Technical Data Sheet

# BERGQUIST SIL PAD TSP 1800ST

Known as BERGQUIST SIL-PAD 1500ST
November 2018

## PRODUCT DESCRIPTION

Electrically Insulating, Thermally Conductive, Soft Tack Elastomeric Material.

| | |
|---|---|
| **Technology** | Silicone |
| Appearance | Blue |
| Reinforcement Carrier | Fiberglass |
| Total Thickness , ASTM D374 | 0.203mm |
| **Application** | Thermal management, Thermally conductive adhesive |
| Operating Temperature Range | -60 to 180ºC |

## FEATURES AND BENEFITS

- Thermal impedance: 0.23ºC-in²/W @ 50 psi
- Naturally tacky on both sides
- Pad is repositionable
- Excellent thermal performance
- Auto-placement and dispensable

## TYPICAL APPLICATIONS

- Power supplies
- Automotive electronics
- Motor controls

BERGQUIST SIL PAD TSP 1800ST is a fiberglass reinforced thermal interface material that is naturally tacky on both sides. BERGQUIST SIL PAD TSP 1800ST exhibits superior thermal performance when compared to the competitors' thermal interface materials.

BERGQUIST SIL PAD TSP 1800ST is supplied in sheet or roll form for exceptional auto-dispensing and auto-placement in high volume assemblies. BERGQUIST SIL PAD TSP 1800ST is intended for placement between an electronic power device and its heat sink.

## TYPICAL PROPERTIES

### Physical Properties

| | |
|---|---|
| Shore Hardness, ASTM D2240 Shore 00 | 75 |
| Breaking Strength, ASTM D1458, KN/m | 0.34 |
| Elongation , 45º to warp and fill, ASTM D412,% | 22 |
| Tensile Strength, ASTM D412, MPa | 1.6 |
| Flammability Rating, UL 94 | V-0 |

### Electrical Properties

| | |
|---|---|
| Dielectric Breakdown Voltage , ASTM D149, Vac | 3,000 |
| Dielectric Constant, ASTM D150 @ 1,000 Hz | 6.1 |
| Volume Resistivity, ASTM D257, ohm-meter | $1\times10^{11}$ |

### Thermal Properties

| | |
|---|---|
| Thermal Conductivity , ASTM D5470, W/(m-K) | 1.8 |

### Thermal Performance vs. Pressure

| | |
|---|---|
| TO-220 Thermal Performance, ºC/W | |
| @ 10 psi | 1.54 |
| @ 25 psi | 1.52 |
| @ 50 psi | 1.51 |
| @ 100 psi | 1.49 |
| @ 200 psi | 1.46 |
| Thermal Impedance, ASTM D5470, ºC-in²/W (1) | |
| @ 10 psi | 0.37 |
| @ 25 psi | 0.28 |
| @ 50 psi | 0.23 |
| @ 100 psi | 0.21 |
| @ 200 psi | 0.2 |

I) 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 1800ST are supplied in:

- Sheet form, die-cut parts and slit-to-width roll form

## Conversions

(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
N x 0.225 = lb
N/mm x 5.71 = lb/in
psi x 145 = N/mm²
MPa = N/mm²
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

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