



SIL PAD TSP 1800 ST

Known as SIL-PAD 1500 ST
November 2018

PRODUCT DESCRIPTION

Electrically Insulating, Thermally Conductive, Soft Tack Elastomeric Material.

Technology	Silicone
Appearance	Blue
Reinforcement Carrier	Fibreglass
Total Thickness , ASTM D374	0.203mm
Application	Thermal management, Thermally conductive adhesive
Operating Temperature Range	-60 to 180°C

FEATURES AND BENEFITS

- Thermal impedance: 0.23°C-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

SIL PAD TSP 1800 ST is a fibreglass reinforced thermal interface material that is naturally tacky on both sides.

SIL PAD TSP 1800 ST exhibits superior thermal performance when compared to the competitors' thermal interface materials.

SIL PAD TSP 1800 ST is supplied in sheet or roll form for exceptional auto-dispensing and auto-placement in high volume assemblies. SIL PAD TSP 1800 ST 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 , 45° 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	1×10 ¹¹

Thermal Properties

Thermal Conductivity , ASTM D5470, W/(m-K)	1.8
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Thermal Performance vs. Pressure

TO-220 Thermal Performance, °C/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, °C-in²/W ⁽¹⁾

@ 10 psi	0.37
@ 25 psi	0.28
@ 50 psi	0.23
@ 100 psi	0.21
@ 200 psi	0.2

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 HITEK Electronic Materials for assistance and recommendations on specifications for this product.

CONFIGURATIONS AVAILABLE

SIL PAD TSP 1800 ST are supplied in:

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



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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