Tpcm™ 780
High Performance TIM

PRODUCT DESCRIPTION

Tpcm™ 780 is a high performance, inherently tacky, easy to rework phase change thermal interface material. Developed specifically to meet the high thermal conductivity and low thermal resistance requirements of today's demanding processors.

Tpcm ™ 780 is a silicone-free material that begins to further soften and flow at approximately 45ºC. This minimizes contact thermal resistance by filling the microscopic irregularities of the components it contacts. Designed with a specialty polymeric matrix which does not fully change phase, Tpcm™ 780 drastically minimizes migration (pump out) over thermal greases and other phase change materials

Tpcm™ 780 reliability has been demonstrated though exposure to 2000 hours of various aging tests resulting in proven dependability at an operating temperature of 125°C.

FEATURES & BENEFITS

- Silicone-free for applications that are silicone sensitive
- No mess due to thixotropic characteristics which prevent flow outside of interface
- Very soft at room temperature, therefore less stress on board
- RoHS Compliant
- 4V0 UL Flammability Rating
- Naturally tacky at room temperature, requiring no adhesive

MARKETS

- Semiconductor Packaging
- Graphics Card
- Notebooks
- Desktops
- 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

- 0°C to 40°C in sealed bag. No humidity requirements.
- If stored above 30°C or below 15°C, material must be stabilized between 15°C and 30°C for a minimum of 24 hours prior to use for best application
- 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	0.13mm, 0.20mm, 0.25mm, 0.40mm, 0.64mm	
Density	2.5 g/cc	Helium Pycnometer
Bulk Thermal Conductivity	5.4 W/m-K	Hot Disk
Thermal Resistance **10 psi & 70°C** **50 psi & 70°C**	 0.120°C-cm^2/W 0.085°C-cm^2/W	ASTM D5470
Operating Temperature Range	-40°C to 125°C	Laird Test Method
Softening Temperature Range	≈45°C to 70°C	Laird Test Method
Minimum Bondline Thickness	25µm	Laird Test Method
Dielectric Constant	22.3@1KHz, 22.9@1MHz	ASTM D150
Volume Resistivity	1.5x10^{13} Ω-cm	ASTM D991
UL Recognition	V-0	UL94

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