Technical Data Sheet

BERGQUIST SIL PAD TSP 1600

Known as BERGQUIST SIL-PAD 800
November 2018

PRODUCT DESCRIPTION

High Performance Insulator for Low-Pressure Applications.

Technology	Silicone
Appearance	Gold
Reinforcement Carrier	Fiberglass
Total Thickness , ASTM D374	0.127 mm
Application	Thermal management, Thermally conductive adhesive
Operating Temperature Range	-60 to 180ºC

FEATURES AND BENEFITS

- Thermal impedance: 0.45ºC-in²/W @ 50 psi
- High value material
- Smooth and highly compliant surface
- Electrically isolating

TYPICAL APPLICATIONS

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

BERGQUIST SIL PAD TSP 1600 family of thermally conductive insulation materials is designed for applications requiring high thermal performance and electrical isolation. These applications also typically have low mounting pressures for component clamping.

BERGQUIST SIL PAD TSP 1600 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 1600 minimizes interfacial thermal resistance and maximizes thermal performance.

TYPICAL PROPERTIES

Physical Properties

Hardness, Shore A, ASTM D2240	91
Elongation , 45º to warp and fill, ASTM D412,%	20
Tensile Strength, ASTM D412, MPa	12
Flammability Rating, UL 94	V-0

Electrical Properties

Dielectric Breakdown Voltage , ASTM D149, Vac	3,000
Dielectric Constant, ASTM D150 @ 1,000 Hz	6.0
Volume Resistivity, ASTM D257, ohm-meter	1×10^{10}

Thermal Properties

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

Thermal Performance vs. Pressure

TO-220 Thermal Performance, ºC/W	
@ 10 psi	3.56
@ 25 psi	3.01
@ 50 psi	2.45
@ 100 psi	2.05
@ 200 psi	1.74
Thermal Impedance, ASTM D5470, ºC-in²/W (1)	
@ 10 psi	0.92
@ 25 psi	0.6
@ 50 psi	0.45
@ 100 psi	0.36
@ 200 psi	0.29

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 1600 are supplied in:

- Sheet form, roll form and die-cut parts
- 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

Disclaimer

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