



SIL PAD TSP Q 2500

Known as Q-PAD II
November 2018

PRODUCT DESCRIPTION

Foil-Format Grease Replacement for Maximum Heat Transfer.

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|---------------------------------------|--|
| Technology | Silicone |
| Appearance | Black |
| Reinforcement Carrier | Aluminium |
| Total Thickness , ASTM D374 | 0.152mm |
| Application | Thermal management, Thermally conductive adhesive |
| Operating Temperature Range | -60 to 180°C |

FEATURES AND BENEFITS

- Thermal impedance: 0.22°C-in²/W @ 50 psi
- Maximum heat transfer
- Aluminium foil coated both sides
- Designed to replace thermal grease

TYPICAL APPLICATIONS

- Between a transistor and a heat sink
- Between two large surfaces such as an L-bracket and the chassis of an assembly
- Between a heat sink and a chassis
- Under electrically isolated power modules or devices such as resistors, transformers and solid state relays

SIL PAD TSP Q 2500 is a composite of aluminum foil coated on both sides with thermally/ electrically conductive Sil-Pad rubber. The material is designed for those applications in which maximum heat transfer is needed and electrical isolation is not required.

SIL PAD TSP Q 2500 is the ideal thermal interface material to replace messy thermal grease compounds. SIL PAD TSP Q 2500 eliminates problems associated with grease such as contamination of reflow solder or cleaning operations.

Unlike grease, SIL PAD TSP Q 2500 can be used prior to these operations. SIL PAD TSP Q 2500 also eliminates dust collection which can cause possible surface shorting or heat buildup.

TYPICAL PROPERTIES

Physical Properties

| | |
|-------------------------------|-----|
| Hardness, Shore A, ASTM D2240 | 93 |
| Flammability Rating, UL 94 | V-0 |

Electrical Properties

| | |
|--|-------------------|
| Dielectric Breakdown Voltage, ASTM D149, Vac | Non-Insulating |
| Dielectric Constant, ASTM D150 @ 1,000 Hz | NA |
| Volume Resistivity, ASTM D257, ohm-meter | 1×10 ² |

Thermal Properties

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|---|-----|
| Thermal Conductivity, ASTM D5470, W/(m-K) | 2.5 |
|---|-----|

Thermal Performance vs. Pressure

| | |
|----------------------------------|------|
| TO-220 Thermal Performance, °C/W | |
| @ 10 psi | 2.26 |
| @ 25 psi | 1.99 |
| @ 50 psi | 1.76 |
| @ 100 psi | 1.53 |
| @ 200 psi | 1.3 |

| | |
|---|------|
| Thermal Impedance, ASTM D5470, °C-in ² /W ⁽¹⁾ | |
| @ 10 psi | 0.65 |
| @ 25 psi | 0.48 |
| @ 50 psi | 0.35 |
| @ 100 psi | 0.24 |
| @ 200 psi | 0.16 |

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 your local quality department for assistance and recommendations on specifications for this product.

CONFIGURATIONS AVAILABLE

SIL PAD TSP Q 2500 are supplied in:

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



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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Reference 1

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