TIA225GF
Liquid-Dispensed Silicone Thermal Pad

Description
TIA225GF silicone is a two-component thermally conductive material that is dispensed as a liquid and cured in place to create a heat path for efficient heat transfer. After being applied, its non-slumping pasty consistency provides physical stability to help prevent run-off after being dispensed. TIA225GF can be used as a liquid-dispensed alternative to pre-fabricated thermal pads, and as a gap filler for a broad array of thermal designs in electronic components.

Key Features and Typical Benefits
- Good thermal conductivity
- Fast low-temperature cure
- Retains softness after cure to enhance stress relief during thermal cycling
- Easy to use 1:1 mixing ratio
- Conforms to complex shapes of three-dimensional interface designs
- Can be dispensed or printed
- Repairable
- Flame retardant: UL94V-0 equivalent

Potential Applications
Thermal interface for electronic components in consumer, telecommunications, automotive, and lighting applications.

Typical Physical Properties

<table>
<thead>
<tr>
<th>Uncurred Properties (1)</th>
<th>TIA225GF(A)</th>
<th>TIA225GF(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viscosity (23°C)</td>
<td>Pa • s</td>
<td>100</td>
</tr>
<tr>
<td>Mixing ratio (by weight)</td>
<td></td>
<td>100 : 100</td>
</tr>
<tr>
<td>Viscosity after mixing (23°C)</td>
<td>Pa • s</td>
<td>100</td>
</tr>
<tr>
<td>Pot life</td>
<td>h</td>
<td>4</td>
</tr>
<tr>
<td>Cure condition (70°C)</td>
<td>h</td>
<td>0.5</td>
</tr>
<tr>
<td>(23°C)</td>
<td>h</td>
<td>24</td>
</tr>
</tbody>
</table>
Cured Properties\(^{(†)}\) (0.5h at 70°C) TIA225GF

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Gray</td>
</tr>
<tr>
<td>Density (23°C)</td>
<td>2.90 g/cm(^3)</td>
</tr>
<tr>
<td>Thermal conductivity (^{\text{1}})</td>
<td>2.5 W/(m·K)</td>
</tr>
<tr>
<td>Thermal resistance (^{\text{2}}) (BLT: 50μm)</td>
<td>35 mm(^2)-K/W</td>
</tr>
<tr>
<td>Hardness (Type E)</td>
<td>50</td>
</tr>
<tr>
<td>Tensile strength</td>
<td>0.4 MPa</td>
</tr>
<tr>
<td>Elongation</td>
<td>70 %</td>
</tr>
<tr>
<td>Volume resistivity</td>
<td>6.0×10(^6) MΩ·m</td>
</tr>
<tr>
<td>Dielectric strength</td>
<td>20 kV/mm</td>
</tr>
<tr>
<td>CTE (^{\text{3}})</td>
<td>120 ppm/K</td>
</tr>
<tr>
<td>Low volatile siloxane (D(<em>4)-D(</em>{10}))</td>
<td>200 ppm</td>
</tr>
<tr>
<td>Flame retardant (UL94)</td>
<td>V-0 (planned)</td>
</tr>
<tr>
<td>Relative temperature index (RTI)</td>
<td>150°C (planned)</td>
</tr>
</tbody>
</table>

\(^{\text{1}}\): Hot wire method  \(^{\text{2}}\): In-house test method  \(^{\text{3}}\): In-house test method

\(^{(†)}\) Typical property data values should not be used as specifications. Typical properties are average data and are not to be used as or to develop specifications.

**Hardness Scale Conversion Guide**

<table>
<thead>
<tr>
<th>TYPE A Hardness Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TYPE E Hardness Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
</tr>
</tbody>
</table>

Test data. Actuals may vary.

**General Considerations For Use**

As materials such as water, sulfur, nitrogen compounds, organic metallic salts, phosphorus compounds, etc. contained in the surface of the substrate can inhibit curing, a preliminary test should be performed to determine compatibility.

**Packaging**

- TIA225GF(A): 25kg pail
- TIA225GF(B): 25kg pail

**Patent Status**

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

**Product Safety, Handling and Storage**

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