



# BERGQUIST SIL PAD TSP 1600S

Known as BERGQUIST SIL-PAD 900S  
November 2018

## PRODUCT DESCRIPTION

High Performance Insulator for Low-Pressure Applications.

|                                    |                                                      |
|------------------------------------|------------------------------------------------------|
| <b>Technology</b>                  | Silicone                                             |
| <b>Appearance</b>                  | Pink                                                 |
| <b>Reinforcement Carrier</b>       | Fiberglass                                           |
| <b>Total Thickness , ASTM D374</b> | 0.229mm                                              |
| <b>Application</b>                 | Thermal management,<br>Thermally conductive adhesive |
| <b>Operating Temperature Range</b> | -60 to 180°C                                         |

## FEATURES AND BENEFITS

- Thermal impedance: 0.61°C-in<sup>2</sup>/W @ 50 psi
- Electrically isolating
- Low mounting pressures
- Smooth and highly compliant surface
- General-purpose thermal interface material solution

## TYPICAL APPLICATIONS

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

BERGQUIST SIL PAD TSP 1600S 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.

BERGQUIST SIL PAD TSP 1600S material combines a smooth and highly compliant surface characteristic with high thermal conductivity. These features optimize the thermal resistance properties at low pressure.

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 but apply a limited amount of force to the semiconductor.

The smooth surface texture of BERGQUIST SIL PAD TSP 1600S minimizes interfacial thermal resistance and maximizes thermal performance.

## TYPICAL PROPERTIES

### Physical Properties

|                                                |     |
|------------------------------------------------|-----|
| Shore Hardness, ASTM D2240, Shore A            | 92  |
| Elongation , 45° to warp and fill, ASTM D412,% | 20  |
| Tensile Strength, ASTM D412, MPa               | 9   |
| Flammability Rating, UL 94                     | V-0 |

### Electrical Properties

|                                               |                    |
|-----------------------------------------------|--------------------|
| Dielectric Breakdown Voltage , ASTM D149, Vac | 5,500              |
| Dielectric Constant, ASTM D150 @ 1,000 Hz     | 6.0                |
| Volume Resistivity, ASTM D257, ohm-meter      | 1×10 <sup>10</sup> |

### Thermal Properties

|                                            |     |
|--------------------------------------------|-----|
| Thermal Conductivity , ASTM D5470, W/(m-K) | 1.6 |
|--------------------------------------------|-----|

### Thermal Performance vs. Pressure

|                                  |      |
|----------------------------------|------|
| TO-220 Thermal Performance, °C/W |      |
| @ 10 psi                         | 3.96 |
| @ 25 psi                         | 3.41 |
| @ 50 psi                         | 2.9  |
| @ 100 psi                        | 2.53 |
| @ 200 psi                        | 2.32 |

|                                                                     |      |
|---------------------------------------------------------------------|------|
| Thermal Impedance, ASTM D5470, °C-in <sup>2</sup> /W <sup>(1)</sup> |      |
| @ 10 psi                                                            | 0.95 |
| @ 25 psi                                                            | 0.75 |
| @ 50 psi                                                            | 0.61 |
| @ 100 psi                                                           | 0.47 |
| @ 200 psi                                                           | 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.

## GENERAL INFORMATION

**For safe handling information on this product, consult the Safety Data Sheet, (SDS).**

### Not for product specifications

The technical data contained herein are intended as reference only. Please contact your local quality department for assistance and recommendations on specifications for this product.

## CONFIGURATIONS AVAILABLE

BERGQUIST SIL PAD TSP 1600S are supplied in:

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



**Conversions**

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$   
 $\text{kV/mm} \times 25.4 = \text{V/mil}$   
 $\text{mm} / 25.4 = \text{inches}$   
 $\text{N} \times 0.225 = \text{lb}$   
 $\text{N/mm} \times 5.71 = \text{lb/in}$   
 $\text{psi} \times 145 = \text{N/mm}^2$   
 $\text{MPa} = \text{N/mm}^2$   
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$   
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$   
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$   
 $\text{mPa}\cdot\text{s} = \text{cP}$

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**Reference 1**

Americas  
+1.888.943.6535

Europe  
+32.1457.5611

Asia  
+86.21.3898.4800

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Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: [ocean@oceanchips.ru](mailto:ocean@oceanchips.ru)

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А