



#### ELECTRICALLY INSULATING, THERMALLY CONDUCTIVE MATERIAL

Tgard™ 400 is a medium thermal performance insulator pad consisting of a ceramic high temperature silicone rubber coated on electrical fiberglass.

Tgard™ 400 is specifically designed for high pressure mounting applications. The unique formulation offers high resistance to cut-through and ideal material for screw mounting applications with high torque force.

Tgard™ 400 offers excellent thermal and electrical properties due to the unique coating formulation.

#### FEATURES AND BENEFITS

- Excellent breakdown voltage of >5,500 volts AC(avg)
- Excellent cut-through resistance of 900lbs
- Thermal resistance of 0.63°C-in<sup>2</sup>/watt at 50 psi

#### APPLICATIONS

- Switching Mode Power Supplies
- Automotive Electronics
- Telecommunication

PROPERTIES	TEST METHOD	METRIC VALUES	IMPERIAL VALUES
<b>ELECTRICAL PROPERTIES</b>			
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. >5,500 volts AC	Avg. >5,500 volts AC
Volume Resistivity	ASTN D257	10 <sup>12</sup> ohm-cm	10 <sup>12</sup> ohm-in
Dielectric Constant @ 1MHz	ASTN D257	3.3	3.3
Electrical RTI Temperature rating	UL 746D	150°C	302°F
<b>MECHANICAL PROPERTIES</b>			
Thickness		0.229mm	0.009 inch
Hardness	ASTM D2240	90 Shore A	90 Shore A
Tensile Strength	ASTM D412	17.2 Mpa	2500psi
Cut Through Resistance	ASTM D412	410Kg	900lbs
Tear Strength	ASTM D624	23.6kN/m	135PPI
Torque Resistance	ASTM D2064	1.6 N.M	1.6 N.M
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 359 F
Color		Gray	Gray
UL Flammability Rating	UL 94	V-0	V-0

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# Tgard™ 400

## Thermally Conductive Insulators

### Preliminary

PRESSURE, PSI (KPA)	UNITS	10 (69)	25 (172)	50 (345)	100 (689)	200 (1379)	400 (2758)
TOTAL THERMAL RESISTANCE							
Modified ASTM D5470	°C-in <sup>2</sup> /watt	0.92	0.71	0.63	0.59	0.59	0.57
Modified ASTM D5470	°C-cm <sup>2</sup> /watt	5.95	4.59	4.09	3.82	3.79	3.67
T0-220	°C/watt	3.39	2.79	2.32	1.83	1.80	1.77

- Standard thicknesses: 9 mils (0.229mm)  
Please contact Laird Technologies for alternate thicknesses.
- Standard sheet sizes:
- Sheet form, roll form and die-cut parts
  - Single side pressure sensitive adhesive upon request
- Pressure sensitive adhesive:
- 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
- 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.

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