



## PRODUCT DESCRIPTION

Tpcm™ 5000 is a new high-performance TIM in the Laird product offering. Tpcm™ 5000 is designed to provide the best performance to price available. Tpcm™ 5000 provides very low thermal resistance by coupling high thermal conductivity of 5.3 W/mK, minimal bondline thickness, and with superior wetting of the mating surfaces. Softening between 50°C – 70°C, the initial pad thickness can decrease to a bondline as thin as 25µm.

Tpcm™ 5000 reliability has been demonstrated through exposure to 1000 hours of various aging tests resulting in proven dependability at an operating temperature of 125°C.

The specialty polymeric matrix offers superior pump out resistance when compared to thermally conductive greases and other phase change materials. Tpcm™ 5000 has been formulated to provide just the right tack, remaining on liners yet easily removeable for application.

## FEATURES & BENEFITS

- 5.3 W/mK bulk thermal conductivity
- Cost effective
- Non silicone formulation that provides naturally tacky surface
- Fully characterized long term reliability
- No pump out
- Easy rework

## MARKETS

- Semiconductor Packaging
- Graphics Card
- Notebooks
- Servers
- IGBTs
- Automotive
- Memory Modules
- Game Consoles

## AVAILABILITY

- Tpcm 5125 = 0.125mm (~5mils)
- Tpcm 5200 = 0.200mm (~8mils)
- Tpcm 5250 = 0.250mm (~10 mils)
- Tpcm 5400 = 0.400mm (~16 mils)
- Sheets and Die Cuts on strips and rolls
- Production Volume Refer to "TIM Print Application Guide"

## STORAGE CONDITIONS

- Store in original packaging or a light-proof package
- Store at 15°C -35°C & maximum 50% RH
- Shelf Life: 1 year from date of shipment when stored at above conditions

## TYPICAL PROPERTIES

PROPERTY	VALUE	TEST METHOD
<b>Construction</b>	Free Standing, Filled, Non-Silicone Thermoplastic	N/A
<b>Color</b>	Grey	Visual
<b>Thickness &amp; Tolerance</b>	0.125mm±0.025mm 0.200mm±0.025mm 0.250mm±0.025mm 0.400mm±0.050mm	
<b>Density</b>	2.6 g/cc	Helium Pycnometer
<b>Bulk Thermal Conductivity</b>	5.3 W/m-K	Hot Disk
<b>Thermal Resistance</b>		
<b>10 psi &amp; 70°C</b> (Tpcm 5125)	0.20°C-cm <sup>2</sup> /W	ASTM D5470
<b>50 psi &amp; 70°C</b>	0.10°C-cm <sup>2</sup> /W	
<b>Operating Temperature Range</b>	-40°C to 125°C	Laird Test Method
<b>Softening Temperature Range</b>	50°C to 70°C	Laird Test Method
<b>Minimum Bondline Thickness</b>	25µm	Laird Test Method
<b>Dielectric Constant</b>	31.2 @ 1MHz	ASTM D150
<b>Volume Resistivity</b>	1.4X10 <sup>14</sup> Ω-cm	ASTM D991
<b>UL Recognition</b>	V-0 pending	UL94

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