

### Phase Change Material

### PCM 2.5PI

## Features & Benefits

- 2.5 W/mK (Thermal Conductivity) Phase Change Material Pad
- Polyimide Reinforced (PI) support for handling and improved BDV
- Electrically Isolating
- Low Interfacial Resistance
- Superior Thermal Performance

## Applications

- Power Electronics
- PCBA to heatsink
- Discrete components to heat spreader
- Fiber optics and Telecom equipment

## Introduction

**TCLAD PCM** is a thermally conductive gap filling phase change material (PCM) that is offered in a solid form. The purpose of the material is to minimize thermal resistance between the heat source and the heat sink or heat spreader.

**Typical properties** PCM 2.5PI consists of a thermally conductive 50 °C wax based organic of thermal filler, which allows it to transform at 50 °C from solid form to a soften “wax” like material. This will allow the application to achieve minimum bond line. It is recommended to use spring clips or screws to assure constant pressure between interface and power source. It is highly recommended to retighten the screws after several power cycling in the application.

**How to use:** Remove the liner on one side and place the pad onto the first surface, PCB, component or heatsink. Remove the second liner and apply the mating surface with the required pressure as needed in the application.

**Useable life and storage:** PCM products perform best if stored in a cool and dry / non-humid environment, especially where it is not exposed to any sunlight. Typical shelf life is up to 12 months when properly stored.

**Package Information:** Typical package can be individual, or bulk packed or can be in trays or tape and reel.

**Precautions:** Please review the technical data sheet of the material before use of the product in terms of the material characteristics to fit one’s application. All values stated here are typical values.

We provide custom solutions for your applications. For further inquiries, please contact your local sales agent or directly to TCLAD sales in your region.

Item	Condition	Unit	Value	Method
<b>General</b>				
Color	Visual	-	Gray	-
Continuous Use Temp	-	°C	-40 ~ 130	-
Thickness	Mitutoyo	Mm (mil)	0.127 (5) 0.205 (8) 0.254 (10)	-
Density	25°C	g/cc	2.8	ASTM D792
PCM Transition Temperature	-	°C	50	DSC
Elongation	%		40	ASTM D412
Tensile Strength	Psi/MPa		7000/50	ASTM D412
<b>Electrical</b>				
Flame Rating	Vertical Burn Test	-	V-0	UL94
Breakdown Voltage	AC	KV/mm	5	ASTM D149
Dielectric Constant (1000Hz)			4.5	ASTM D150
Volume Resistivity	-	Ω cm	>1×10 <sup>10</sup>	ASTM D257
<b>Thermal</b>				
Thermal Conductivity	-	W/m-K	2.5	ASTM D5470
<b>Thermal Resistance</b>				
0.127 mm	50 psi	°C in <sup>2</sup> /W	0.15	ASTM D5470
0.205 mm	50 psi	°C in <sup>2</sup> /W	0.17	ASTM D5470
0.254 mm	50 psi	°C in <sup>2</sup> /W	0.18	ASTM D5470
RoHS	-	-	Compliant	

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