

产品编号: NY1140

Normal Tg, DICY Curing, UV Block/AOI Compatible

特点

- Tg 140℃ FR-4 板材
- 优秀的剥离强度
- UV Blocking 和 AOI 兼容
- 较低的吸水率
- 优秀的尺寸安定性

FEATURES

- Tg 140℃ FR-4
- Excellent Peel Strength
- UV Blocking/AOI Compatible
- Lower Water Absorption
- Excellent Dimension Stability

应用领域

- 消费电子类
- 仪器仪表类
- 通讯设备类

APPLICATIONS

- Consumer Electronics
- Instrumentations
- Communications, and etc.

● NY1140 采购信息 PURCHASING INFORMATION

基板厚度 Thickness	厚度公差 Tolerance	铜箔 Copper foil	标准供应尺寸 Standard Size
0.03mm to 3.2mm	IPC4101 Class C/M	1/4 oz to 6 oz	915×1220mm (36"×48"), 1020×1220mm (40"×48"), 1070×1220mm (42"×48"), 1830×1220mm (72"×48"), 2040×1220mm (80"×48"), 2140×1220mm (84"×48")

\*其它尺寸和厚度亦可供应 Other sheet size and thickness could be available upon request.

半固化片 Prepreg	标准供应尺寸 Standard Size	常用玻纤布型号 Normal Glass Type
Anti-CAF LDPP	49.5" ×115 m	For Anti-CAF (106, 1080, 2113, 2313, 3313, 2116, 1652, 1506, 7628) For Laser Drillable (106, 1037, 1067, 1078, 1086)

\*其它裁片尺寸和卷长度亦可供应 Other sheet size and roll length could be available upon request.

● 半固化片产品规格表 Specification Sheet for Prepreg

NY1140 半固化片 NY1140 Prepreg	单位 Units	产品规格 Specification	典型值 Typical Value	测试方法 Test Method
1. 玻纤布 Reinforcement	-	As per IPC-4412 or AABUS		
2. 树脂含量 Resin Content	%	±2	±2	2.3.16.1C By treated weight
3. 胶化时间 Gel Time	sec	±20	±20	2.3.18A
4. 树脂流量 Resin Flow	%	±5	±5	2.3.17D
5. 挥发份含量 Volatile content	%	<0.75	<0.75	2.3.19C
6. 储存期 Shelf Life (条件1Condition 1 /条件2Condition 2)	Days	180/90	180/90	AABUS
7. 燃烧性 Flammability (压合后as laminated)	rating	V-0	V-0	UL94
8. 其它 Other	-	As per IPC-4101 or AABUS		

\*AABUS = 供需双方商定 As agreed upon between user and supplier.

\*储存期 Shelf Life (条件1Condition 1 / Temp.: <5℃, 条件2Condition 2/Temp.: <23℃ R.H.: <50%).

● NY1140基板产品规格表 Specification Sheet for Laminate

NY1140覆铜箔板 NY1140 Laminate	单位Units	产品规格 Specification		典型值 Typical Value	测试方法 Test Method
	Metric(English)	<0.50mm	≧0.50mm	1.60mm CCL	IPC-TM-650
1. 抗剥强度 Peel Strength, 收货时 As received A. 1/2 盎司及以下铜箔 17 micron copper B. 1盎司铜箔 35 micron copper C. 2盎司铜箔 70 micron copper D. 3,4,5盎司及以上铜箔 105, 140, 175 micron copper and above	N/mm(lb/inch), minimum	≥0.79 (4.5) ≥1.05 (6.0) ≥1.40 (8.0) ≥1.58 (9.0)	≥1.05 (6.0) ≥1.40 (8.0) ≥1.93 (11.0) ≥2.10 (12.0)	1.90 (1oz)	2.4.8 2.4.8.2 2.4.8.3
2. 体积电阻 Volume Resistivity, A. 恒温恒湿C-96/35/90 B. 耐湿后After moisture resistance C. 高温下 At elevated temperature E-24/125	MΩ-cm, minimum	10 <sup>6</sup> --- 10 <sup>3</sup>	--- 10 <sup>4</sup> 10 <sup>3</sup>	--- 4.9×10 <sup>8</sup> 4.7×10 <sup>6</sup>	2.5.17.1
3. 表面电阻 Surface Resistivity, A. 恒温恒湿C-96/35/90 B. 耐湿后After moisture resistance C. 高温下 At elevated temperature E-24/125	MΩ, minimum	10 <sup>4</sup> --- 10 <sup>3</sup>	--- 10 <sup>4</sup> 10 <sup>3</sup>	--- 5.8×10 <sup>7</sup> 5.5×10 <sup>6</sup>	2.5.17.1
4. 吸水率 Moisture Absorption	% maximum	-	0.8	0.4	2.6.2.1
5. 击穿电压 Dielectric Breakdown	kV minimum	-	40	42	2.5.6
6. 介电常数 Permittivity at 1 MHz, (Laminate & Prepreg as laminated)	- maximum	<5.4	<5.4	4.6	2.5.5.3 2.5.5.5 2.5.5.6
7. 介质损耗 Loss Tangent at 1 MHz, (Laminate & Prepreg as laminated)	- maximum	<0.035	<0.035	0.016	2.5.5.3 2.5.5.3 2.5.5.9
8. 弯曲强度 Flexural Strength, A. 纵向 Length direction B. 横向 Cross direction	N/mm <sup>2</sup> , minimum	- -	415 345	600 500	2.4.4
9. 高温弯曲强度 Flexural Strength at Elevated Temperature, length direction,	N/mm <sup>2</sup> minimum	-	-	-	2.4.4.1
10. 耐电弧性 Arc Resistance	S minimum	60	60	120	2.5.1
11. 热应力冲击 Thermal Stress A. 未蚀刻 Unetched B. 蚀刻 Etched	10 sec at 288℃	Pass Visual Pass Visual	Pass Visual Pass Visual	Pass Pass	2.4.13.1
12. 电气强度 Electric Strength (Laminate & Prepreg as laminated)	kV/mm minimum	30	-	-	2.5.6.2
13. 燃烧性 Flammability (Laminate & Prepreg as laminated)	Rating	V-0	V-0	V-0	UL94
14. 玻璃态转化温度 Glass Transition Temperature	℃	--	≥135	140	2.4.24 2.4.25
15. 热分解温度 Decomposition Temperature	℃	--	--	310	TBD (5% wt loss)
16. 膨胀系数Z-Axis CTE A. Alpha 1 B. Alpha 2 C. 50 to 260 ℃	PPM/℃ PPM/℃ %	-- -- --	-- -- --	65 310 4.5	2.4.24
17. 耐热性(除去铜箔) Thermal Resistance (Copper removed) A.T260 B.T288 C.T300	Minutes Minutes Minutes	-- -- --	-- -- --	13 2 --	2.4.24.1
18. 耐CAF性能 CAF Resistance	Pass/Fail	--	--	AABUS	2.6.25

