覆铜板材料专业制造商

The professional manufacturer for CCL

产
品
资
料

Product　Data

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目录 / Catalog

板材 CCL

产品类别 Classification	板材型号 CCL Dsg.	特性简述 Feature	Tg (DSC,℃)	页码 Page
常规 FR-4 Conventional FR-4	H140-1 /FR4-74	UV 板 UV Blocking	135 or else Tg	3
无铅制程专用板 Lead-free Compatible	H150	高耐热性中 Tg 板 Excellent thermal resistance &Mid-Tg	150	5
	H170LF	高耐热性高 Tg 板 Excellent thermal resistance &Hi-Tg	170	7
无卤板 Halogen-free Compatible	H1308	无卤板 Halogen-free	140 or else Tg	9
高 CTI High CTI	H1600	CTI 600	135	11
CEM-3	H2130	普通型 UV 板 Conventional, UV Blocking	130	13
铝基板 Al-Substrate CCL	HA40 系列	散热性极佳，性价比高 Excellent thermal conductivity, high cost performance	–	15

附 1. 半固化片规格 Prepreg Spec. Page17

附 2. 覆铜板厚度公差表 / CCL thickness and tolerance list Page 18

H140-1 / FR4-74

特性/ Features

Tg135±5℃ （DSC）

可依需求提供多种 Tg 值 / Different Tg available upon request Tg ：140±5℃、 Tg 150±5℃、 Tg 170±5℃

UV Blocking 与 AOI 兼容可提高 PCB 生产效率

UV Blocking and AOI compatible,so as to increase productivity efficiency

可依需求提供仪表专用的 FR-4 板材/ the meter appropriative FR-4 CCL upon request

可依需求提供具 UV 阻挡功能的自然色板材/ UV Blocking and natural color CCL upon request

可依需求提供不具 UV 阻挡功能的自然色板材(白料)/ No UV Blocking and natural color CCL upon request

应用领域/ Applications

电脑、通讯设备、仪器仪表、摄像机、 电视机、电子游戏机等.

Computer,Communication equipment, Instrumentation, VCR,Television, Electronic game machine, etc.

主要特性 / General properties

检测项目 Item		单位 Unit	检测条件 Test Condition	规范值 Spec	典型值 Typical Value
玻璃化转变温度 Tg		℃	DSC	135±5	135.5
剥离强度 1oz Peel Strength		N/mm	288℃, 10S	≥1.40	1.81
热应力 Thermal stress		S	288℃,solder dip	＞10	60 s No delamination
弯曲强度 Flexural Strength		N/mm^2	经向 LW	≥415	580
			纬向 CW	≥345	485
燃烧性 Flammability		—	E 24/125	UL94V-0	V-0
表面电阻 Surface Resistivity		MΩ	After moisture	$\geq 1.0\times10^4$	5.16×10^7
体积电阻 VolumeResistivity		MΩ·cm	After moisture	$\geq 1.0\times10^6$	5.07×10^8
介电常数 Dielectric Constant		—	1 MHZ C 24/23/50	≤5.4	4.6
介质损耗角正切 Loss Tangent		—	1 MHZ C 24/23/50	≤0.035	0.015
耐电弧 Arc Resistance		S	D48/50＋D0.5/23	≥60	125
击穿电压 Dielectric Breakdown		KV	D48/50＋D0.5/23	≥40	58
吸水率 Moisture Absorption		%	D24/23	≤0.8	0.15
热分解温度 Td		℃	Weight Loss 5%	—	306
CTE Z-axis	Alpha 1	ppm / ℃	TMA	—	65
	Alpha 2	ppm / ℃		—	305
	50 - 260 ℃	%		—	4.5
T288		min	TMA	—	2
相比漏电起痕指数 CTI		V	IEC-60112	175～250	175

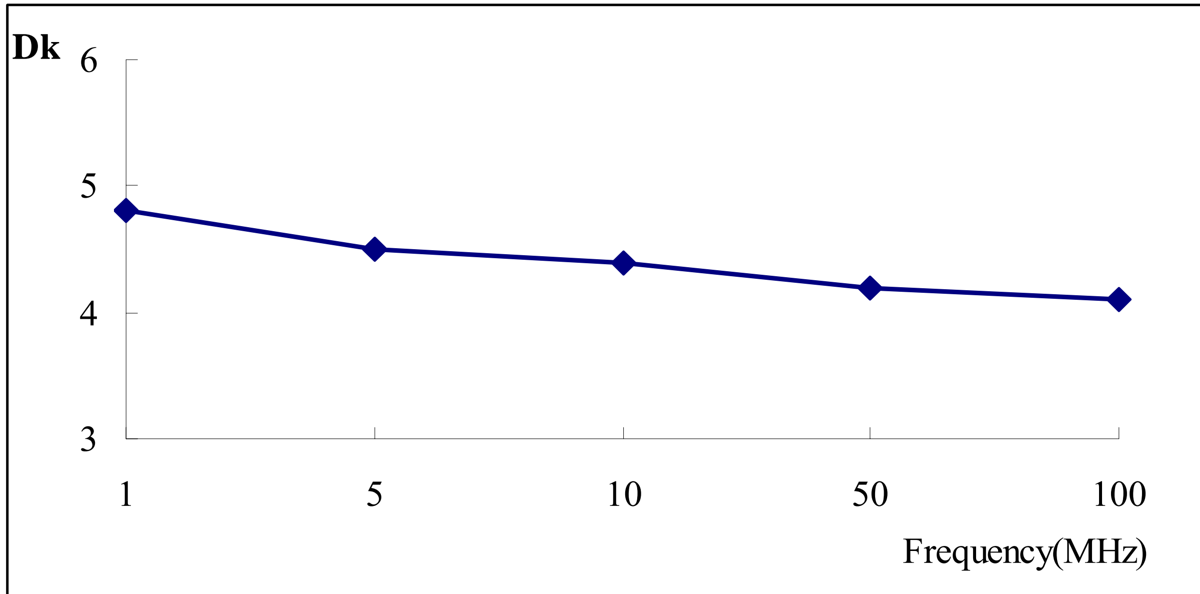
Specimen Thickness : 1.6mm ;

Explanation: C: Humidity conditioning; D: Immersion conditioning in distilled water ;

