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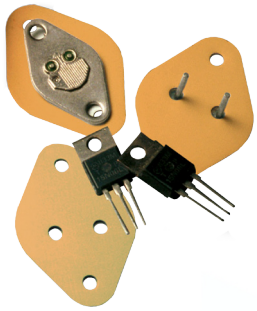
# Tgard™ 5000 Series
## Thermally Conductive Insulators



## THERMALLY CONDUCTIVE ELECTRICALLY INSULATIVE MATERIAL

Tgard™ 5000 is an excellent dielectric material with good thermal performance consisting of a polyimide film coated with a ceramic-filled, high-temperature silicone rubber.

Tgard 5000 is ideal for applications that require a delta temperature across the interface of 2.0ºC/watt or higher on a TO-220 clip mounted @ 50 psi pressure. Tgard 5000 has high dielectric strength for the AC side of a switching mode power supply. Tgard 5000 is tough resulting in an exceptional cut-through resistant material.

## FEATURES AND BENEFITS

- High dielectric breakdown voltage of 6,000 volts
- Film base resistance cut through
- Thermal resistance of 0.40ºC-in2/watt @ 50 psi clip pressure
- Thermal resistance of 0.23ºC-in2/watt @ 400 psi screw pressure

## APPLICATIONS

- Switching mode power supplies
- Electrial power generators
- UPS units

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# Tgard™ 5000 Series
## Thermally Conductive Insulators

| PROPERTIES | TEST METHOD | METRIC VALUES | IMPERIAL VALUES |
|---|---|---|---|
| ELECTRICAL PROPERTIES | | | |
| Dielectric withstand voltage 50mm probe for 30 sec | ASTM D149 | 4,500 volts DC | 4,500 volts DC |
| Dielectric breakdown voltage 50mm probe | ASTM D149 | Avg >6,000 volts AC | Avg >6,000 volts AC |
| Volume resistivity | ASTN D257 | $10^{12}$ ohm-cm | $10^{12}$ ohm-in |
| Dielectric constant @1Mhz | ASTN D257 | 3.4 | 3.4 |
| MECHANICAL PROPERTIES | | | |
| Thickness | | 0.127 mm | 5 mils |
| Hardness | ASTM D2240 | 75 Shore A | 75 Shore A |
| Tensile strength | ASTM D412 | 33.1 Mpa | 4.8 Kpsi |
| Elongation along width or length | ASTM D412 | 45% | 45% |
| Operating temperature range | | -60º to 180ºC | -76º to 356ºF |
| Color | | Tan | Tan |
| UL flammability rating | UL 94 | V-0 | V-0 |

| PRESSURE | UNITS | 10 (69) | 25 (172) | 50 (345) | 100 (689) | 200 (1379) | 400 (2758) |
|---|---|---|---|---|---|---|---|
| TOTAL THERMAL RESISTANCE | | | | | | | |
| Modified ASTM D5470 | ºC-in$^2$/watt | 0.62 | 0.51 | 0.40 | 0.27 | 0.25 | 0.23 |
| Modified ASTM D5470 | ºC-cm$^2$/watt | 4.0 | 3.29 | 2.58 | 2.06 | 1.61 | 1.48 |
| T0-220 | ºC/watt | 1.31 | 1.00 | 0.82 | 0.65 | 0.58 | 0.54 |

Configurations available:
- Sheet form, roll form and die-cut parts
- Single-side, pressure-sensitive adhesive on request

Standard options:
- Without adhesive (A0): 12 x 18" sheets, 12" x 65M, 12" x 30M roll or custom configuration
- With adhesive (A1): 11.75 x 18" sheets, 11.75" x 30M roll or custom configuration

Standard die cut parts: Standard part sizes for TO-220, TO-247, TO-3P, TO-3PL and TO-264

Custom die cut parts: Custom configurations available with standard tolerance of 0.5mm (0.020”). Ability to handle drawings in multiple file formats. (.DXF and .DWG preferred)

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



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Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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