

## Lead Free Material / High Tg



### IT-180/IT-180A/IT-180I

#### Features

1.  $T_g \geq 175^\circ\text{C}$  (DSC)
2. Low Z-axis thermal expansion
3. Excellent dimension stability and heat resistance

#### Specification

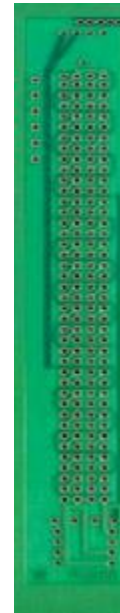
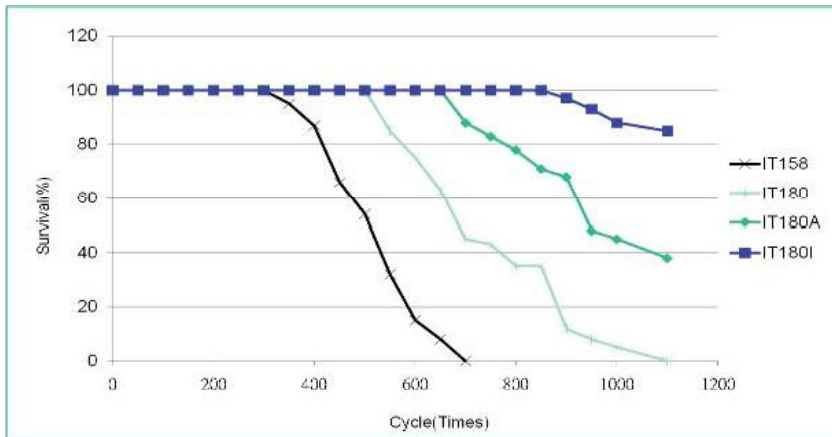
#### Applications

*Multilayer PCB  
Automobile  
Backplanes  
Servers and  
Networking  
Telecommunications  
Storage*

Product info.		IT-180	IT-180A	IT-180I	3X0HX
		HTg	HTg, low-CTE	HTg, low-CTE Mid loss	HTg
Tg (°C)	DSC	170	170	170	170
T-288 (w/ 1 Oz Cu, min)	TMA	20+	20+	25+	20+
Td-5%(°C )	TGA 5% loss	350	345	350	340
CTE (ppm/°C)	a1/a2	50/250	45/210	40/210	45/230
CTE (%), 50-260°C	TMA	3.0	2.7	<2.5	2.8
Peeling (lb/in)	1 oz	8	8	8	7
Water absorption	D-24/23	0.12	0.12	0.12	0.15
Dk (50% RC)	1 GHz	4.2	4.4	4.3	4.2
Df (50% RC)	1 GHz	0.017	0.015	0.013	0.016

## Interconnect Stress Test (IST) Result

ITEQ



**Test Coupon Thickness = 110mil, 14 Layers,  
Precondition: 6x @260°C**

**Hole/Pad : 0.012"/0.025", Pitch=0.024", 364 holes**

**30°C  $\leftrightarrow$  150°C thermal cycling test until the change of electrical resistance is over 10%.**

## CAF Test (Conductive Anode Filament)

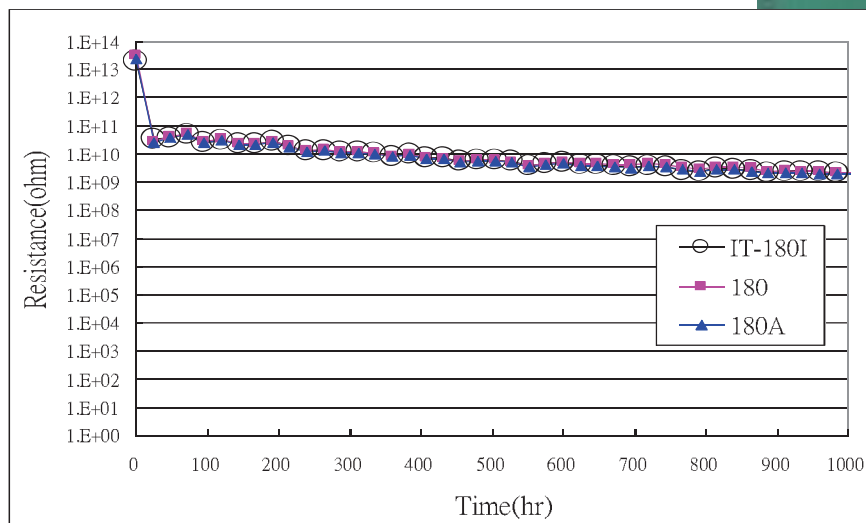
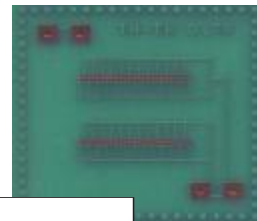
ITEQ

Test Coupon = 6 layers/1.6mm with totally 7 ply 7628

Pre condition: reflow 260 °C x6

Hole size:0.35 mm ,Pitch:0.7mm, wall to wall:0.35mm

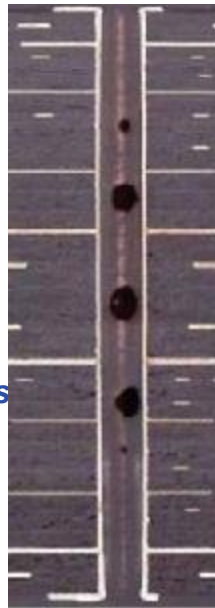
Test Condition : 85°C/85%RH, Bias & Test 50V



## Thermal Ability : IT-180A/ IT-180I

ITEQ

- Evaluated board 26 layers
- Thickness .150"
- via hole .010"
- A/R 15.0
- *260C IR x 8 cycles pass*
- *288C thermal stress/10sec x 6 cycles*  
*No de-lam, no Cu/resin crack*



IT180A



IT180I