



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 based 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

- Four thickness: 0.125mm, 0.2 mm, 0.25mm, 0.4mm (Tpcm 5125, Tpcm 5200, Tpcm 5250, Tpcm 5400 respectively)
- Sheets and Die Cuts, Die cut on strips w/tabs, Die cut on rolls w/tabs
- Designed for use with the TIM Print, Refer to "TIM Print Application Guide"

STORAGE CONDITIONS

- Shelf life: 1 year from date of shipment in sealed bag
- Storage conditions: 0 to 40C in sealed bag. No humidity requirements.
- See A18223-00 "Instruction for Use" for more details

TYPICAL PROPERTIES

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

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