

## KB-3150/3151 (ANSI: FR-1/JIS: PP7F)

## 覆銅箔酚醛樹脂紙基層壓板

## 特點

- 在高溫下彎曲率、扭曲率小於 1.0%
- 高耐漏電起痕指數（600 伏以上，需提出特殊要求）
- 適合之沖孔溫度為室溫~70℃

## Features

- In high temperature warpage and twist both less than 1.0%
- High CTI value (over 600V, must specify when require)
- Suitable for punching at ambient~70℃

## General Properties 一般特性

| Test Item<br>測試項目                                    | Unit<br>單位            | Test Condition<br>處理條件                                  | Testing Method<br>測試方法 | Specification<br>規格值                    | Typical Value<br>典型值   |
|--|-----------------------|---|------------------------|---|--|
| Solder Resistance<br>耐浸焊性(260℃)                      | Sec                   | A   | JIS C 6481             | ≥10                                     | 20~30  |
| Heat Resistance<br>耐熱性                               | ---                   | 130℃ 30min  | JIS C 6481             | No Change<br>無異常                        | No Change<br>無異常   |
| Peel Strength(Copper Foil 35 μm)<br>銅箔剝離強度(35 μm 銅箔) | kgf/cm                | A<br>260℃/5Sec  | JIS C 6481             | ≥1.2                                    | 1.7~2.0<br>1.6~1.9   |
| Flexural Strength<br>屈曲強度                            | Lengthwise 縱向         | A   | JIS C 6481             | ≥8                                      | 15~17  |
|  | Crosswise 橫向          |   |                        | ≥8                                      | 14~15  |
| Volume Resistivity<br>體積阻抗係數                         | Ωcm                   | C-96/20/65<br>C-96/20/65+C-96/40/90                     | JIS C 6481             | 5×10 <sup>9</sup><br>5×10 <sup>8</sup>  | 1.0×10 <sup>12</sup> ~10 <sup>13</sup><br>1×10 <sup>10</sup> ~10 <sup>11</sup>   |
| Surface Resistance<br>表面抗阻                           | Adhesive Side<br>粘接劑面 | C-96/20/65<br>C-96/20/65+C-96/40/90                     | JIS C 6481             | 1×10 <sup>10</sup><br>1×10 <sup>9</sup> | 1.0×10 <sup>11</sup> ~10 <sup>12</sup><br>1.0×10 <sup>10</sup> ~10 <sup>11</sup> |
|  | Laminate Side<br>積層板面 |   |                        | C-96/20/65<br>C-96/20/65+C-96/40/90     | ---  |
| Insulation Resistance<br>絕緣抗阻                        | Ω                     | C-96/20/65<br>C-96/20/65+D-2/100                        | JIS C 6481             | 1×10 <sup>9</sup><br>1×10 <sup>6</sup>  | 1.0×10 <sup>11</sup> ~10 <sup>12</sup><br>1.0×10 <sup>9</sup> ~10 <sup>10</sup>  |
| Chemical Resistance<br>耐化學性                          | ---                   | 3% NaOH 40℃ 3min<br>3% 氫氧化鈉 40℃ 3 分鐘                    | JIS C 6481             | No Change<br>無異常                        | No Change<br>無異常   |
|  |                       | Boild in trichloroethylene<br>for 3 min<br>三氯乙炔中煮沸 3 分鐘 | JIS C 6481             | No Change<br>無異常                        | No Change<br>無異常   |
| Water Absorption<br>吸水性                              | %                     | E-24/50+D-24/23   | JIS C 6481             | ≤2                                      | 0.8~1.0  |
| Flammability<br>阻燃性                                  | Sec                   | A   | UL94                   | 94V-0                                   | 94V-0  |
| Dielectric Constant (1 MHz)<br>介電常數 (1 MHz)          | ---                   | C-96/20/65<br>C-96/20/65+D-24/23                        | JIS C 6481             | ≤5.5                                    | 4.0~5.0  |
|  |                       |   |                        | ≤6.0                                    | 4.5~5.5  |
| Dissipation Factor<br>介質損耗因數                         | ---                   | C-96/20/65<br>C-96/20/65+D-24/23                        | JIS C 6481             | ≤0.05                                   | 0.025~0.035  |
|  |                       |   |                        | ≤0.1                                    | 0.035~0.045  |
| CTI Value<br>CIT 值                                   | V                     | 0.1% NH <sub>4</sub> Cl                                 | IEC 112                | ---                                     | 200/600  |
| Punching Temperature<br>沖孔溫度                         | ℃                     | A   | WI-QA-002              | 50~70                                   | Ambient~70   |

