25°C to 125°C. The PCM softens and does not fully change state, resulting in minimal migration (pump-out) at operating temperatures (see viscosity curve). It is available in three thicknesses: 0.005" (0.125 mm), 0.010" (0.25 mm), and 0.020" (0.5 mm).

FEATURES AND BENEFITS

- Low thermal resistance at low pressures
- Reusable: make and break thermal interface connection many times
- Naturally tacky at room temperature, no adhesive required
- No heat sink preheating required

APPLICATIONS

- High frequency microprocessors
- Notebook and desktop PCs
- Computer servers
- Thermal test stands

global solutions: local support™

Americas: +1.888.246.9050
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SPECIFICATIONS

PROPERTIES	Tmate™ 2905c	Tmate™ 2910c	Tmate™ 2920	TEST METHOD
Construction & composition		Foil reinforced boron nitride filled film		
Color		Yellow/Silver		Visual
Thickness	0.005" (0.13 mm)	0.010" (0.25 mm)	0.020" (0.51 mm)	
Thickness tolerance	± 0.001" (±0.03 mm)	± 0.001" (±0.03 mm)	± 0.002" (±0.05 mm)	
Density	1.86 g/cc	1.64 g/cc	1.32 g/cc	Helium Pycnometer
Shelf life		1 Year		
Temperature range		-25°C to 125°C		
Phase change softening temperature		50°C to 70°C		
"Burn-in" temperature		70°C for 5 min		
Thermal Impedance				
@20 psi	0.07°C-in²/W	0.09°C-in²/W	0.27°C-in²/W	ASTM D5470 (modified)
@130 KPai	0.45°C-cm²/W	0.61°C-cm²/W	1.74°C-cm²/W	
Volume resistivity		5 x 10¹² ohm-cm		ASTM D257
Dielectric constant @ 1 MHz		4.2		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)

Tmate™ 2900 sheets are supplied with a clear polyester top liner to protect phase change material.

Tmate™ 2900 is available in individual die cut shapes.

Adhesive: Pressure sensitive adhesive is not applicable for Tmate™ products.

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