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T-preg™ HTD

T-lam™ Thermally Conductive Printed Circuit Board Materials

T-preg™ HTD is a thermally conductive dielectric adhesive pre-preg material.

T-preg™ HTD is used in conjunction with copper foil and an integral metal plate to provide a circuit board laminate that has superior thermal management capabilities and a 150°C continuous use temperature.

Features and Benefits:

- UL 746 B Electrical RTI of 150°C
- High withstand voltage > 5000 volt DC
- RoHS compliant
- Environmentally green material
- Lead free solder compatible

Applications

- Automotive - under hood motor control modules
- Lighting ballasts
- 240/480 VAC industrial motor drives

For sales information:

In Asia, please telephone +886-3-312-9292

In Europe, please telephone +44-1342-315044

In the USA please telephone +1-888-246-9050

or visit: www.lairdtech.com

Operating Voltage	HTD04	HTD06	UNITS
Continuous AC, Max	240	480	VAC
Continuous DC, Max	450	950	VDC
Peak Recurring, Max	600	1200	Vp
Thermal Properties	HTD04	HTD06	UNITS
Thermal Conductivity	2.2	2.2	Watt/m ² K
Thermal Resistance	0.072 (0.464)	0.107 (0.690)	°C-in ² /Watt (°C-cm ² /Watt)
Glass Transition Temperature	168	168	°C
Operating Temperature, Maximum	150	150	°C
Soldering Temperature, Maximum	288	288	°C
Heat Capacity	1.12	1.12	J/g°C
Electrical Properties	HTD04	HTD06	UNITS
Dielectric Constant @ 1KHz/1MHz	5.1/4.8	5.1/4.8	
Dissipation Factor @ 1KHz	0.007	0.007	
Capacitance @ 1KHz	287 (1851)	191(1232)	pF/in ² (pF/cm ²)
Volume Resistivity @25°C	1.0E+15	1.0E+15	ohm-cm
Volume Resistivity @150°C	2.0E+11	2.0E+11	ohm-cm
Surface Resistivity	1.5E+12	1.5E+12	ohm-cm
Dielectric Strength	1500 (38.1)	1500 (38.1)	V/mil (kV/mm)
Hi-pot Withstand (DC)	>5000	>6000	VDC, 1sec.
Hi-pot Withstand (AC)	>2,500	>3,500	VAC, 1sec.
Mechanical Properties	HTD04	HTD06	UNITS
Dielectric Thickness	0.004 (0.102)	0.006 (0.152)	inch (mm)
Peel Strength	6.5 (1.16)	7.0 (1.25)	lbs/in (Kg/cm)
CTE < Tg XY/Z axis	16/36	16/36	ppm/°C
CTE > Tg XY/Z axis	18/155	18/155	ppm/°C
Tensile Strength@ 25/150°C MD/TD	88/57	88/57	MPa
Elongation 25/150 °C	0.8/1.0	0.8/1.0	%
Young's Modulus @ 25/150 °C	13180/6810	13180/6810	MPa
Poisson's Ratio 25/150 °C	0.277/0.263	0.277/0.263	
Flexural Strength 25 °C	142	142	MPa
Agency Ratings & Durability	HTD04	HTD06	UNITS
UL Continuous Operating Temp	150	150	°C
UL Flammability	94V0	94V0	E165095
Comparative Tracking Index	600	600	
Solder Float (10min. @ 260 °C)	Pass	Pass	
Time to Delamination(10sec.@288°C)	Pass	Pass	

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