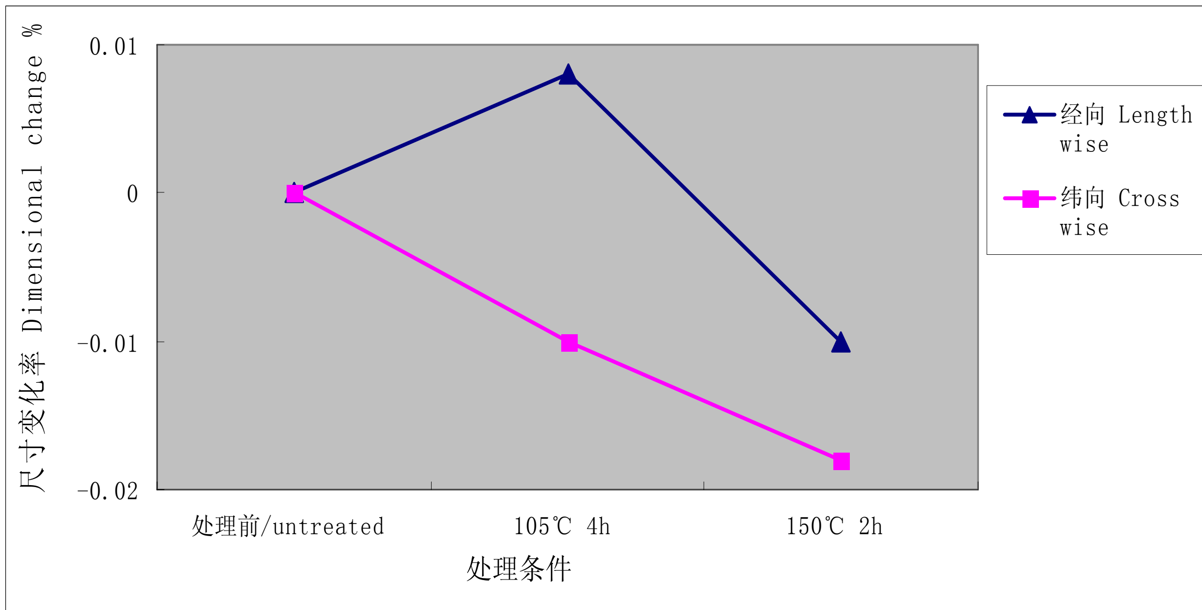
E: Temperature conditioning ;

H140-1 / FR4-74

◆ 介电常数 / Dielectric constant



◆ 热处理后板材经纬向尺寸变化
Dimensional change in cross and length direction after heat treatment



产品系列 / Purchasing information

厚度 Thickness	铜箔 Copper foil	标准尺寸 Standard size
0.15~3.2mm	18um ~ 105um	37"×49"、41"×49"、43"×49"

※ Other sheet size and thickness could be available upon request

H150 Lead-free

特性/ Features

Tg150±5℃ （DSC）

UV Blocking 与 AOI 兼容可提高 PCB 生产效率

UV Blocking and AOI compatible,so as to increase productivity efficiency

优异的耐热性，Td ≥325℃，T288≥5min ，适合于无铅焊工艺；

High thermal performance，Td ≥325℃ ,T288≥5min，suitable for lead-free process。

从环境温度到 260℃ ，板材具备较低的膨胀系数；/ Lower CTE from ambient to 260℃。

应用领域/ Applications

适合于多层 PCB、计算机及外围设备、通讯设备、办公自动设备、PCB 无铅制程等。

Suitable for medium multilayer printed circuit board, computer, communication equipment, OA equipment, lead-free PCB process etc.

主要特性 / General properties

检测项目 Item		单位 Unit	检测条件 Test Condition	规范值 Spec	典型值 Typical Value
玻璃化转变温度 Tg		℃	DSC	150±5	150.5
剥离强度 1oz Peel Strength		N/mm	288℃, 10S	≥1.05	1.41
热应力 Thermal stress		S	288℃,solder dip	＞10	100 s No delamination
弯曲强度 Flexural Strength		N/mm^2	经向 LW	≥415	570
			纬向 CW	≥345	465
燃烧性 Flammability		—	E 24/125	UL94V-0	V-0
表面电阻 Surface Resistivity		MΩ	After moisture	$\geq 1.0\times10^4$	6.12×10^7
体积电阻 VolumeResistivity		MΩ·cm	After moisture	$\geq 1.0\times10^4$	6.25×10^8
介电常数 Dielectric Constant		—	1 MHZ C 24/23/50	≤5.4	4.5
介质损耗角正切 Loss Tangent		—	1 MHZ C 24/23/50	≤0.035	0.016
耐电弧 Arc Resistance		S	D48/50＋D0.5/23	≥60	125
击穿电压 Dielectric Breakdown		KV	D48/50＋D0.5/23	≥40	57
吸水率 Moisture Absorption		%	D24/23	≤0.5	0.16
热分解温度 Td		℃	Weight Loss 5%	≥325	338
CTE Z-axis	Alpha 1	ppm / ℃	TMA	≤60	52
	Alpha 2	ppm / ℃		≤300	285
	50 - 260 ℃	%		≤4.0	3.8
T288		min	TMA	≥5	12
相比漏电起痕指数 CTI		V	IEC-60112	175～250	175

Specimen Thickness : 1.6mm ;

Explanation: C: Humidity conditioning; D: Immersion conditioning in distilled water ;

E: Temperature conditioning ;

H150 Lead-free

◆ 热压力容器蒸煮测试 / PCT（High pressure cooker test ）

PCT (E-120℃/ 105KPa)	Solder Dipping (288℃,10S)	
	Normal FR-4	**H150**
30min	OK	**OK**
60min	OK	**OK**
120min	NG	**OK**

◆ 使用建议 / Suggestion for use

1、使用前请进行烘板处理：150 ℃、2h 。

Please baking the Laminate at 150 ℃、2 hours before using .

2、由于层间结合力较常规 FR－4 差，钻孔加工时请注意。

钻孔参数主要取决于孔的大小、内层厚度、层数、铜箔厚度和叠层厚度。

以典型的 0.4～1.0mm 钻嘴孔径为例，其建议钻孔参数如下：

钻刀转速：45~105 KRPM ， 进刀速度： 50~150 IPM

缩刀速度：500~1000 IPM， 最多使用次数：3000 HITS (若有填料，最多 1000 HITS)

叠层高度：≤2pnls(2~6layers), 1pnl(≥8layers)

覆层材料：0.2mm Aluminum

Please pay attention to the Drilling for the interbedded energy is lower than the normal FR-4 .

