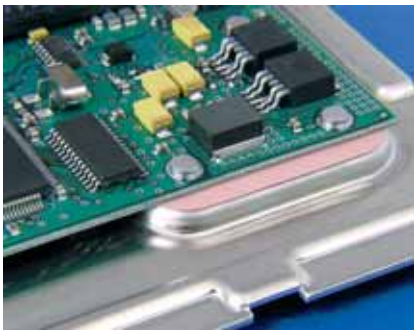
Sil-Pad® 900S

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^{10}	10^{10}	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

SP900S – 0.009 – AC – 00 – ACME 951753 Rev B

- Section A: SP900S = Sil-Pad 900S Material
- Section B: 0.009 = Standard thicknesses available: 0.009"
- Section C: AC = Adhesive, one side; 00 = No adhesive
- Section D: ____ = Standard configuration dash number, 1212 = 12" x 12" sheets, 12/250 = 12" x 250' rolls, or 00 = custom configuration
- Section E: NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.

example

Note: To build a part number, visit our website at www.bergquistcompany.com.

Standard Options

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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