MATRIX
CIRCUIT BOARD MATERIALS

DATASHEET

KB-6160A FR-4 Copper Clad Laminates

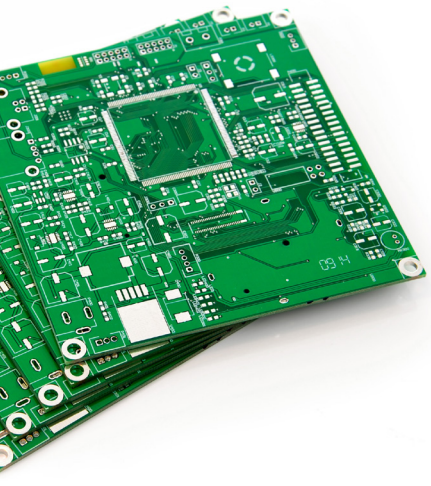
KB
KINGBOARD

Features

- UVB and AOI compatible
- Excellent dimensional stability
- Excellent heat resistance and mechanical properties

Applications

- Computer and peripheral
- Communication equipment
- Instrument
- OA equipment, etc.



Conventional FR-4, Normal Tg

KB-6160A is an excellent value laminate for standard double sided PWB manufacture. This material meets the IPC4101/21 slash sheet and has excellent UVB to prevent light transfer during imaging. Mechanical and heat resistance properties are ideally suited for manufacturing reliable quality rigid PWBs.

Laminate Properties

Item		Typical Value	Test Method (IPC-TM-650)	Test Condition		Unit	Specification
Thermal	Thermal Stress	≥ 180	2.4.13.1	Float 288°C/ unetched		sec	≥ 10
	Glass Transition (Tg)	135	2.4.25	E-2/105 DSC		°C	≥ 130
	CTE/Z-Axis Expansion	60	2.4.24	Alpha 1		ppm/°C	—
		300		Alpha 2			—
		4.3		50 - 260°C		%	—
	T-260	> 10	2.4.24.1	TMA		min	—
	TD (5% weight loss)	305	2.4.24.6	TGA		°C	—
	Flammability	V-0	UL94	E-24/23		Rating	V-0
Electrical	Surface Resistivity	1.0 x 10^6	2.5.17.1	C-96/35/90		MΩ	≥ 10^4
	Volume Resistivity	1.0 x 10^8	2.5.17.1	C-96/35/90		MΩ-cm	≥ 10^6
	Dielectric Breakdown	69	2.5.6	D-48/50+D0.5/23		kV	≥ 40
	Dielectric Constant	4.35	2.5.5.2	Etched (R/C 50%)	@ 1MHz	—	≤ 5.4
		4.25			@ 1GHz		
	Loss Tangent	0.017	2.5.5.2	Etched (R/C 50%)	@ 1MHz	—	≤ 0.035
		0.015			@ 1GHz		
	CTI	≥ 175	IEC60112	A		V	—
	Arc Resistance	125	2.5.1	D-48/50+D0.5/23		sec	≥ 60
Mechanical	Peel Strength (1oz)	1.7	2.4.8	125°C		N/mm	≥ 0.70
		1.75		Float 288°C/10 sec			≥ 1.05
		1.3		After Process Solution			≥ 0.80
	Flexural Strength	565	2.4.4	Length Direction		N/mm^2	≥ 415
		446		Cross Direction			≥ 345
	Moisture Absorption	0.19	2.6.2.1	D-24/23		%	≤ 0.5

Remarks:
- Typical values for reference only.
- Standard values according to IPC-4101E/21
- Typical value of specimen thickness is 1.6mm (8 * 7628)

UL: E123995 RoHS

MATRIX
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