Drilling parameters are mainly dependent on hole size, layer thickness, layer number, copper thickness and stack height. The following drilling parameters are for reference only. Typical drilling parameters for 0.4~1.0 mm drills are as follows:

Spindle speed: 45~105 KRPM Feed rate: 50~150 IPM

Retract rate: 500~1000 IPM

Max. hit count: 3000 HITS (if have fillers , max 1000 HITS)

Stack height: ≤2pnls(2~6layers), 1pnl(≥8layers) Entry Material: 0.2mm Aluminum

产品系列 / Purchasing information

厚度 Thickness	铜箔 Copper foil	标准尺寸 Standard size
0.15~3.2mm	18um ~ 105um	37"×49"、41"×49"、43"×49"

※ Other sheet size and thickness could be available upon request

H170LF Lead-free

特性/ Features

Tg170±5℃ （DSC）

UV Blocking 与 AOI 兼容可提高 PCB 生产效率

UV Blocking and AOI compatible,so as to increase productivity efficiency

优异的耐热性，Td ≥340℃，T288≥15min ，适合于无铅焊工艺；

High thermal performance，Td ≥340℃ ,T288≥15min，suitable for lead-free process。

从环境温度到 260℃ ，板材具备较低的膨胀系数；/ Lower CTE from ambient to 260℃。

应用领域/ Applications

适合于高多层 PCB、计算机及外围设备、通讯设备、办公自动设备、PCB 无铅制程等。

Suitable for high-count layer PCB, computer, communication equipment, OA equipment, lead-free PCB process etc.

主要特性 / General properties

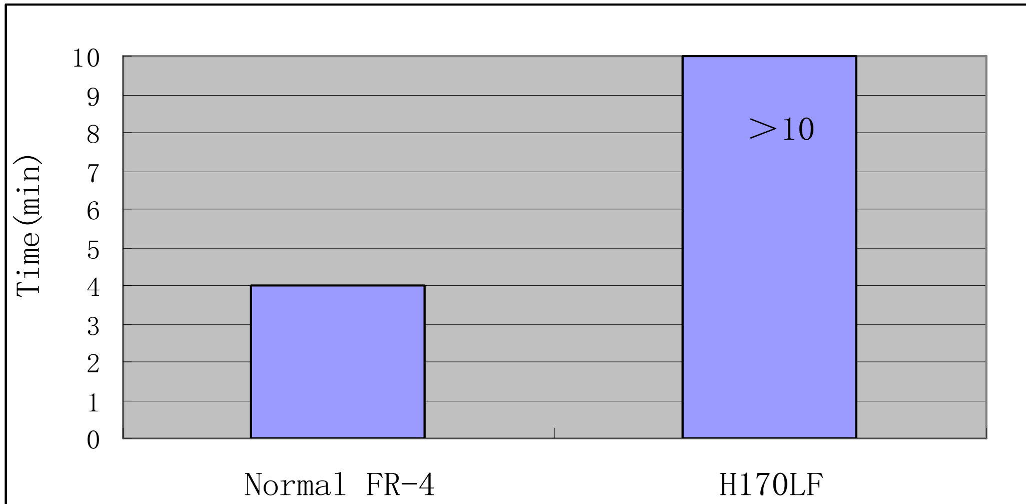
检测项目 Item		单位 Unit	检测条件 Test Condition	规范值 Spec	典型值 Typical Value
玻璃化转变温度 Tg		℃	DSC	170±5	170.2
剥离强度 1oz Peel Strength		N/mm	288℃, 10S	≥1.05	1.41
热应力 Thermal stress		S	288℃,solder dip	＞10	100 s No delamination
弯曲强度 Flexural Strength		N/mm^2	经向 LW	≥415	580
			纬向 CW	≥345	482
燃烧性 Flammability		—	E 24/125	UL94V-0	V-0
表面电阻 Surface Resistivity		MΩ	After moisture	$\geq 1.0\times 10^4$	2.52×10^7
体积电阻 VolumeResistivity		MΩ·cm	After moisture	$\geq 1.0\times 10^4$	3.21×10^8
介电常数 Dielectric Constant		—	1 MHZ C 24/23/50	≤5.4	4.6
介质损耗角正切 Loss Tangent		—	1 MHZ C 24/23/50	≤0.035	0.016
耐电弧 Arc Resistance		S	D48/50＋D0.5/23	≥60	122
击穿电压 Dielectric Breakdown		KV	D48/50＋D0.5/23	≥40	58
吸水率 Moisture Absorption		%	D24/23	≤0.5	0.16
热分解温度 Td		℃	Weight Loss 5%	≥340	347
CTE Z-axis	Alpha 1	ppm / ℃	TMA	≤60	51
	Alpha 2	ppm / ℃		≤300	281
	50 - 260 ℃	%		≤3.5	3.3
T288		min	TMA	≥15	19
相比漏电起痕指数 CTI		V	IEC-60112	175～250	175

Specimen Thickness : 1.6mm ;

Explanation: C: Humidity conditioning; D: Immersion conditioning in distilled water ;
E: Temperature conditioning ;

H170LF　Lead-free

◆优异的耐热性 / Excellent thermal stress resistance



Test sample : H170LF and Normal FR-4 CCL　　Test Method : Solder dip 288℃

Test Results: H170LF is better than　Normal FR-4 (time to delamination).

◆ 使用建议 / Suggesti on for use

1、使用前请进行烘板处理：150 ℃、2h 。

Please baking the Laminate at 150 ℃、2 hours before using.

2、由于层间结合力较常规 FR－4 差，钻孔加工时请注意。

钻孔参数主要取决于孔的大小、内层厚度、层数、铜箔厚度和叠层厚度。

以典型的 0.4～1.0mm 钻嘴孔径为例，其建议钻孔参数如下：

钻刀转速：45~105 KRPM ，　进刀速度：　50~150 IPM

缩刀速度：500~1000 IPM，　最多使用次数：3000 HITS (若有填料，最多 1000 HITS)

叠层高度：≤2pnls(2~6layers), 1pnl(≥8layers)

覆层材料：0.2mm Aluminum

Please pay attention to the machining for the interbedded energy is lower than the normal FR-4 .

