



HIGH PERFORMANCE THERMAL INTERFACE PRODUCTS

The Tgard™ 200 is a high performance interface pad. Consisting of a silicone/boron nitride composite, these fiberglass-reinforced pads are used when the lowest thermal resistance and highest dielectric strength are required

A high-tear, cut-through and puncture-resistant product, the Tgard™ 200 is tough and strong. Burrs cause no problems for the material and the pad will not dry out, crack or fail when pressured between mating parts.

The Tgard™ 200 is available in the following sizes:

0.010" (0.25 mm) die cut shapes only

0.020" (0.51 mm) sheets and die cut shapes

0.030" (0.75 mm) sheets and die cut shapes

FEATURES AND BENEFITS

- High thermal Conductivity of 5.0 W/mK
- High breakdown voltage of > 6,000 volts
- Resistant to tears and punctures
- UL® 94 V0 rated

APPLICATIONS

- Audio and video components
- Automotive control units
- General high pressure interfaces
- Motor controllers
- Power conversion equipment
- Power semiconductors
 - TO packages, MOSFETs and IGBTs

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Tgard™ 200 Series

Thermally Conductive Insulators

| | TGARD™ 210 | TGARD™ 220 | TGARD™ 230 | TEST METHOD |
|---------------------------------------|--|--|--|-----------------------|
| Construction & Composition | Reinforced boron nitride filled silicone elastomer | Reinforced boron nitride filled silicone elastomer | Reinforced boron nitride filled silicone elastomer | |
| Color | White | Blue | Green | Visual |
| Thickness | 0.010" (0.25mm) | 0.020" (0.51mm) | 0.030" (0.76mm) | |
| Thickness tolerance | ±0.002" (±0.05mm) | ±0.002" (±0.05mm) | ±0.003" (±0.075mm) | |
| Specific Gravity (Density) | 1.52 g/cc | 1.45 g/cc | 1.47 g/cc | Helium Pycnometer |
| Hardness | 85 Shore A | 80 Shore A | 80 Shore A | ASTM D2240 |
| Tensile Strength | N/A | N/A | N/A | ASTM D412 |
| % Elongation | N/A | N/A | N/A | ASTM D412 |
| Outgassing TML (Post Cured) | 0.06% | 0.06% | 0.06% | ASTM E595 |
| Outgassing CVCN (Post Cured) | 0.05% | 0.05% | 0.05% | ASTM E595 |
| UL Flammability Rating | 94 V0 | 94 V1 | Not Rated | E180840 |
| Temperature Range | -60°C to 200°C | -60°C to 200°C | -60°C to 200°C | |
| Thermal Conductivity | 5 W/mK | 5 W/mK | 5 W/mK | ASTM D5470 (modified) |
| Thermal Impedance @ 100 psi @ 689 KPa | 0.18°C-in²/W 1.17°C-cm²/W | 0.35°C-in²/W 2.26°C-cm²/W | 0.40°C-in²/W 2.28°C-cm²/W | ASTM D5470 (modified) |
| Breakdown Voltage | 6,000 VAC | 10,000 VAC | 20,000 VAC | ASTM D149 |
| Volume Resistivity | 5x10 ¹³ ohm-cm | 5x10 ¹³ ohm-cm | 5x10 ¹³ ohm-cm | ASTM D257 |
| Dielectric Constant @ 1 MHz | 3.32 | 3.32 | 3.32 | ASTM D150 |

Standard thicknesses: 0.010" (0.25 mm) die cut shapes only, 0.020" (0.51 mm), 0.030" (0.76 mm)

Standard sheet sizes: 0.020" and 0.030": 16" x 16" (406 mm x 406 mm) Individual die-cut shapes can be supplied.

Pressure sensitive adhesive: Request no adhesive with "AO" suffix. Request adhesive on one side with "A1" suffix. Double-sided adhesive is not available.

Reinforcement: Tgard™ 200 sheets are fiberglass reinforced.

Data for design engineer guidance only. Observed performance varies in application. Engineers are reminded to test the material in application.

THR-DS-Tgard-200 0313

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