ITEQ
Your Partner of Advanced Materials
& Mass Lam Service

IT-180A

CCL : IT-180ATC
Prepreg: IT-180ABS

High Tg / Lead Free / High Reliability Laminate & Prepreg

- ANSI Type : **FR-4.0**
- Applicable IPC-4101 /98/99/101/126；IPC-4103 /250/550
- Excellent CAF resistance / Good through-hole reliability
- Low CTE and high thermal reliability
- For automotive, high layer PCB, networking, and heavy copper applications

Laminate properties

Items	IPC TM-650	Typical Value	Unit
Peel Strength, minimum A. Low profile copper foil(35um) B. Standard profile copper foil(35um)	2.4.8	 5 8	lb/inch
Volume Resistivity	2.5.17.1	$1x10^9$	MΩ-cm
Surface Resistivity	2.5.17.1	$1x10^8$	MΩ
Moisture Absorption, maximum	2.6.2.1	0.10	%
Permittivity (Dk, 50% resin content) A. 1MHz B. 1GHz	 2.5.5.9 2.5.5.9	 4.5 4.4	--
Loss Tangent (Df, 50% resin content) A. 1MHz B. 1GHz	 2.5.5.9 2.5.5.9	 0.014 0.015	--
Flexural Strength, minimum A. Length direction B. Cross direction	2.4.4	 500-530 410-440	N/mm^2
Young's Modulus A. Warp direction B. Fill direction	ASTM D3039	 19 18	Gpa
Thermal Stress 10 s at 288°C 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 3 (175-249)	Class (Volts)
Maximum Operating Temperature	UL 746	130	˚C
Glass Transition Temperature (DSC/DMA)	2.4.25/2.4.24.4	175/185	˚C
Decomposition Temperature(5% W.L)	2.4.24.6	345	˚C
X/Y Axis CTE (40˚C to 125˚C)	2.4.41	11-13 / 13-15	ppm/˚C
	2.4.24.5	11/12	ppm/˚C
Z-Axis CTE A. Alpha 1 B. Alpha 2 C. 50 to 260 Degrees C	2.4.24	 45 210 2.7	 ppm/˚C ppm/˚C %
Thermal Resistance A. T260 B. T288	2.4.24.1	 >60 20	 Minutes Minutes