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T-gard™ 500

Thicker Thermal Insulator Pad Prevents Electrical Shorts in Automotive Electronics Applications

T-gard™ 500 is a medium thermal performance insulator pad consisting of a ceramic filled high temperature silicone rubber coated on electrical grade fiberglass.

T-gard™ 500 is designed for applications that require additional thickness to prevent electrical shorts from stamped aluminum heatsinks used in switching mode power supplies (SMPS) and debris from aluminum castings used in automotive motor controls.

T-gard™ 500 is used in applications that require interface of 2.5°C/watt or higher on a TO-220 mounted @ 50 psi pressure.

Thermally Conductive Insulator Features and Benefits:

- High dielectric strength of >6,000 volts AC
- Thermal resistance of 0.45°C-in²/watt at 50 psi
- Thermal resistance of 0.35°C-in²/watt at 400 psi
- Thick enough to encapsulate burrs of stamped heatsinks

Applications:

- Automotive motor controls
- Switching mode power supplies
 - Stamped aluminum heatsinks

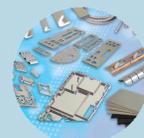
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Electrical Properties

Properties	Test Method	Metric Values	Imperial Values
Dielectric with stand voltage	ASTM D149	4,500 volts AC	4,500 volts AC
Dielectric Breakdown voltage	ASTM D149	>6,000 volts AC	>6,000 volts AC
Volume Resistivity	ASTM D257	>10 ¹² ohm-cm	>10 ¹² ohm-in
Dielectric Constant @ 1 MHz	ASTM D257	3.3	3.3
Electrical RTI Temperature rating	UL 746D	150°C	302°F

Total Thermal Resistance

Pressure, psi (kPa)	Units	10 (69)	25 (172)	50 (345)	100 (689)	200 (1379)	400 (2758)
Modified ASTM D5470	°C-in ² /watt	0.6	0.55	0.45	0.40	0.35	0.35
Modified ASTM D5470	°C-cm ² /watt	3.9	3.2	2.9	2.6	2.3	2.3
TO-220	°C/watt	2.9	2.6	2.4	2.2	2.0	2.0

Mechanical Properties

Properties	Test Method	Metric Values	Imperial Values
Thickness		0.23 mm	0.009 inch
Hardness	ASTM D2240	85 Shore A	85 Shore A
Tensile Strength	ASTM D412	1.3 kpsi	9 mPa
Elongation @45° to Warp/Fill	ASTM D412	20%	20%
Elongation along width or length	ASTM D412	5%	5%
Mechanical RTI Temperature rating	UL 746D	150°C	302°F
Color		Dark Pink	Dark Pink
UL Flammability Rating	UL 94	V-0	V-0

Standard Thickness: 9 mils (0.229 mm)
Standard Roll Size: 18" x 164' (457 mm x 50 meters)
Die Cut Parts: Standard and custom configurations available
Pressure Sensitive Adhesive: Single side adhesive available on request

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