Technical Data Sheet

BERGQUIST SIL PAD TSP 1800

Known as BERGQUIST SIL-PAD 1200
November 2018

PRODUCT DESCRIPTION

Exceptional Performance, Thermally Conductive Elastomeric Material.

Technology	Silicone
Appearance	Black
Reinforcement Carrier	Fiberglass
Total Thickness	0.229 to 0.406mm
Application	Thermal management, Thermally conductive adhesive
Operating Temperature Range	-60 to 180ºC

FEATURES AND BENEFITS

- Thermal impedance: 0.53ºC-in²/W @ 50 psi
- Exceptional thermal performance at lower application pressures
- Smooth and non-tacky on both sides for easy re-positioning, ease of use and assembly error reduction
- Superior breakdown voltage and surface “wet out” values
- Designed for applications where electrical isolation is critical
- Excellent cut-through resistance, designed for screw and clip mounted applications

TYPICAL APPLICATIONS

- Automotive electronics control modules
- Power supplies
- Motor controls
- Audio amplifiers
- Discrete devices
- Telecommunications

BERGQUIST SIL PAD TSP 1800 is a silicone based, fiberglass-reinforced thermal interface material featuring a smooth, highly compliant surface. The material features a non-tacky surface for efficient re-positioning and ease of use, as well as an optional adhesive coating.

BERGQUIST SIL PAD TSP 1800 exhibits exceptional thermal performance at low and high application pressures. The material is ideal for placement between electronic power devices and a heat sink for screw and clip mounted applications.

TYPICAL PROPERTIES

Physical Properties

Shore Hardness, ASTM D2240, Shore 00	80
Elongation , 45º 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	6,000
Dielectric Constant, ASTM D150 @ 1,000 Hz	8.0
Volume Resistivity, ASTM D257, ohm-meter	1×10^{9}

Thermal Properties

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

This is the measured thermal conductivity of the Sil-Pad compound

Thermal Performance vs. Pressure

TO-220 Thermal Performance, ºC/W	
@ 10 psi	2.82
@ 25 psi	2.64
@ 50 psi	2.41
@ 100 psi	2.13
@ 200 psi	1.9
Thermal Impedance, ASTM D5470, ºC-in²/W (1)	
@ 10 psi	0.71
@ 25 psi	0.62
@ 50 psi	0.53
@ 100 psi	0.47
@ 200 psi	0.41

(1) The ASTM D5470 test fixture was utilized. The recorded values include the interfacial thermal resistance. The 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 1800 are supplied in:

- Sheet form, slit-to-width roll form
- Die-Cut parts
- 9, 12 and 16 mil thicknesses
- Adhesive coating

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

Disclaimer

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