

### KB 6168 and KB 6068 High Tg, high Td FR-4 Resin System

Kingboard KB 6168 is a180Tg (DSC), filled, DICY Free laminate system with a high decomposition temperature and excellent heat resistance that is appropriate for lead free assembly. It is an excellent choice for the manufacture of reliable high layer count PCB's used in computers, communication equipment and other high technology electronic devices. KB 6168 meets IPC 4101B 21/24/26/97/98/101/126.

### General Characteristics

Properties	Unit	Test Method (IPC-TM-650)	Item	SPEC	Typical Value
Peel Strength (1OZ)	kgf/cm	2.4.8	125?	AABUS	1.30
			Float 288? / 10Sec	AABUS	1.25
Flammability	Rating	UL94	E-24/23	UL94 V-0	V-0
Glass Transition (Tg)	?	2.4.25	E-2/105 DSC	180± 5	180
Surface Resistance	MO	2.5.17.1	C-96/35/90	=1.0× 10 <sup>4</sup>	1.0×10 <sup>7</sup>
Volume Resistance	MO-cm	2.5.17.1	C-96/35/90	=1.0× 10 <sup>6</sup>	1.0×10 <sup>9</sup>
Dielectric breakdown	KV	2.5.6	D-48/50+D0.5/23	=40	72
Dielectric strength	KV/mm	2.5.6.2	D-48/50+D0.5/23	=29	46
Dielectric Constant	—	2.5.5.2	Etched/@1 MHZ	=5.4	4.4
Loss Tangent	—	2.5.5.2	Etched/@1 MHZ	=0.035	0.018
CAF	H	-	85%,85? ,50V	=1000	1000
Moisture Absorption	%	2.6.2.1	D-24/23	=0.35(min0.51)	0.14
				=0.80(max0.51)	0.26
Flexural Strength	N/mm <sup>2</sup>	2.4.4	Warp	=415	596
			Fill	=345	496
Arc Resistance	Sec	2.5.1	D-48/50+D0.5/23	=60	123
CTE (a1) Z-Axis Expansion	As recd. ppm	2.4.41	E-2/105 TMA	=60	45
	%(50-260? )			=3.0	2.8
TD	?	2.4.24.6	TGA	=340	359
T-260	min	2.4.24.1	TMA	=30	60
T-288	min	2.4.24.1	TMA	=15	30
CTI	V	IEC 60112	Etched/0.1% NH <sub>4</sub> Cl	=175	175

### KB - 6068

#### Prepreg Parameters

Glass Style	Resin Content (%)	Gel Time (Sec.)	Resin Flow (%)	DK (1 MHz)
106	70 +/- 3	110 +/- 30	40 +/- 5	3.87
1080	63 +/- 3	110 +/- 30	42 +/- 5	3.90
2313	58 +/- 3	110 +/- 30	42 +/- 5	4.05
2116	53 +/- 3	110 +/- 30	32 +/- 5	4.25
7628	44 +/- 3	110 +/- 30	23 +/- 5	4.6

