

PCM-R8

Extreme Performance Phase Change Material



Product Description

VOT PCM-R8 is a high-performance phase change thermal interface material designed for cooling modules where the final bond line is mechanically limited and cannot always be compressed to an ultra-thin interface. At room temperature, PCM-R8 is a solid, free-standing pad that enables clean handling, die-cutting, and automated placement. When exposed to operating temperature and mounting pressure, it softens to wet the mating surfaces, reduce interfacial air gaps, and maintain stable thermal contact within controlled-gap assemblies.

Engineered with a reinforced phase-change matrix, PCM-R8 provides excellent thermal performance in non-ideal thermal stack-ups, especially where heat sources and cooling components are not in perfect one-to-one contact. Its controlled structure helps resist over-melting, pump-out, and long-term interface degradation, making it a reliable alternative to thermal grease and conventional phase change pads in notebook thermal modules and compact electronic assemblies.



PROPERTY	PCM-R8	TEST METHOD
Construction	Filled Non-Silicone Thermoplastic	N/A
Color	Light Grey	Visual
Density	2.7 g/cc	ASTM D792
Thickness	0.25mm	
Bulk Thermal Conductivity	8.5 W/m-K	ASTM D5470
Thermal Resistance		
10 psi & 70°C	0.08 °C-cm ² /W	ASTM D5470
50 psi & 70°C	0.04 °C-cm ² /W	
Operating Temperature Range	-40°C to 125°C	VOT Test Method
Softening Temperature Range	≈45°C to 70°C	VOT Test Method
Minimun BLT	22um	VOT Test Method
Dielectric Constant	20 @1MHz	ASTM D150
Volume Resistivity	10 ¹³ Ω-cm	ASTM D257
Flammability Rating	V-0	UL 94

Typical Applications

- AI Training Clusters & Hyperscale Data Center Processors
- High-Performance Computing (HPC) Bare-die CPUs and GPUs
- Aerospace & Avionics High-Power Electronics
- Next-Gen Automotive Power Electronics (Inverters / On-Board Chargers)
- Advanced Optoelectronics and Laser Systems

Storage Conditions

- If stored above 30°C or below 15°C, material must be stabilized between 15°C and 30°C for a minimum of 25 hours prior to use for best application
- Shelf Life:1 year from date of shipment when stored at above conditions

Features & Benefits

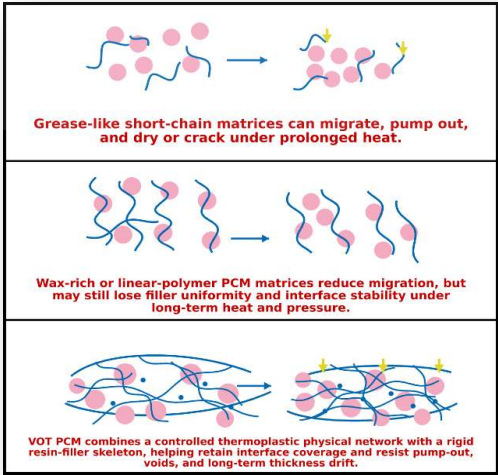
- **Extreme Thermal Resistance:** Groundbreaking 0.08 @ 10 psi defines a new standard for bare-die cooling.
- **Advanced Pure Material:** Highly stable formulation prevents outgassing and silicone migration, protecting sensitive optical and electronic components.
- **Ultra-Low Bond Line Thickness (BLT):** Exceptional wetting properties ensure maximum surface contact under low mounting pressure.
- **Uncompromising Reliability:** Thixotropic behavior at phase change prevents degradation, pump-out, or dry-out over thousands of thermal cycles.

TW: +886-2-24511685

KS: +86-512-57456656

CZ: +86-519-82208589

<http://vot-thermal.com>



Limited Warranty: For a period of 12 months from the date of first sale, VOT warrants this product(s) to be free from defects in manufacturing. Our only obligation will be to provide replacement product for any portion proving defective, or at our option, to refund the purchase price thereof. User assumes all other risks, if any, including the risk of injury, loss or damage, whether direct or consequential, arising out of the use, misuse, or inability to use this product(s).
NOTE: VOT does not assume any responsibility or liability for any advice furnished by it, or for the performance or results of any installation or use of the product(s) or of any final product into which the product(s) may be incorporated by the purchaser and/or user. The purchaser and/or user should perform its own tests to determine the suitability and fitness of the product(s) for the particular purpose desired in any given situation.