



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

- Sheets and Die Cuts
- Die cut on strips w/tabs
- Die cut on rolls w/tabs
- Production Volume Manufacturing:
 - Designed for use with the TIM Print
 - Refer to "TIM Print Application Guide"

STORAGE CONDITIONS

- Store in original packaging or a light-proof package
- Store at 0-30°C & maximum 50% RH
- Shelf Life: 1 year from date of shipment when stored at above conditions

TYPICAL PROPERTIES

PROPERTY	VALUE	TEST METHOD
Construction	Free Standing, Filled, Non-Silicone 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-cm²/W	ASTM D5470
50 psi & 70°C	<0.10°C-cm²/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 pending	UL94

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