

**Brady Tsoft3US 80 Thermally Conductive Material Gap Filler**

TDS No. BT-8805  
Effective Date: 07/13/2010

**Description:**

**GENERAL**

**Colour:** Grey  
**Binder:** Silicone  
**Filler:** Aluminium Oxide  
**Liner:** Clear PET

TSOFT3US 80 is a soft material designed to conduct heat away from uneven surfaces. The conformability allows for intimate contact over rough surfaces and eliminates air.

**APPLICATION**

Tsoft® materials are thermally conductive insulators typically mounted between a transistor and a heat sink offering low thermal resistance as well as electrical insulation. Tsoft® materials do not require thermal grease. Using Tsoft® materials can lead to dramatic production cost reductions and improved product uniformity eliminating messy grease mica application, contamination, mica cracking, silicone migration and drying out.

Some of the common applications would include:

- Computer system and telecommunication peripherals
- VGA card thermal module for VRAM ICs
- Automotive electronics
- Consumer electronics
- Power conversion

**COMPLIANCE**

BT-8805 is halogen-free in accordance to definition in IEC61249-2-21 and IPC-4101B, tested using IPC-TM-650.

BT-8805 is RoHS compliant in accordance to the EU Directive 2002/95/EC and its amendments.

BT-8805 is QMFZ2 recognized and V-0 rated as per UL94 standard. Refer to File# E316839 under *Certifications* at [www.ul.com](http://www.ul.com)

**Details:**

PHYSICAL PROPERTIES	TEST METHOD	TYPICAL RESULTS
Support layer	-	Nil
Format	-	Both Side Tacky
Thickness	ASTM D374	80 mil (2 mm)
Specific Gravity	ASTM D792	2.24 g/cm <sup>3</sup>
Hardness (Shore 00)	ASTM D2240	30
Low Molecular Weight Siloxane Level <ul style="list-style-type: none"> <li>• Static Headspace Outgassing Method</li> <li>• Solvent Extraction by GC-MS</li> </ul>	<ul style="list-style-type: none"> <li>• EPA 5021</li> <li>• EPA 8270D</li> </ul>	<ul style="list-style-type: none"> <li>• &lt; 20 ppm</li> <li>• &lt; 200 ppm</li> </ul>
Percent of Deflection <ul style="list-style-type: none"> <li>• @ 10psi</li> <li>• @ 50psi</li> <li>• @ 100psi</li> </ul>	LAB-STM-A4E	<ul style="list-style-type: none"> <li>• 15%</li> <li>• 50%</li> <li>• 70%</li> </ul>
Young's Modulus	ASTM D412	0.13 MPa
<b>ELECTRICAL PROPERTIES</b>		
Dielectric Constant <ul style="list-style-type: none"> <li>• 1KHz</li> </ul>	ASTM D150	<ul style="list-style-type: none"> <li>• 4.32</li> </ul>

• 1MHz		• 4.61
Dielectric Strength	ASTM D149 (Type 1)	6 KVolts
Dissipation Factor		
• 1KHz • 1MHz	ASTM D150	• 0.0147 • 0.0034
Volume Resistivity	ASTM D257	10E <sup>13</sup> ohm.cm
<b>THERMAL PROPERTIES</b>		
Thermal Conductivity	ASTM E1530 (modified ASTM D5470)	2.3 W/mK
Thermal Impedance		
• @ 10psi • @ 30psi	ASTM E1530 (modified ASTM D5470)	• 1.80 C-in <sup>2</sup> /Watt • 1.20 C-in <sup>2</sup> /Watt
Continuous Use Temperature	Modified UL746B	-40°C to 150°C
Weight Loss, 24 hrs@200 C	LAB-STM-A8A	< 1%

**Available Forms:**

Tsoff® thermal management materials are available in Sheet Form, Standard and Special Configurations.

**Trademarks:**

ASTM: American Society for Testing and Materials (U.S.A.)

UL: Underwriters Laboratories Inc. (U.S.A.)

**Note:** All values shown are averages and should not be used for specification purposes.

Test data and test results contained in this document are for general information only and shall not be relied upon by Brady customers for designs and specifications, or be relied on as meeting specified performance criteria. Customers desiring to develop specifications or performance criteria for specific product applications should contact Brady for further information.

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