\*AABUS = 供需双方商定 As agreed upon between user and supplier.

● **NY1140 产品使用指引 Process guideline**

**1. 搬运及储存要求 Handling and Storage:**

- 半固化片和基板必须水平平坦放置，轻拿轻放，避免折伤。

Prepreg and Laminate should always be stored flat and horizontally. To avoid damage is recommended.

- 半固化片可以在干冷的环境下保存 3 个月（温度<23℃，相对湿度: <50%）

Shelf life is 3 months when prepreg stored in a cool dry environment (Temp.: <23℃ R.H.: <50%).

- 基板可以在常温干燥的环境下保存 1 年。

Shelf life is 1 year when laminate stored in a dry environment.

**2. PCB 内层制作指引 PCB Inner Layer Process guideline:**

- 基板在用于量产前，必须先做首板测试并得到合适制作参数（尺寸补偿系数等）。

First around must be taken and find a suitable parameter (as dimension compensation, etc) before mass production.

- 内层线路板在棕化后必须烘烤 120 摄氏度 30 分钟以上，以去除水气。

Inner layers should be baked for at least 30 min at 120℃ after black or brown oxides treatment

**3. PCB 压合制作参考 Multi-layer Lamination Suggestion:**

- 升温速率 Heating rate (80℃~ 140℃) / 高压设定 Highest Pressure:

慢升温速率: 1.0~2.0℃/min 高压设定: 350~400 psi, 快升温速率: 2.0~3.0℃/min 高压设定: 300~350 psi.

Slow heating rate: 1.0~2.0℃/min, Pressure: 350~400 psi. Fast heating rate: 2.0~3.0℃/min, Pressure: 300~350 psi.

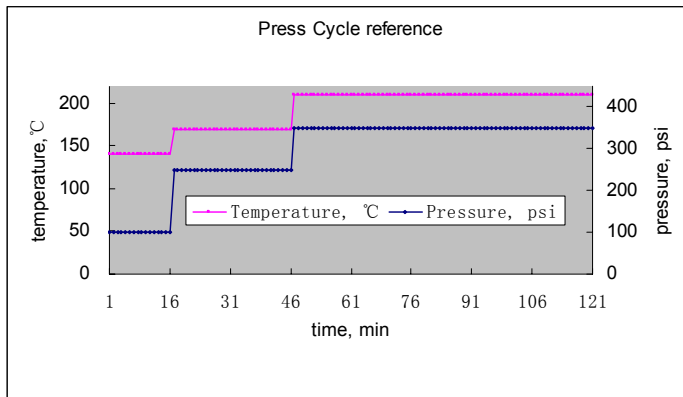
- 固化条件: 压机每本中间层板温必须在 170 摄氏度以上保持 45 分钟，以保证树脂完全固化。

Curing condition: Temperature of the inner boards, keep at least 45 minutes at 170℃ and above.

- 降温速率: 中间层板温高于 140 摄氏度时，降温速率应在 2.0℃/min 以下，以确保热应力完全释放。

Cooling rate: <2.0℃/min, when the temperature of the inner boards is over 140℃, in order to relax the thermal stress.

(建议压合程式如下图 Recommended Press Cycle as below).



**4. 其它制程 The other processes:**

- 钻孔: 钻孔参数必须依据钻咀质量、孔径、铜厚、板厚、层数、及叠板高度等条件设定，并且在量产前必须进行首板试验。

Drilling parameters are mainly dependent on the drill bit quality, hole size, copper thickness, layer thickness, layer number and stack height, and etc. First around must be taken and find a suitable parameter before mass production.

- 烘烤: 建议钻孔后及除胶渣前烘烤 150 摄氏度 2 小时以上，以去除释放机械应力。

To bake after drilling 150℃/ 2 hours, in order to relax the mechanical stress.

- 除胶渣: 一般情况下普通 FR4 的除胶渣条件可能适合此款材料，如有需要可咨询药水供应商并作适当调整。

The typical parameters used to desmear Normal FR-4 may produce optimum hole topography for NY1140. If you need, you can consult with your chemical supplier to optimize your desmear condition, as desmear time or temperature, etc.

- 外型加工: 一般情况下普通的冲模条件可能适合此款材料，如有需要可咨询设备供应商并作适当调整，如冲床、模具类型等。

The typical punching parameters may produce optimum hole topography for NY1140. If you need, you can consult with your equipment supplier to optimize your punching condition.

--- 以上指引，仅供参考。The above process guideline is for general reference only. ---