Technical Data Sheet

BERGQUIST SIL PAD TSP 900

Known as BERGQUIST SIL-PAD 400
October 2018

PRODUCT DESCRIPTION

The Original Sil-Pad® Material.

Technology	Silicone
Appearance	Gray
Reinforcement Carrier	Fiberglass
Total Thickness	0.178, 0.229mm
Application	Thermal management, Thermally conductive adhesive
Operating Temperature Range	-60 to 180ºC

FEATURES AND BENEFITS

- Thermal impedance: 1.13ºC-in²/W @ 50 psi
- Original Sil-Pad material
- Excellent mechanical and physical characteristics
- Flame retardant

TYPICAL APPLICATIONS

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

BERGQUIST SIL PAD TSP 900 is a composite of silicone rubber and fiberglass. The material is flame retardant and is specially formulated for use as a thermally conductive insulator . The primary use for BERGQUIST SIL PAD TSP 900 is to electrically isolate power sources from heat sinks.

BERGQUIST SIL PAD TSP 900 has excellent mechanical and physical characteristics. Surfaces are pliable and allow complete surface contact with excellent heat dissipation.

BERGQUIST SIL PAD TSP 900 actually improves its thermal resistance with age. The reinforcing fiberglass provides excellent cut-through resistance. In addition, BERGQUIST SIL PAD TSP 900 is non-toxic and resists damage from cleaning agents.

TYPICAL PROPERTIES

Physical Properties

Hardness, Shore A, ASTM D2240	85
Breaking Strength, ASTM D1458, KN/m	5
Elongation , 45º to warp and fill, ASTM D412,%	54
Tensile Strength, ASTM D412, MPa	20
Flammability Rating, UL 94	V-0

Electrical Properties

Dielectric Breakdown Voltage , ASTM D149, Vac	3,500 to 4,500
Dielectric Constant, ASTM D150 @ 1,000 Hz	5.5
Volume Resistivity, ASTM D257, ohm-meter	1×10^{11}

Thermal Properties

Thermal Conductivity , ASTM D5470, W/(m-K)	0.9

Thermal Performance vs. Pressure

TO-220 Thermal Performance, ºC/W	
@ 0.007":	
@ 10 psi	6.62
@ 25 psi	5.93
@ 50 psi	5.14
@ 100 psi	4.38
@ 200 psi	3.61
@ 0.009":	
@ 10 psi	8.51
@ 25 psi	7.62
@ 50 psi	6.61
@ 100 psi	5.63
@ 200 psi	4.64

Thermal Impedance, ASTM D5470, ºC-in²/W (1)	
@ 0.007":	
@ 10 psi	1.82
@ 25 psi	1.42
@ 50 psi	1.13
@ 100 psi	0.82
@ 200 psi	0.54
@ 0.009":	
@ 10 psi	2.34
@ 25 psi	1.83
@ 50 psi	1.45
@ 100 psi	1.05
@ 200 psi	0.69

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 900 are supplied in:

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

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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