Drilling parameters are mainly dependent on hole size, layer thickness, layer number, copper thickness and stack height. The following drilling parameters are for reference only. Typical drilling parameters for 0.4~1.0 mm drills are as follows:

Spindle speed: 45~105 KRPM　　Feed rate: 50~150 IPM

Retract rate:　500~1000 IPM

Max. hit count: 3000 HITS (if have fillers , max 1000 HITS)

Stack height: ≤2pnls(2~6layers), 1pnl(≥8layers)　　Entry Material: 0.2mm Aluminum

产品系列 / Purchasing information

厚度 Thickness	铜箔 Copper foil	标准尺寸 Standard size
0.15~3.2mm	18um ~ 105um	37"×49"、41"×49"、43"×49"

※ Other sheet size and thickness could be available upon request

H1308 Halogen-free

特性/ Features

普通 Tg 无卤产品，UV Blocking 与 AOI 兼容

Normal Tg Halogen-free product, UV Blocking and AOI compatible

可依需求提供多种 Tg 值/ Different Tg available upon request Tg 150±5℃、Tg 170±5℃；

不含卤素、锑等成分 / Constituents free of halogen, antimony and etc.

阻燃性达到 UL94V-0 / Flammability UL 94V-0 .

应用领域/ Applications

手机、电脑、通讯设备、仪器仪表、摄像机、电视机、电子游戏机等。

Mobile phone, Computer,Communication equipment , Instrumentation, VCR,Television, Electronic game machine, etc.

主要特性 / General properties

检测项目 Item		单位 Unit	检测条件 Test Condition	规范值 Spec	典型值 Typical Value
玻璃化转变温度 Tg		℃	DSC	140±5	141.8
剥离强度 1oz Peel Strength		N/mm	288℃, 10S	≥1.05	1.39
热应力 Thermal stress		S	288℃,solder dip	＞10	100 s No delamination
弯曲强度 Flexural Strength		N/mm^2	经向 LW	≥415	580
			纬向 CW	≥345	475
燃烧性 Flammability		—	E 24/125	UL94V-1	V-0
表面电阻 Surface Resistivity		MΩ	After moisture	$\geq 1.0\times10^4$	5.21×10^7
体积电阻 VolumeResistivity		MΩ·cm	After moisture	$\geq 1.0\times10^6$	5.10×10^8
介电常数 Dielectric Constant		—	1 MHZ C 24/23/50	≤5.4	4.6
介质损耗角正切 Loss Tangent		—	1 MHZ C 24/23/50	≤0.035	0.015
耐电弧 Arc Resistance		S	D48/50＋D0.5/23	≥60	120
击穿电压 Dielectric Breakdown		KV	D48/50＋D0.5/23	≥40	57
吸水率 Moisture Absorption		%	D24/23	≤0.5	0.16
热分解温度 Td		℃	Weight Loss 5%	≥310	332
CTE Z-axis	Alpha 1	ppm / ℃	TMA	≤60	50
	Alpha 2	ppm / ℃		≤300	285
	50 - 260 ℃	%		≤4.0	3.5
T288		min	TMA	≥5	17
相比漏电起痕指数 CTI		V	IEC-60112	175～250	175

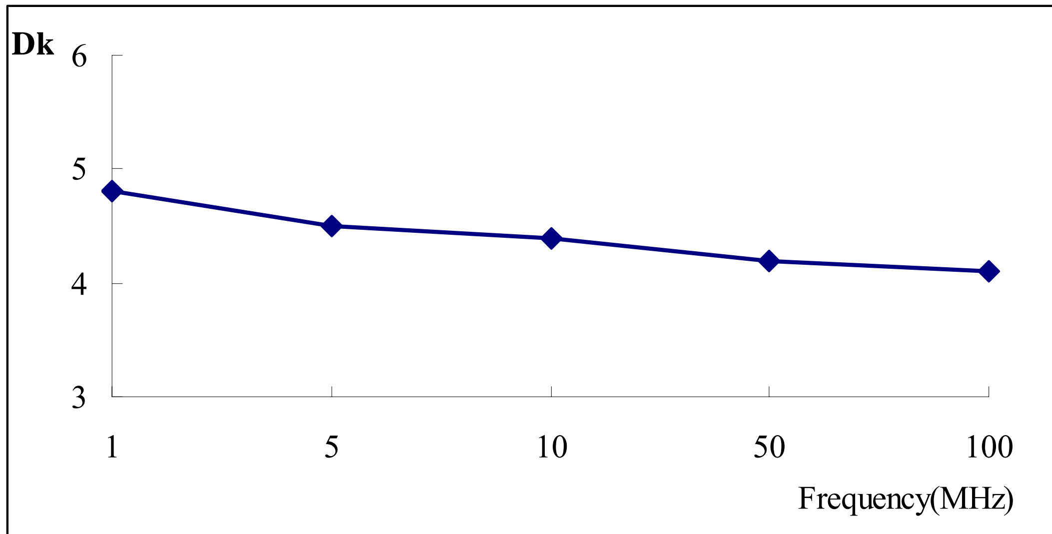
Specimen Thickness : 1.6mm ;

Explanation: C: Humidity conditioning; D: Immersion conditioning in distilled water ;

E: Temperature conditioning ;

H1308 Halogen-free

◆ 介电常数 / Dielectric constant



◆ 使用建议 / Suggestion for use

1、使用前请进行烘板处理：150 ℃、2h 。

Please baking the Laminate at 150 ℃、2 hours before using .

2、由于层间结合力较常规 FR－4 差，钻孔加工时请注意。

钻孔参数主要取决于孔的大小、内层厚度、层数、铜箔厚度和叠层厚度。

以典型的 0.4～1.0mm 钻嘴孔径为例，其建议钻孔参数如下：

钻刀转速：45~105 KRPM ， 进刀速度： 50~150 IPM

缩刀速度：500~1000 IPM， 最多使用次数：1000 HITS

叠层高度：≤2pnls(2~6layers), 1pnl(≥8layers)

覆层材料：0.2mm Aluminum

Please pay attention to the machining for the interbedded energy is lower than the normal FR-4 .
Drilling parameters are mainly dependent on hole size, layer thickness, layer number, copper thickness and stack height. The following drilling parameters are for reference only. Typical drilling parameters for 0.4~1.0 mm drills are as follows:

Spindle speed: 45~105 KRPM Feed rate: 50~150 IPM

Retract rate: 500~1000 IPM Max. hit count: 1000 HITS

Stack height: ≤2pnls(2~6layers), 1pnl(≥8layers) Entry Material: 0.2mm Aluminum

产品系列 / Purchasing information

厚度 Thickness	铜箔 Copper foil	标准尺寸 Standard size
0.15~3.2mm	18um ~ 105um	37"×49"、41"×49"、43"×49"

※ Other sheet size and thickness could be available upon request

H1600 High CTI

特性/ Features

Tg135±5℃ （DSC）

优异的耐漏电起痕性，CTI≥600 / Excellent tracking resistance ,CTI ≥600

UV Blocking 与 AOI 兼容/UV Blocking and AOI compatible

优良的 PCB 加工性 / Good PCB processability

应用领域/ Applications

电源基板、电视机、电冰箱、洗衣机等。

Power base board、TV、refrigerator、 washing machine and etc.

