



### FOR LOW THERMAL RESISTANCE AND LOW OUTGASSING

Tpcm<sup>™</sup> 200SP is a silicone free, thermal phase change material (PCM) designed to meet the thermal reliability and outgassing requirements of LED lighting applications, while offering a low total cost of ownership. It is specifically designed for use in various optical applications such as automotive headlamps, LED lighting, cameras, lasers and sensors. Tpcm<sup>™</sup> 200SP is also well suited for the broader market where the thermal requirements are moderately demanding.

Tpcm 200SP is a screen printable phase change material which quickly dries to the touch so that it can be pre-applied to components for future assembly.

### FEATURES AND BENEFITS

- Silicone-free
- Low thermal resistance
- Ease of use for high volume manufacturing
- High thixotropic index
- Dry to the touch for pre-apply applications
- High thermal reliability, minimal pump out
- Re-flow compatible
- Cost Effective

### MARKETS / APPLICATIONS

- LED lighting
- Automotive headlamps
- Microprocessors
- Chipsets
- Graphic Processing Chips
- Custom ASICs
- Optical applications (e.g, lasers)

	TYPICAL PROPERTIES	TEST METHOD
<b>Color</b>	White	Visual
<b>Viscosity (Pa-s)</b>	20	Rheometer
<b>Specific Gravity – w/o solvent</b>	3.2	Helium Pycnometer
<b>Thermal Conductivity – w/o solvent (W/mK)</b>	1.5	Hot Disk Thermal Constants Analyzer
<b>Thermal Resistance (°C-in<sup>2</sup>/W @ 70°C)</b>	0.07 (@10 psi)	ASTM D5470
	0.049 (@20 psi)	
	0.027 (@50 psi)	
<b>Softening Temperature (°C)</b>	45-60	
<b>Max Continuous Use Temp (°C)</b>	125	
<b>Operating Temperature Range (°C)</b>	-40 to 125	
<b>UL Rating</b>	94V0	
<b>Thixotropic Index</b>	>3	Rheometer

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