



HIGH CTI PRODUCT PROPERTIES

Property		UNITS	Specification	Typical Value		
				TLM-510(CT)	TLM-510(C1)	TLM-510(C7)
Glass Transition Temperature (Tg) by DSC, spec minimum		°C	165/150/170 min	172	155	170
Decomposition Temperature (Td)		°C	350 min	365	365	365
TD-288 (Etched)		Minutes	10 min	60	>35	60
CTE X-Axis		ppm/°C	-	13	13	13
Y-Axis			-	15	15	15
CTE Z-Axis	Pre-Tg	ppm/°C	60 max.	~ 40	~ 40	~ 40
	Post-Tg		300 max.	~ 225	~ 225	~ 225
	50 - 260 °C		3.0% max.	135(2.9%)	135(2.9%)	135(2.9%)
Thermal Stress 10 Sec @ 288 °C (Etched /Unetched)		Seconds	Pass visual	> 300/ >30	> 300 / >200	> 300 / >200
Thermal Conductivity		W/mK	-	0.40	0.40	0.40
Peel Strength (spec minimum)	0.5 oz. (17 micron)	Lb/inch (N/mm)	-	-	-	-
	1.0 oz. (35 micron)		6.0 (1.05)	6-8 (1.05-1.40)	6-8 (1.05-1.40)	6-8 (1.05-1.40)
Dielectric Constant (DK)	1 MHz	-	5.4 max.	4.90	4.90	4.90
	1 GHz	-	-	4.50	4.50	4.50
Loss Tangent (Df)	1 MHz	-	0.035 max.	0.017	0.017	0.017
	1 GHz	-	-	0.015	0.015	0.015
Volume Resistivity		Mohm-cm	10 ⁶	7.2 x 10 ⁸	4.6 x 10 ⁸	4.6 x 10 ⁸
Surface Resistivity		Mohm	10 ⁴	5.4 x 10 ⁷	2.4 x 10 ⁷	2.4 x 10 ⁷
Dielectric Breakdown, spec minimum		kV	40 min.	>60	>60	>60
Arc resistance		Seconds	60 min.	120	120	120
Comparative Tracking Index (CTI)		Volts	-	≥600 (PLC=0)	≥600 (PLC=0)	≥600 (PLC=0)
Moisture Absorption		%	0.35 max.	0.25	0.25	0.25
Flexural Strength	CW	psi	50,000 min.	60,000	55,000	55,000
	LW		60,000 min.	70,000	65,000	65,000
Flammability		rating	V-0 min.	V-0	V-0	V-0
Bow & Twist		%	0.75 max.	0.30	0.30	0.30

Material Thickness Tested 1.5 mm. thickness , Cu 1/1 Oz.

Information contained in this data sheet represents typical or average values and does not constitute any warranty or guarantee.

UL registration of High CTI product is pending