主要特性 / General properties

检测项目 Item		单位 Unit	检测条件 Test Condition	规范值 Spec	典型值 Typical Value
玻璃化转变温度 Tg		℃	DSC	135±5	135.2
剥离强度 1oz Peel Strength		N/mm	288℃, 10S	≥1.40	1.75
热应力 Thermal stress		S	288℃,solder dip	＞10	60 s No delamination
弯曲强度 Flexural Strength		N/mm^2	经向 LW	≥415	577
			纬向 CW	≥345	470
燃烧性 Flammability		—	E 24/125	UL94V-0	V-0
表面电阻 SurfaceResistivity		MΩ	After moisture	$\geq 1.0\times10^{4}$	5.12×10^{7}
体积电阻 Volume Resistivity		MΩ·cm	After moisture	$\geq 1.0\times10^{6}$	5.25×10^{8}
介电常数 Dielectric Constant		—	1 MHZ C 24/23/50	≤5.4	4.6
介质损耗角正切 Loss Tangent		—	1 MHZ C 24/23/50	≤0.035	0.015
耐电弧 Arc Resistance		S	D48/50＋D0.5/23	≥60	120
击穿电压 Dielectric Breakdown		KV	D48/50＋D0.5/23	≥40	57
吸水率 Moisture Absorption		%	D24/23	≤0.8	0.15
热分解温度 Td		℃	Weight Loss 5%	—	305
CTE Z-axis	Alpha 1	ppm / ℃	TMA	—	68
	Alpha 2	ppm / ℃		—	315
	50 - 260 ℃	%		—	4.5
T288		min	TMA	—	2
相比漏电起痕指数 CTI		V	IEC-60112	≥600	600

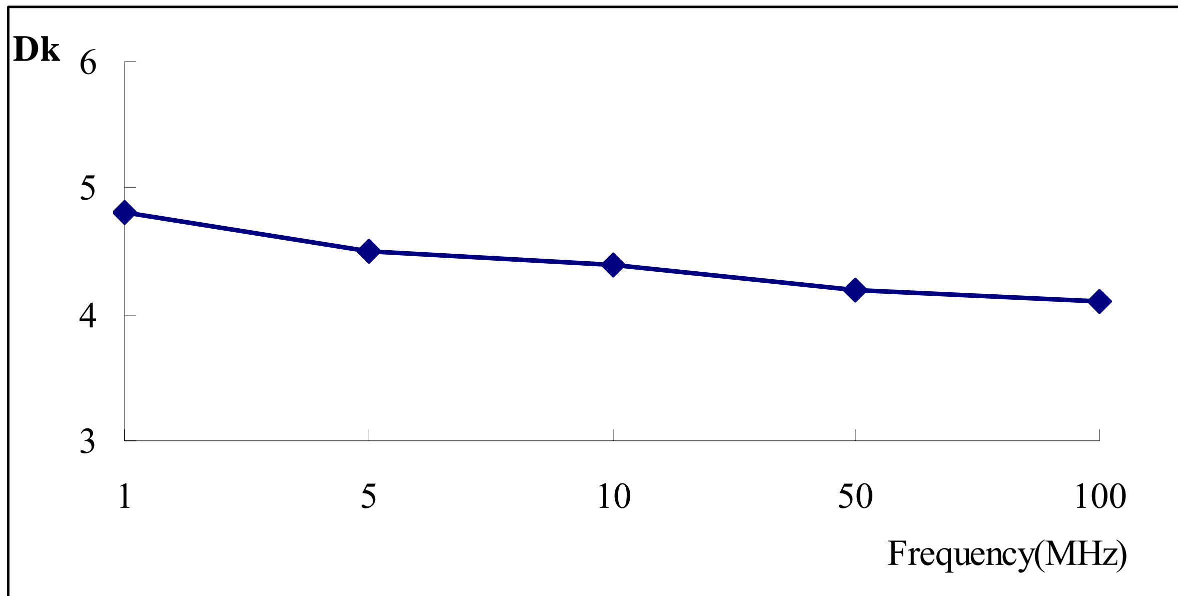
Specimen Thickness : 1.6mm ;

Explanation: C: Humidity conditioning; D: Immersion conditioning in distilled water ;

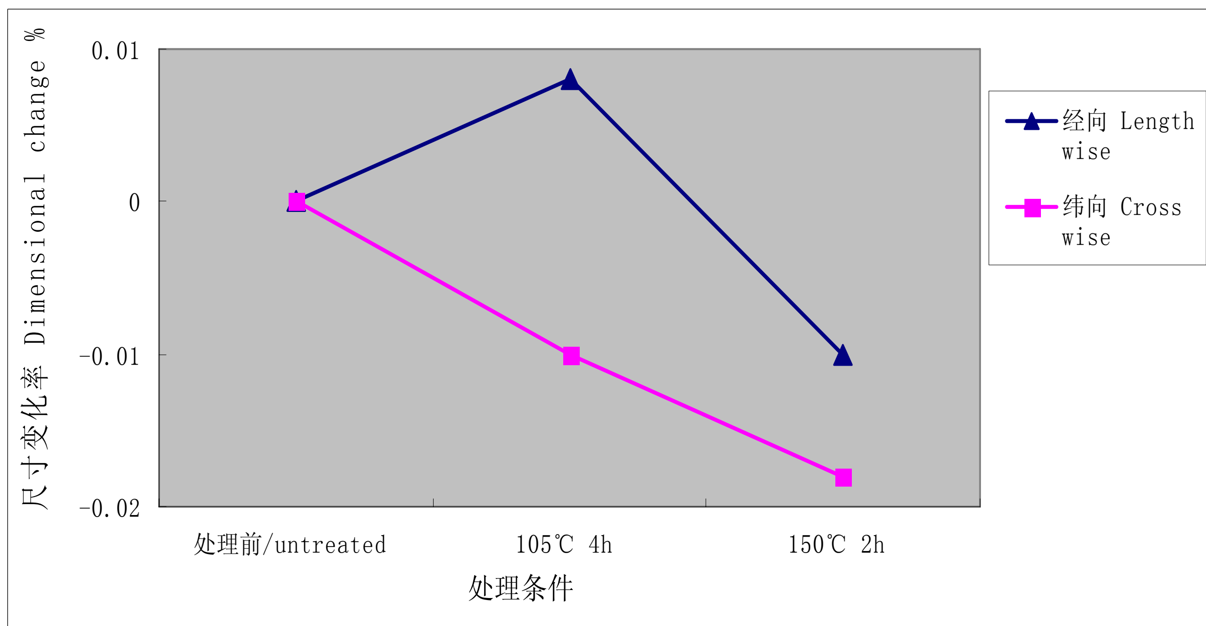
E: Temperature conditioning ;

