



THEMALLY 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 2.0°C/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 0.35oC-in2/watt @ 50 psi clip pressure
- Thermal resistance of 0.28oC-in2/watt @ 400 psi screw pressure

APPLICATIONS

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

global solutions: local support™

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PROPERTY	TEST METHOD	METRIC VALUES	IMPERICAL VALUES
ELECTRICAL PROPERTIES			
Dielectric With Standard Voltage 50mm probe for 30 sec.	ASTM D149	4,500 volts AC	4,500 volts AC
Dielectric Breakdown Voltage 50mm probe	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	3.4	3.4
MECHANICAL PROPERTIES			
Thickness		0.127 mm	5 mils
Hardness	ASTM D2240	76 Shore A	76 Shore A
Tensile Strength	ASTM D412	40 MPa	6.0 kpsi
Elongation, MD	ASTM D412	45%	45%
Flame Rating	UL 94	V-0	V-0
Operating Temperature Range		-76° – 180°C	-60° – 356°F
Color		Tan	Tan

PRESSURE, PSI (KPA)	UNITS	10 (69)	25 (172)	50 (345)	100 (689)	200 (1379)	400 (2758)
TOTAL THERMAL RESISTANCE							
Modified ASTM D5470	°C-in ² /watt	0.55	0.45	0.35	0.30	0.28	0.28
Modified ASTM D5470	°C-cm ² /watt	3.5	2.9	1.26	1.93	1.81	1.81
TO-220	°C/watt	2.2	2.1	2.0	1.9	1.8	1.8

- 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)
- PRESSURE SENSITIVE ADHESIVE:** Single side adhesive available on request

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

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