# Sil-Pad<sup>®</sup> Tubes

# **Features and Benefits**

- Thermal conductivity: SPT 400 – 0.9 W/m-K SPT 1000 – 1.2 W/m-K
- For clip-mounted plastic power packages



SPT 400 and SPT 1000 (Sil-Pad Tubes) provide thermally conductive insulation for clipmounted plastic power packages. Sil-Pad Tubes are made of silicone rubber with high thermal conductivity.

Sil-Pad Tube 1000 is best suited for higher thermal performance. Sil-Pad Tube 400 is ideal for applications requiring average thermal conductivity and economy.

Sil-Pad Tube 400 and Sil-Pad Tube 1000 are designed to meet VDE, U.L. and TUV agency requirements.

# Typical Applications Include:

- Clip-mounted power semiconductors
- TO-220, TO-218, TO-247 and TO-3P

# **Configurations Available:**

• TO-220, TO-218, TO-247 and TO-3P

Special thickness and diameters can also be ordered. Please contact Bergquist Sales.

### Silicone-Based, Thermally Conductive Tubes

TYPICAL PROPERTIES OF SIL-PAD TUBE 400			
PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD
Color	Gray/Green	Gray/Green	Visual
Thickness / Wall (inch) / (mm)	0.012	0.030	ASTM D374
Hardness (Shore A)	80	80	ASTM D2240
Breaking Strength (lbs/inch) / (kN/m)	6	I	ASTM D1458
Continuous Use Temp (°F) / (°C)	-76 to 356	-60 to 180	—
ELECTRICAL			
Dielectric Breakdown Voltage (Vac)	5000	5000	ASTM D149
Dielectric Constant (1000 Hz)	5.5	5.5	ASTM D150
Volume Resistivity (Ohm-meter)	1011	1011	ASTM D257
Flame Rating	V-O	V-O	U.L.94
THERMAL			
Thermal Conductivity (W/m-K)	0.9	0.9	ASTM D5470
Thermal Impedance (°C-in²/W) (1)	0.6	0.6	ASTM D5470

#### YPICAL PROPERTIES OF SIL-PAD TUBE 1000 METRIC VALUE PROPERTY IMPERIAL VALUE TEST METHOD Color Brown Brown Visual Thickness / Wall (inch) / (mm) 0.012 0.030 ASTM D374 Hardness (Shore A) 80 80 ASTM D2240 Breaking Strength (lbs/inch) / (kN/m) ASTM D1458 6 Continuous Use Temp (°F) / (°C) -76 to 356 -60 to 180 ELECTRICAL Dielectric Breakdown Voltage (Vac) 5000 5000 ASTM D149 Dielectric Constant (1000 Hz) 4.5 4.5 ASTM D150 10 Volume Resistivity (Ohm-meter) 10 ASTM D257 Flame Rating V-O V-O U.L.94 THERMAL Thermal Conductivity (W/m-K) 1.2 1.2 **ASTM D5470** Thermal Impedance (°C-in<sup>2</sup>/W) (1) 0.4 04 ASTM D5470

The ASTM D5470 (Bergquist modified) 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.

#### **Standard Dimensions**

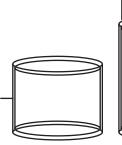
A = Wall Thickness:	.30 mm (.012") + .10 mm/ -0.0 mm (+.004" / -0.0")
B = Inner Diameter:	mm (.433") or  3.5 mm (.532") ±  .0 mm (± .039")
C = Length:	25 mm (.985") or 30 mm (1.18") +3.18 mm / -0.0 mm (+ .125" / - 0.0")

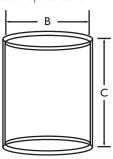
Special lengths are available. For more information, contact a Bergquist Sales Representative.

#### Ordering Procedure:

Sample: SPT 400 \_\_\_\_ - \_







Sil-Pad®: U.S. Patents 4,574,879; 4,602,125; 4,602,678; 4,685,987; 4,842,911 and others.



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The Bergquist Company - China Rm. 7C, Aihe Mansion No. 629 Ling Ling Road Shanghai, China 200030 Ph: 86-21-6464-2206 Fax: 86-21-6464-2209 All statements technical information and recommendations herein are based on tests we believe to be reliable, and THE FOLLOWING IS MADE IN LIEU OF ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MARKETABILITY AND FITNESS FOR PURPOSE. Sellers' and manufacturers' only obligation shall be to replace such quantity of the product proved to be defective. Before using user shall determine the suitability of the product for its intended use, and the user assumes all risks and liability whatsover in connection therewith. NEITHER SELLER NOR MANUFACTURER SHALL BE LIABLE EITHER IN TORT OR IN CONTRACT FOR ANY LOSS OR DAMAGE DIRECT, INCIDENTAL, OR CONSEQUENTIAL, INCLUDING LOSS OF PROFITS OR REVENUE ARISING OUT OF THE USE OR THE INABILITY TO USE A PRODUCT. No statement, purchase order or recommendations by seller or purchaser not contained herein shall have any force or effect unless in an agreement signed by the officers of the seller and manufacturer. PDS 1008 SP TUBES 3030