H1600 High CTI

◆ 介电常数 / Dielectric constant



◆ 热处理后板材经纬向尺寸变化
Dimensional change in cross and length direction after heat treatment



产品系列 / Purchasing information

厚度 Thickness	铜箔 Copper foil	标准尺寸 Standard size
0.63~3.2mm	18um ~ 105um	37"×49"、41"×49"、43"×49"

※ Other sheet size and thickness could be available upon request

H2130 /CEM-3

特性/ Features

优秀的机械加工性，可冲孔加工，钻孔加工钻头使用寿命可延长

Excellent mechanical processability, punching process applicable, longer drill bit life .

电性能与 FR-4 相当，加工工艺与 FR-4 相同

Electrical properties and PCB processing similar to FR-4.

可依需求提供高 CTI 的 CEM-3 板材/ High CTI CEM-3 available upon request （CTI 600）;

应用领域/ Applications

汽车电子、仪器仪表、信息家电、自动控制器、游戏机等。

Automotive electronics,apparatus and instrument,information household appliances,remote control unit, game machine,and etc.

主要特性 / General properties

检测项目 Item		单位 Unit	检测条件 Test Condition	规范值 Spec	典型值 Typical Value
玻璃化转变温度 Tg		℃	DSC	≥120	128.5
剥离强度 1oz Peel Strength		N/mm	260℃, 10S	≥1.05	1.54
热应力 Thermal stress		S	260℃,solder dip	＞10	60s No delamination
弯曲强度 Flexural Strength		N/mm^2	经向 LW	≥276	380
			纬向 CW	≥186	300
燃烧性 Flammability		—	E 24/125	UL94V-0	V-0
表面电阻 Surface Resistivity		MΩ	After moisture	$\geq 1.0\times 10^4$	2.37×10^6
体积电阻 VolumeResistivity		MΩ·cm	After moisture	$\geq 1.0\times 10^6$	2.67×10^8
介电常数 Dielectric Constant		—	1 MHZ C 24/23/50	≤5.4	4.7
介质损耗角正切 Loss Tangent		—	1 MHZ C 24/23/50	≤0.035	0.016
耐电弧 Arc Resistance		S	D48/50＋D0.5/23	≥60	120
击穿电压 Dielectric Breakdown		KV	D48/50＋D0.5/23	≥40	55
吸水率 Moisture Absorption		%	D24/23	≤0.5	0.17
CTE Z-axis	Alpha 1	ppm / ℃	TMA	-	63
	Alpha 2	ppm / ℃		-	350
	50 - 260 ℃	%		-	5.2
相比漏电起痕指数 CTI		V	IEC-60112	175～250	200

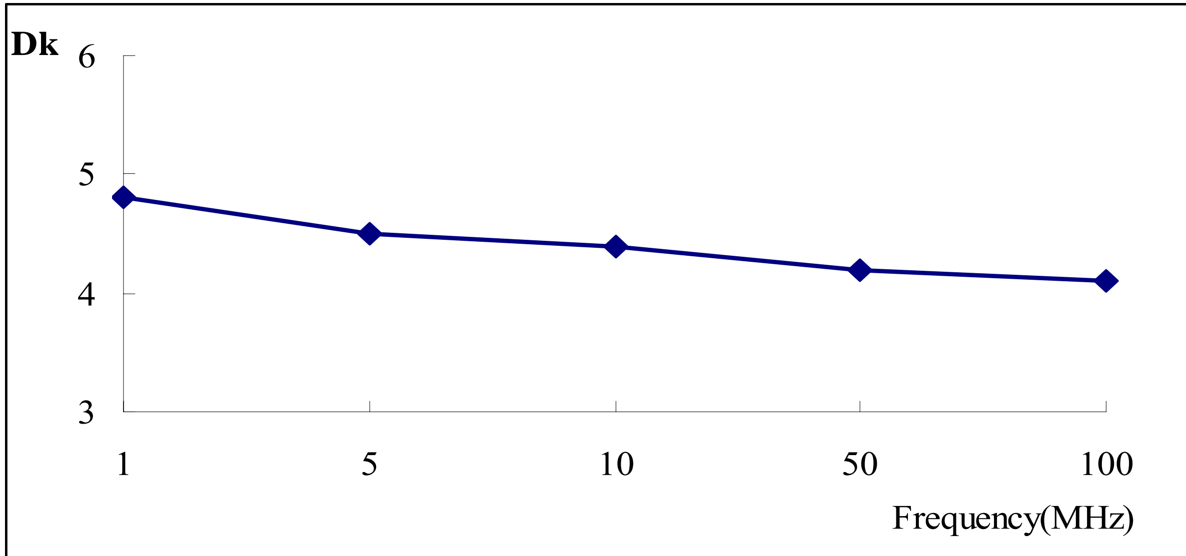
Specimen Thickness : 1.6mm ;

Explanation: C: Humidity conditioning; D: Immersion conditioning in distilled water ;

