

## High Performance Insulator for Low-Pressure Applications

### Features and Benefits

- Thermal impedance:  
0.61°C-in²/W (@50 psi)
- Electrically isolating
- Low mounting pressures
- Smooth and highly compliant surface
- General-purpose thermal interface material solution



The true workhorse of the Sil-Pad product family, Sil-Pad 900S thermally conductive insulation material, is designed for a wide variety of applications requiring high thermal performance and electrical isolation. These applications also typically have low mounting pressures for component clamping.

Sil-Pad 900S material combines a smooth and highly compliant surface characteristic with high thermal conductivity. These features optimize the thermal resistance properties at low pressures.

Applications requiring low component clamping forces include discrete semiconductors (TO-220, TO-247 and TO-218) mounted with spring clips. Spring clips assist with quick assembly and apply a limited amount of force to the semiconductor. The smooth surface texture of Sil-Pad 900S minimizes interfacial thermal resistance and maximizes thermal performance.

### TYPICAL PROPERTIES OF SIL-PAD 900S

| PROPERTY                                                                                                                                                                                                                                                       | IMPERIAL VALUE   | METRIC VALUE     | TEST METHOD |      |      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------|-------------|------|------|
| Color                                                                                                                                                                                                                                                          | Pink             | Pink             | Visual      |      |      |
| Reinforcement Carrier                                                                                                                                                                                                                                          | Fiberglass       | Fiberglass       | —           |      |      |
| Thickness (inch) / (mm)                                                                                                                                                                                                                                        | 0.009            | 0.229            | ASTM D374   |      |      |
| Hardness (Shore A)                                                                                                                                                                                                                                             | 92               | 92               | ASTM D2240  |      |      |
| Elongation (%45° to Warp and Fill)                                                                                                                                                                                                                             | 20               | 20               | ASTM D412   |      |      |
| Tensile Strength (psi) / (MPa)                                                                                                                                                                                                                                 | 1300             | 9                | ASTM D412   |      |      |
| Continuous Use Temp (°F) / (°C)                                                                                                                                                                                                                                | -76 to 356       | -60 to 180       | —           |      |      |
| ELECTRICAL                                                                                                                                                                                                                                                     |                  |                  |             |      |      |
| Dielectric Breakdown Voltage (Vac)                                                                                                                                                                                                                             | 5500             | 5500             | ASTM D149   |      |      |
| Type 3 Electrodes                                                                                                                                                                                                                                              | 8300             | 8300             | ASTM D149   |      |      |
| Dielectric Constant (1000 Hz)                                                                                                                                                                                                                                  | 6.0              | 6.0              | ASTM D150   |      |      |
| Volume Resistivity (Ohm-meter)                                                                                                                                                                                                                                 | 10 <sup>10</sup> | 10 <sup>10</sup> | ASTM D257   |      |      |
| Flame Rating                                                                                                                                                                                                                                                   | V-O              | V-O              | U.L. 94     |      |      |
| THERMAL                                                                                                                                                                                                                                                        |                  |                  |             |      |      |
| Thermal Conductivity (W/m-K)                                                                                                                                                                                                                                   | 1.6              | 1.6              | ASTM D5470  |      |      |
| THERMAL PERFORMANCE vs PRESSURE                                                                                                                                                                                                                                |                  |                  |             |      |      |
| Pressure (psi)                                                                                                                                                                                                                                                 | 10               | 25               | 50          | 100  | 200  |
| TO-220 Thermal Performance (°C/W)                                                                                                                                                                                                                              | 3.96             | 3.41             | 2.90        | 2.53 | 2.32 |
| Thermal Impedance (°C-in²/W) (1)                                                                                                                                                                                                                               | 0.95             | 0.75             | 0.61        | 0.47 | 0.41 |
| 1) The ASTM D5470 test fixture was used. The recorded value includes interfacial thermal resistance. These values are provided for reference only. Actual application performance is directly related to the surface roughness, flatness and pressure applied. |                  |                  |             |      |      |

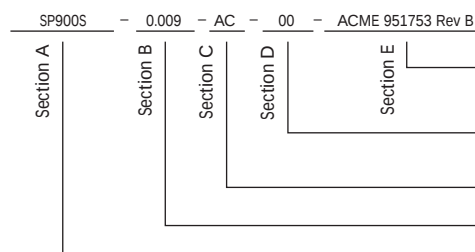
### Typical Applications Include:

- Power supplies
- Automotive electronics
- Motor controls
- Power semiconductors

### Configurations Available:

- Sheet form, die-cut parts and roll form
- With or without pressure sensitive adhesive

### Building a Part Number



### Standard Options

NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.

1212 = Standard configuration dash number, 1212 = 12" x 12" sheets, 12/250 = 12" x 250' rolls, or 00 = custom configuration

AC = Adhesive, one side  
00 = No adhesive

Standard thicknesses available: 0.009"

SP900S = Sil-Pad 900S Material

Note: To build a part number, visit our website at [www.bergquistcompany.com](http://www.bergquistcompany.com).

Sil-Pad®: U.S. Patents 4,574,879; 4,602,125; 4,602,678; 4,685,987; 4,842,911 and others



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