



IT-601GTC

Low CTE and Low Df , Halogen Free , High Tg Material

- Low CTE in X/Y/Z -axis for excellent thermal performance
- Low Df for excellent electrical performance
- For HDI, Smart Phone, Memory Module, SSD, SiP, DRAM , Nand Flash Applications
- For High Speed Server , NB , Networking and Telecom & Automotive HDI application

Laminate properties

Items	IPC TM-650	Typical Value	Unit
Peel Strength, minimum			
A. Low profile copper foil (RTF Hoz)	2.4.8	5 ~ 6	lb/inch
B. Low profile copper foil (RTF2 Hoz)		4 ~ 5	
C. Standard profile copper foil (HTE Hoz)		6 ~ 7	
Volume Resistivity	2.5.17.1	$>1 \times 10^{10}$	MΩ-cm
Surface Resistivity	2.5.17.1	$>1 \times 10^9$	MΩ
Moisture Absorption, maximum	2.6.2.1	0.10	%
Permittivity (Dk, 70% resin content)			--
A. 1 GHz / B. 10 GHz	2.5.5.9 / 2.5.5.13	3.5 / 3.4	
Loss Tangent (Df, 70% resin content)			--
A. 1 GHz / B. 10 GHz	2.5.5.9 / 2.5.5.13	0.0057 / 0.0068	
Flexural Modulus			
A. Warp	2.4.4	24-26	GPa
B. Fill		23-25	
Thermal Stress 10s at 288°C			
A. Unetched	2.4.13.1	Pass	Rating
B. Etched		Pass	
Flammability	UL94	V-0	Rating
Comparative Tracking Index (CTI)	IEC 60112 / UL 746	CTI 2 (250-399)	Class (Volts)
Maximum Operating Temperature(MOT)	UL 746B	130	°C
Glass Transition Temperature (DMA)	2.4.24.4	260	°C
Glass Transition Temperature (TMA)	2.4.24	230	
Td (5% W.L)	2.4.24.6	420	°C
X/Y Axis CTE (<Tg,TMA)	2.4.41	9 / 10	ppm/°C
Z-Axis CTE			
A. Alpha 1 (α_1) /B. Alpha 2 (α_2)	2.4.24	20-30/120~140	ppm/°C/ppm/°C
C. 50 ~ 260°C		1.1	%
Thermal Resistance			
A. T260 / B. T288	2.4.24.1	>60 / >60	Minutes