

Brady Tsoft3ST-20 Thermally Conductive Material Gap Filler

TDS No. BT-8811
Effective Date: 08/03/2011

Description:

GENERAL

Colour: Green

Binder: Silicone

Filler: Aluminium Oxide

Soft Gap Filler 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.

COMPLIANCE

BT-8811 is halogen-free in accordance to definition in IEC61249-2-21 and IPC-4101B, tested using IPC-TM-650.

BT-8811 is RoHS compliant in accordance to the EU Directive 2002/95/EC and its amendments.

BT-8811 is QMFZ2 recognized and V-0 rated as per UL94 standard. Refer to File# E316839 under *Certifications* at www.ul.com

Details:

| PHYSICAL PROPERTIES | TEST METHOD | TYPICAL RESULTS |
|-------------------------------------|--------------------|------------------------|
| Color | - | Green |
| Support layer | - | Nil |
| Format | - | Both Side Tacky |
| Thickness | ASTM D374 | 20 mil (0.5 mm) |
| Specific Gravity | ASTM D792 | 2.43 g/cm ³ |
| Hardness (Shore 00) | ASTM D2240 | 57 |
| Low Molecular Weight Siloxane Level | | |
| Static Headspace Outgassing Method | EPA 5021 | < 10 ppm |
| Solvent Extraction by GC-MS | EPA 8270D | <1000 ppm |
| Percent of Deflection | | |
| • @ 10psi | LAB-STM-A4E | • 20% |
| • @ 50psi | | • 55% |
| • @ 100psi | | • 85% |
| Tensile Strength | ASTM D412 | 0.23 MPa |
| ELECTRICAL PROPERTIES | | |
| Dielectric Constant | | |
| • 1KHz | ASTM D150 | • 5.15 |
| • 1MHz | | • 4.72 |
| Dielectric Strength | ASTM D149 (Type 1) | 6 KVolts |
| Dissipation Factor | | |

| | | |
|--|----------------------------------|--|
| <ul style="list-style-type: none"> • 1KHz • 1MHz | ASTM D150 | <ul style="list-style-type: none"> • 0.029 • 0.007 |
| Volume Resistivity | ASTM D257 | 2.10E ¹² ohm.cm |
| THERMAL PROPERTIES | | |
| Thermal Conductivity | ASTM E1530 (modified ASTM D5470) | 2.47 W/mK |
| Thermal Impedance | ASTM E1530 (modified ASTM D5470) | 0.29 in ² °C/W |
| Continuous Use Temperature | Modified UL746B | -40°C to 150°C |
| Weight Loss, 24 hrs@200 C | LAB-STM-A8A | < 1% |

Available Forms:

Tsoft® 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.

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