

ITEQ
Your Partner of Advanced Materials & Mass Lam Service

IT-988GL

CCL : IT-998GLTC
Prepreg: IT-998GLBS

High Tg / Halogen Free / Ultra Low Loss Laminate & Prepreg

- ANSI Type : **No ANSI**
- Appliceable IPC-4101 /134；IPC-4103 /240/540
- Lower Dk (3.21 @ 10GHz) and Ultra low Df (0.0033 @ 10GHz) / 100G/400G Switch solution
- Very stable Dk-Df across frequency / Very Low CTE (1.7%)

Laminate properties

Items	IPC TM-650		Typical Value		Unit
Peel Strength A. Low profile copper foil	2.4.8		3.5		lb/inch
Volume Resistivity	2.5.17.1		10^{10}		MΩ-cm
Surface Resistivity	2.5.17.1		10^{10}		MΩ
Moisture Absorption	2.6.2.1		0.12		%
Permittivity (Dk) A. 1GHz B. 2GHz C. 5GHz D. 10GHz	 2.5.5.9 2.5.5.13 2.5.5.13 2.5.5.13	 Note* 	(55%/70%) 3.82/3.40 3.71/3.29 3.65/3.23 3.63/3.21	55% 3.83 3.83 3.83 3.83	--
Loss Tangent (Df) A. 1GHz B. 2GHz C. 5GHz D. 10GHz	 2.5.5.9 2.5.5.13 2.5.5.13 2.5.5.13	 Note* 	(55%/70%) 0.0030/0.0024 0.0032/0.0026 0.0037/0.0030 0.0041/0.0033	55% 0.0032 0.0034 0.0034 0.0034	--
Flexural Strength A. Length direction B. Cross direction	2.4.4		 475 415		 N/mm²
Thermal Stress 10 s at 288℃ A. Unetched B. Etched	2.4.13.1		 Pass Pass		 Rating
Flammability	UL94		V-0		Rating
Comparative Tracking Index (CTI)	ASTM D3638 / UL 746		CTI 2 (250-399)		Class (Volts)
Glass Transition Temperature (TMA/DMA)	2.4.24/2.4.24.4		180/200		℃
Decomposition Temperature (5% W.L)	2.4.24.6		400		℃
X/Y Axis CTE (40℃ to 125℃)	2.4.41		13/13		ppm/℃
Z-Axis CTE A. Alpha 1 B. Alpha 2 C. 50 ℃ to 260℃	2.4.24		 35 190 1.7		 ppm/℃ ppm/℃ %
Thermal Resistance A. T260 B. T288	2.4.24.1		 >60 >60		 Minutes Minutes

Note*: The data presented above relates to the perpendicular dielectric parameters of the substrates. Resonators with different diameters have been used for the measurements of the disk samples.