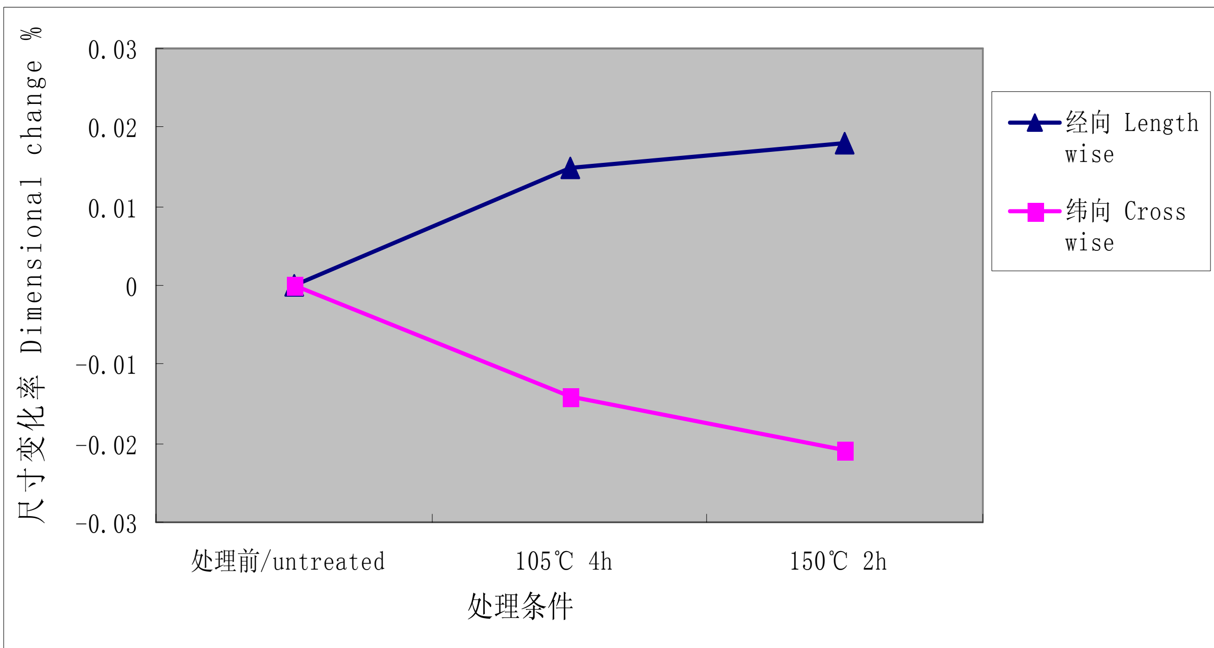
E: Temperature conditioning ;

H2130 /CEM-3

◆ 介电常数 / Dielectric constant



◆ 热处理后板材经纬向尺寸变化
Dimensional change in cross and length direction after heat treatment



产品系列 / Purchasing information

厚度 Thickness	铜箔 Copper foil	标准尺寸 Standard size
0.6~3.2mm	18um ~ 105um	37"×49"、41"×49"、43"×49"

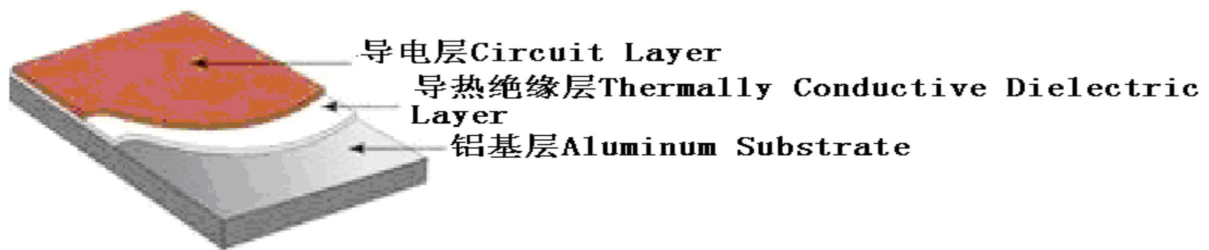
※ Other sheet size and thickness could be available upon request

铝基板介绍

Al-Substrate CCL Introduction

类型 Type	介绍 Introduction
中高导热型 High Thermal Conductivity Type	热导率 1.0～2.0 W/ M·K，可满足中高端产品需求，性价比高； Thermal conductivity 1.0～2.0 W/ M·K，It can fit the demand of high end and mid-range products， with high cost performance.

基本结构 Basic Structure



说明 / Instruction

导电层—电解铜箔 / Circuit Layer – Electrolysis copper foil

导热绝缘层—以最小的热阻提供电学上的绝缘，分为玻璃布增强型和无玻璃布增强型两种

Thermally Conductive Dielectric Layer –This offers electrical isolation with minimum thermal resistance. two types: Fiberglass support & non-fiberglass support.

铝基层—是整个结构的支撑和热量的发散，材料为铝合金板

Aluminum SubstrateIt –supports the entire structure and conducts the heat.

The material is aluminum alloy plate.

特性/ Features

优异的散热性能	Excellent thermal conductivity
良好的尺寸稳定性能	Excellent dimensional stability
良好的机械加工性能	Excellent mechanical properties
电磁屏蔽性能	Excellent electromagnetic shielding
可直接外接散热装置	Can use external cooling device directly
优良的性价比	High cost performance

应用领域 / Application

LED 照明电路	LED lighting circuit
电源电路	Power supply
混合集成电路	Hybrid integrated circuits
固态继电器	Solid State Relays
LCD 背光源	LCD Backlights
需要高散热的领域	The area needs high heat dissipation

主要性能 Main property

项目 Item	处理条件 Test condition	单位 Units	指标值 Spec	典型值 Typical Value	
				类型 1 Type1	类型 2 Type2
热阻 Thermal Impedance	A Internal TO-220	℃/W	≤1.0	0.7	0.45
热导率 Thermal Conductivity	A ASTM 5470-D	W/ M·K	1.0-2.0	1.3	2.0
剥离强度 Peel Strength	A	N/mm	≥1.4	1.95	1.84
	热应力后			1.85	1.73
热应力 Thermal Stress	288℃,solder dip	S	≥20	120S No delamination	120S No delamination
表面电阻 Surface Resistivity	C96/35/90	MΩ	$\geq 10^4$	10^6	10^6
	E-24/125		$\geq 10^3$	10^5	10^5
体积电阻 Volume Resistivity	C96/35/90	MΩ·cm	$\geq 10^6$	10^7	10^7
	E-24/125		$\geq 10^3$	10^5	10^5
电气强度 Elecctrical Strength	A IPC-TM-650 2.5.6.2	KV/mm	≥20	30	30
介电常数（1MHz） Dielectric Constant	C 24/23/50 IPC-TM-650 2.5.5.2	—	—	7.0	7.0
耐电弧 Arc Resistance	D48/50＋D0.5/23 IPC-TM-650 2.5.1	S	≥60	120	120
燃烧性 Flammability	E-24/125	—	V-0	V-0	V-0
Tg	DSC	℃	130±5	133.2	133.6
吸水率 Water Absorption	D-24/23 IPC-TM-650 2.6.2.1	%	≤0.5	0.17	0.18
CTI	IEC60112	V	≥175	200	200

* 热阻系数均为 1.6mm 基材，铜箔厚度 1oz 下的测量值，热导率为绝缘层介质的热导率参数

* Thermal impedance is based on the measured value of 1.6mm base material with 1oz Copper foil. Thermal conductivity is the parameters of thermally conductive dielectric layer.

