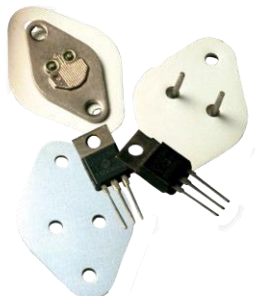


Thermally Conductive Insulators

THICKER THERMAL INSULATOR PAD PREVENTS ELECTRICAL SHORTS IN AUTOMOTIVE ELECTRONICS APPLICATIONS



TgardTM 500 is a medium thermal performance insulator pad consisting of a ceramic filled, high temperature, silicone rubber coated on electrical grade fiberglass. TgardTM 500 has proven low thermal resistance after reliability and shows no delamination.

TgardTM 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.

FEATURES AND BENEFITS

- High breakdown voltage 6,000 Voltage
- Low thermal resistance
- Good electrical isolation
- Thick enough to encapsulate burrs of stamped heatsinks
- UL94Vo and RTI 150°C rating

APPLICATIONS

- Automotive motor controls
- Switching mode power supplies
 - Stamped aluminum heatsinks
 - Industrial / Medical
 - Consumer Electronics
 - Communications
- Power conversion devices
- Power Electronics
- Motor controllers

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PROPERTIES	TEST METHOD	METRIC VALUES	IMPERIAL VALUES
ELECTRICAL PROPERTIES			
Dielectric with standard voltage 50mm probe for 30	ASTM D149	4,500 volts AC	4,500 volts AC
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	3.3	3.3
Electrical RTI temperature rating	UL746D	150°C	302°F
MECHANICAL PROPERTIES			
Thickness		0.23 mm	0.009 in
Hardness	ASTM D2240	80 Shore A	80 Shore A
Tensile strength	ASTM D412	11.7 Mpa	1.7 Kpsi
Elongation @ 45° to warp/fill	ASTM D412	20%	20%
Elongation along width or length	ASTM D412	5%	5%
Operating temperature range		-60° to 180°C	-76° to 356°F
Color		Brown	Brown
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	°C-in ² /watt	0.81	0.70	0.48	0.33	0.30	0.28
Modified ASTM D5470	°C-cm ² /watt	5.23	4.52	3.10	2.13	1.94	1.80

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www.laird.com



Standard thickness: 9 mils (0.23 mm)
Configurations available: Sheet form, roll form and die-cut parts . or custom configuration
Standard options: Request no adhesive (A0) suffix Request adhesive one side with (A1) suffix .

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