

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-in ² /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.						

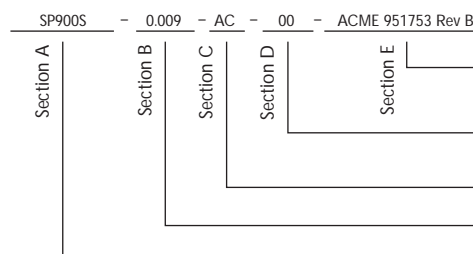
Typical Applications Include:

- 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

◀ example

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

— = 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.

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