产品规格 Specification

标准尺寸 Standard Size（mm）	500mm×600mm、 500×1200mm、 600mm×1200mm、1100mm×1200mm
导电层 Circuit Layer（电解铜箔 Copper foil）	18µm、35µm、70µm、105µm（Hoz、1oz、2oz、3oz）
导热绝缘层厚度 Thermally Conductive Dielectric Layer Thickness	75µm、100µm、125µm、150µm(3mil、4mil、5mil、6mil)
铝基层厚度 Aluminum Substrate Thickness	1.0mm、1.2mm、1.5mm、2.0mm

※如有特殊要求，可定制 Other sheet size and thickness could be available upon request

半固化片介绍/ Prepreg instruction

UV Prepreg

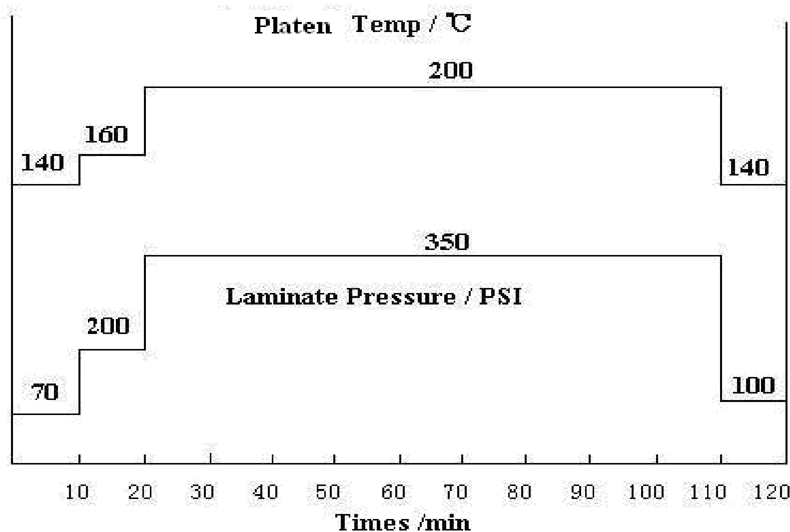
我司的 UV 系列半固化片具有优良的粘结强度，优异的固化稳定性，作业窗口宽，可用于多层板的制作，其燃烧特性符合 UL94V-0 级，压制后成品可达到 IPC-4101/21 相关要求。

The UV Prepreg have excellent bonding strength, excellent gel stability, with wide operating window. Suitable for the multilayer printed circuit board. Flammability accord UL94V-0 grade. After press process, the final product accord IPC-4101/21 standard 。

其规格 spec 参数如下：(Test method : IPC-TM-650)

玻璃布型号 Fabric Type	树脂含量 (%) Resin content (%)	凝胶化时间(s) Gel time (s)	流动度(%) Resin flow (%)	挥发份 max VC(%)	固化后厚度(μm) Cured thickness (μm)
7628	43 ± 3	110 ± 20	21 ± 3	0.5	180～210（7.1~8.3 mil）
7628	45 ± 3	110 ± 20	23 ± 3	0.5	190～220（7.5~8.7 mil）
7628HRC	48 ± 3	105 ± 20	27 ± 3	0.5	205～235（8.1~9.3 mil）
7628HRC	50 ± 3	100 ± 20	28 ± 3	0.5	230～260（9.1~10.2 mil）
2116	53 ± 3	100 ± 20	28 ± 3	0.5	120～140（4.7~5.5 mil）
1080	63 ± 3	100 ± 20	37 ± 3	0.5	70～85（2.8~3.3 mil）

建议压制程式： Suggest cycle



一般建议料温 70℃~120℃的升温速率为 1.5~2.5℃/min，同时料温 170℃以上维持 30min 为宜；

Commonly suggest the heat up rate of the material Temp from 70℃ to 120℃ is 1.5~2.5℃/min ,and the material Temp 170℃ above may as well keep 30min appropriate .

储存条件：温度≤20℃、湿度≤50%，保存时间 3 个月；温度≤5℃、密封条件下，保存时间 6 个月.

Storage Condition: T≤20℃& ≤50%RH,Within 3 months; T≤5 ℃ Within 6 months (seal condition).

在上述要求内，我司可立即安排 PP 送样；若有特殊要求，由供需双方商定。Follow upwards condition, Our company will arrange sample immediately. We can negotiation if you have special requirement.

覆铜板厚度公差表

CCL thickness and tolerance list

标准厚度 mm standard thickness	厚度公差 mm / tolerance	
	Class B/L 级	Class C/M 级
0.025～0.119	±0.018	±0.013
0.120～0.164	±0.025	±0.018
0.165～0.299	±0.038	±0.025
0.300～0.499	±0.050	±0.038
0.500～0.785	±0.064	±0.050
0.786～1.039	±0.100	±0.075
1.040～1.674	±0.130	±0.075
1.675～2.564	±0.180	±0.100
2.565～3.579	±0.230	±0.130
3.580～6.350	±0.300	±0.150

※ 一般情况下，华正电子依照二级厚度公差（B/L 级）要求接单作业，加严厚度公差（三级公差 C/M 级）或特殊厚度公差要求可协商解决。

Commonly , we will accept the order form according to the Class B/L , the Class C/M or other special tolerance could be available upon request.

※ Class B、C 表示不含铜箔的板材厚度； Class L、M 为含铜箔在内的板材厚度；

Class B、C figure the dielectric thickness ； Class L、M figure the overall thickness;

如下图 / As follows：