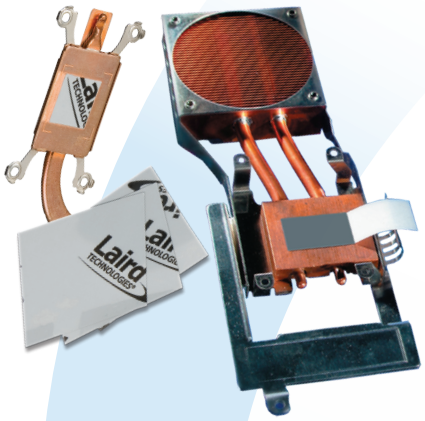
Laird TECHNOLOGIES

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

Tpcm™ 580 Series
Phase Change Material



FOR EXCEPTIONALLY LOW THERMAL RESISTANCE

The Tpcm™ 580 Series is a high-performance thermal phase change material (PCM) designed to meet the thermal reliability and price requirements of high-end thermal applications. The Series is inherently tacky, flexible and exceptionally easy-to-use. The Tpcm 580 Series is available in four thicknesses: 0.003" (Tpcm 583), 0.005" (Tpcm 585), 0.008" (Tpcm 588), 0.010" (Tpcm 5810) and 0.016" (Tpcm 5816).

At temperatures above its transition temperature of 50°C (122°F), the Tpcm 580 Series begins to soften and flow, filling the microscopic irregularities of the components it comes into contact with. The result is an interface with minimal thermal contact resistance. Due to the gradual change in viscosity (softening), it minimizes migration (pump-out).

The Tpcm 580 Series can be supplied as cut parts in strips and rolls with top tabbed liners for easy application. The top tabbed liner can be removed immediately or provide a protective cover during shipping, and can be removed at assembly. It can also be supplied in sheets and custom die-cut configurations; and meets all environmental requirements including RoHS.

FEATURES AND BENEFITS

- Low total thermal resistance (0.013°C-in^2/W at 50 psi)
- Inherently tacky and easy-to-use – no adhesive required
- High reliability
- Meets all environmental requirements including RoHS
- Provides high value price / performance point

APPLICATIONS

- Microprocessors
- Chipsets
- Graphic processing chips
- Custom ASICS

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Phase Change Material

SPECIFICATIONS

PROPERTIES	Tpcm™ 583	Tpcm™ 585	Tpcm™ 588	Tpcm™ 5810	Tpcm™ 5816
Construction & composition	Non-reinforced film				
Color	Gray				
Thickness	0.003" (0.076 mm)	0.005" (0.127 mm)	0.008" (0.2 mm)	0.010" (0.25 mm)	0.016" (0.406 mm)
Density	2.87 g/cc				
Operating temperature range	-40°C to 125°C (-40°F to 257°F)				
Phase change softening temperature	50°C (122°F)				
Thermal resistance					
10 psi	0.019°C-in²/W (0.12°C-cm²/W)	0.020°C-in²/W (0.13°C-cm²/W)	0.020°C-in²/W (0.13°C-cm²/W)	0.020°C-in²/W (0.13°C-cm²/W)	0.025°C-in²/W 0.16°C-cm²/W)
20 psi	0.016°C-in²/W (0.10°C-cm²/W)	0.016°C-in²/W (0.10°C-cm²/W)	0.016°C-in²/W (0.10°C-cm²/W)	0.016°C-in²/W (0.10°C-cm²/W)	0.016°C-in²/W (0.10°C-cm²/W
50 psi	0.013°C-in²/W (0.08°C-cm²/W)	0.013°C-in²/W (0.08°C-cm²/W)	0.013°C-in²/W ((0.08°C-cm²/W)	0.013°C-in²/W (0.08°C-cm²/W)	0.013°C-in²/W (0.08°C-cm²/W)
Thermal conductivity	3.8 W/mK				
Volume resistivity	3.0 x 10^{12} ohm-cm				

STANDARD PACKAGING

Sheets: 9" x 9" (228.6 mm x 228.6 mm)
18" x 18" (457.2 mm x 457.2 mm)

Cut Parts: On strip with top tabbed liner
Individual cut through

global solutions: local support™

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