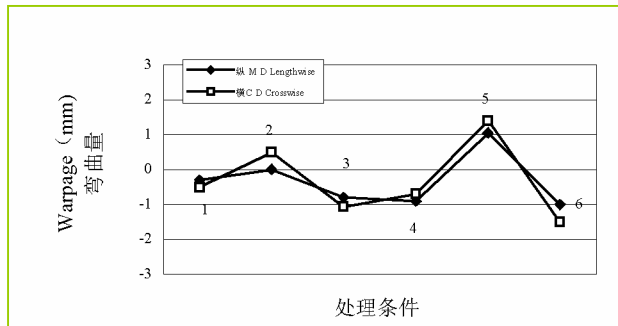
Remarks: Typical values for reference only 注: 典型值只作參考 Stand values according to JIS-C-6485 規格值參照 JIS-C-6485

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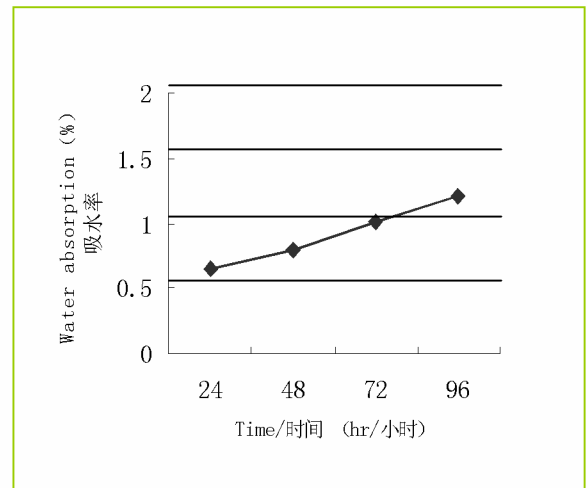
#### Speciality Chart 板材特性圖

Warpage of PCB during processing/印製電路板加工時彎曲度(Thickness 1.6mm single side)

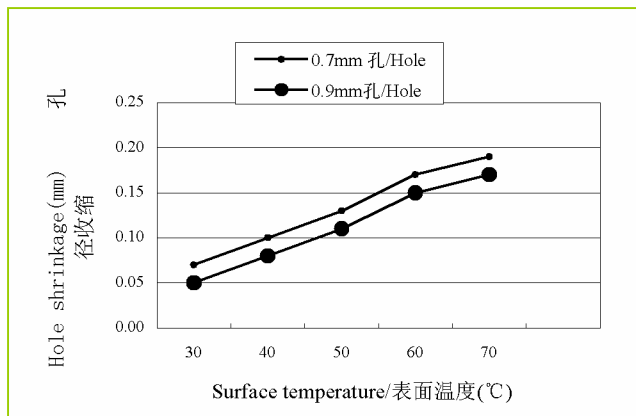


|  |  |   |
|--|--|---|
| 1. Feeding<br>投料                                 | 2. Heating at 130°C for 90 sec<br>130°C 下加熱 90 秒 | 3. Etching.<br>Rinsing. Drying<br>蝕刻, 清洗, 烘乾    |
| 4. Heating at 200°C for 30 sec<br>200°C 下加熱 30 秒 | 5. Punching at 50°C<br>50°C 下沖孔                  | 6. Soldering at 260°C for 5 sec<br>260°C 焊錫 5 秒 |

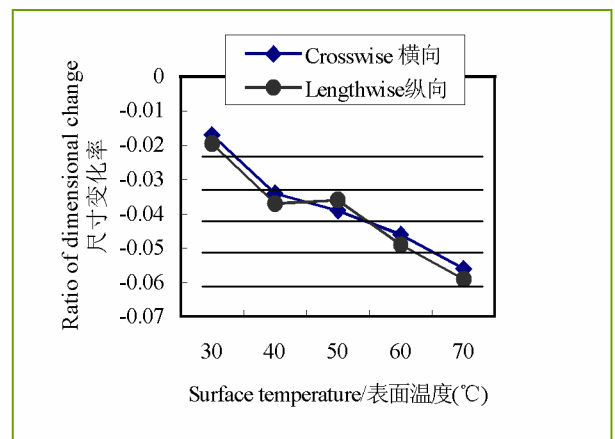
Water absorption 吸水率



Punched hole shrinkage  
沖孔後孔徑收縮



Dimensional change of punched PCB  
沖孔後之尺寸變化



#### Purchasing Information / 採購資訊

| Type<br>類型           | Thickness<br>厚度  | Copper Cladding<br>銅箔厚度 | Regular Size (mm)<br>常規尺寸                          | CTI Value<br>CTI 值 |
|----------------------|------------------|-------------------------|--|--------------------|
| KB-3150/3151<br>FR-1 | 0.8mm ~<br>1.6mm | 18µm<br>35µm<br>70µm    | 1020*1020mm (40" * 40")<br>1020*1220mm (40" * 48") | 200V /<br>600V     |

Note: Other sheet size and thickness could be available upon request.  
可根據客戶要求提供其他尺寸和厚度。