



THERMALLY CONDUCTIVE ELECTRICALLY INSULATIVE MATERIAL

TgardTM 5000NT1 is an excellent dielectric material with good thermal performance consisting of polyimide film coated with ceramic-filled, high-temperature silicone rubber. The unique natural tack on one side is specially designed for ease of placement on the component. The inherent tack also enables repositionable after the initial placement and assembly error minimization.

TgardTM 5000NT1 is ideal for applications that require a delta temperature across the interface of 2.0°C-in²/watt or higher on a TO-220 clip mounted @ 50 psi pressure. TgardTM 5000NT1 has high dielectric strength for the AC side of a switching mode power supply. TgardTM 5000NT1 is tough resulting in an exceptional cut-through resistant material.

FEATURES AND BENEFITS

- Unique natural tack offers excellent thermal performance and ease of placement
- Repositionable to reduce assembly error and increase utilization
- High dielectric breakdown voltage of 6,000 volts
- Film base reinforced offers cut through resistant
- Thermal resistance of 0.40°C-in²/watt @ 50psi clip pressure
- Thermal resistance of 0.23°C-in²/watt @ 400psi

MARKETS

- Switch mode power supplies for:
 - Communications
 - Consumer Electronics
 - Industrial
 - Instrumentation
 - Medical
- Electrical power generators
- UPS unit

USA: +1.423.308.1690
Europe: +42.0.4885.7511.1
Asia: +86.022 66298160

THR-DS-Tgard 5000 1215

Tgard™ 5000NT1

Thermally Conductive Insulator (With Natural Tack)

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	ASTM D257	10 ¹² ohm-cm	10 ¹² ohm-in
Dielectric constant @ 1MHz	ASTM 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		-60°C to 180°C	-76°F to 365°F
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	°C · in ² /watt	0.62	0.51	0.40	0.27	0.25	0.23
Modified ASTM D5470	°C · cm ² /watt	4.00	3.29	2.58	2.06	1.61	1.48
T0-220	°C · /watt	1.31	1.00	0.82	0.65	0.58	0.54

Configurations available: Sheet form, roll form and die-cut parts
 Standard options: 17.5" x 18" sheets, 17.5" x 65M, 17.5" x 30M roll or custom configuration
 Standard die-cut parts: Standard part sizes for T0-220, T0-247, T0-3P, T0-3PL and T0-264
 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)

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