KB-6160C/KB-6060C
Processing Guide

This Processing Guide is edited in according to the IPC-4101 standard, and based on this standard. It is organized according to the internal test results of product characteristics and the actual use of customers, so that customers are more conducive to the use of KB-6160C/KB-6060C.

The recommendations contained herein do not cover all possible PCB designs or processing environments. Manufacturers/ Users will need to make other process adjustments to accommodate as necessary. The contents of the attachment are for advice and reference only, and the specific parameter setting should be determined according to the actual situation。

Part 1: CCL Storage Conditions

Storage method

It should be stored in a flat surface with the original packaging to avoid heavy pressure and prevent sheet deformation or sheet bending problems.

Storage environment

Materials should be stored in a dry environment, avoid direct sunlight, rain, and avoid the erosion of corrosive gases. It is recommended that the sheet be used within one year of the production date.

Part 2: Recommendations for Dilling Parameters

➢Be sure to vacuum up the dust. It will help prevent gouging.

➢The following table (Table 2) lists a series of parameters for your reference, we assume the CCL overall thickness is 2mm. It needs to be adjusted according to different tools, board structure, board thickness, number of layers and copper thickness.

➢After the drilling process, blow the with an air gun properly to avoid blockage of the holes

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HITACHI Machine.
Drilling parameters adjusted based on KB-6160C

Drill Diameter (mm)	Drilling Parameters		孔限 (Hits)
	转速 (krpm)	落速 (m/min)	
0.20 ~ 0.25	170	2.0	1500
0.275-0.30	170	2.0	1500
0.35-0.375	160	2.2	1500
0.40 ~ 0.45	135	2.2	1500
0.50 ~ 0.55	120	2.3	1500
0.60 ~ 0.65	110	2.3	1500
0.70 ~ 0.75	105	2.4	1500
0.80 ~ 0.85	85	2.5	1500
0.90 ~ 0.95	80	2.5	1500
1.00 ~ 1.05	75	2.6	1500
1.10 ~ 1.15	70	2.6	1500
1.20 ~ 1.25	65	2.7	1500
1.30 ~ 1.35	60	2.8	1500
1.40 ~ 1.45	55	2.8	1500

Drill Diameter (mm)	Drilling Parameters		孔限 (Hits)
	转速 (krpm)	落速 (m/min)	
1.50 ~ 1.55	50	2.6	1500
1.60 ~ 1.65	50	2.4	1500
1.70 ~ 1.75	50	2.2	1500
1.80 ~ 1.85	45	2.1	1500
1.90 ~ 1.95	45	1.9	1500
2.00 ~ 2.15	45	1.8	1500
2.20 ~ 2.35	40	1.7	1000
2.40 ~ 2.55	40	1.6	1000
2.60 ~ 2.75	35	1.5	1000
2.80 ~ 2.95	35	1.4	800
3.00 ~ 3.25	30	1.3	800
3.30 ~ 3.65	30	0.9	500
3.70 ~ 3.95	30	0.6	500
4.00 ~ 4.45	25	0.5	500

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Part 3: Etching(Glue removal)

➢Vertical or horizontal permanganate etching can be performed normally, but the cross-sections must be examined with a scanning microscope.

➢The following are the suggested parameters of different suppliers, and customers need to adjust them according to the actual situation.

Factory	Item	Parameter	Temperature	Time
Rohmhaas (罗门哈斯)	$KMnO_4$	45~65g/L	72~80℃	18min
	NaOH	0.9~1.3N		
	K_2MnO_4	<25g/L		
MacDermid (麦德美)	$KMnO_4$	40-65 g/l	65~85℃	15min
	K_2MnO_4	< 25 g/l		
	NaOH	1.2 -1.3 N		
Atotech (安美特)	$KMnO_4$	45-65 g/l	80~85℃	15min
	K_2MnO_4	< 30 g/l		
	NaOH	34-45g/l		

Etching control requirements: 0.2-0.6mg/cm², under normal circumstances, 1 times of etching can meet the requirements

Part 4: Soldering

➢Validity period of packaging: The validity period of aluminum foil vacuum packaging is three months. It is best to bake at 125℃/4-8 hours before use.

➢Reflow soldering parameters: Suitable for non lead-free reflow soldering process. If used for lead free reflow, evaluation by trial is necessary.

Part 5: PCB Announcements

➢Use caution when handling materials. Because the edges of the laminate are exceptionally sharp. Cuts and scratches may result if not handled properly.

➢Handling and machining of prepregs and laminates generates dust. Therefore, proper ventilation must be provided in the machining/pressing area. A protective mask is recommended to avoid inhalation of dust. Gloves, apron and safety glasses are recommended if the individual is in frequent or prolonged contact with skin or dust. (See KB-6160C Material Safety Data Sheet)

➢KB-6160C Not recommended for solder mask rework.

➢KB-6160C is not suitable for multilayer boards and is also not suitable for applications requiring CAF resistance.