

Halogen-Free/High Tg/Low CTE/ CTI≥600V/ FR15.1

特性 (Feature)

- 无卤，无锑，无红磷  
Halogen, antimony and red phosphorous free
- 优良的耐热性  
Excellent thermal reliability
- 超低的Z轴热膨胀系数  
Extremely low Z-CTE
- 良好的耐CAF性能  
Anti-CAF capability
- 高RTI，最高操作温度>150 °C  
High RTI , FR15.1, MOT>150°C

应用 (Application)

- 在潮湿环境中使用的电子产品  
Electronics used in humid environment
- 电动车车载电子部件  
Electronic components of electric vehicles
- 大功率及高电压应用  
High power and high voltage applications
- 汽车电子(具有CTI-600和高压要求)  
Automotive electronic (With CTI-600 and high voltage requirements)

板材性能 (Laminate Properties)

| Test Item<br>测试项目      |                                    | Test Method<br>(IPC-TM- 650)<br>测试方法 | Test Condition<br>处理条件  |          | Unit<br>单位        | Typical Value<br>典型值 |
|------------------------|------------------------------------|--------------------------------------|-------------------------|----------|-------------------|----------------------|
| Thermal<br>热性能         | Thermal Stress<br>热应力              | 2.4.13.1                             | Float 288 °C / Unetched |          | Sec               | ≥240                 |
|                        | Glass Transition (Tg)<br>玻璃化转变温度   | 2.4.25                               | DSC                     |          | °C                | 193                  |
|                        |                                    | 2.4.24.4                             | DMA                     |          |                   | 210                  |
|                        | CTE / Z-Axis Expansion<br>Z-轴热膨胀系数 | 2.4.24                               | Alpha 1                 |          | ppm/°C            | 35                   |
|                        |                                    |                                      | Alpha 2                 |          |                   | 190                  |
|                        |                                    |                                      | 50 - 260 °C             |          |                   | %                    |
|                        | X/Y CTE<br>X/Y-轴热膨胀系数              | 2.4.24                               | 40 °C - 125 °C          |          | ppm/°C            | 12/15                |
|                        | T-260                              | 2.4.24.1                             | TMA                     |          | min               | >60                  |
|                        | T-288                              | 2.4.24.1                             | TMA                     |          | min               | >60                  |
| TD(5% weight loss)     | 2.4.24.6                           | TGA                                  |                         | °C       | 395               |                      |
| Flammability<br>燃烧性    | UL94                               | E-24/125                             |                         | Rating   | V-0               |                      |
| Electrical<br>电性能      | Surface Resistivity<br>表面电阻率       | 2.5.17.1                             | C-96/35/90              |          | MΩ                | 3.7×10 <sup>8</sup>  |
|                        | Volume Resistivity<br>体积电阻率        | 2.5.17.1                             | C-96/35/90              |          | MΩ-cm             | 4.3×10 <sup>9</sup>  |
|                        | Dielectric Breakdown<br>击穿电压       | 2.5.6                                | D-48/50+D0.5/23         |          | kV                | ≥45                  |
|                        | Dielectric Constant<br>介电常数        | IEC61189-2-721                       | Etched<br>(RC50%)       | @ 1 GHz  | —                 | 4.6                  |
|                        |                                    |                                      |                         | @ 10 GHz |                   | 4.4                  |
|                        | Loss Tangent<br>介质损耗               | IEC61189-2-721                       | Etched<br>(RC50%)       | @ 1 GHz  | —                 | 0.011                |
|                        |                                    |                                      |                         | @ 10 GHz |                   | 0.013                |
| CTI<br>相对漏电起痕指数        | IEC60112                           | Etched/0.1% NH <sub>4</sub> CL       |                         | V        | ≥600              |                      |
| Arc Resistance<br>耐电弧性 | 2.5.1                              | D-48/50+D-0.5/23                     |                         | Sec      | 126               |                      |
| Mechanical<br>机械性能     | Peel Strength (1 oz.)<br>铜箔剥离强度    | 2.4.8                                | A                       |          | N/mm              | --                   |
|                        |                                    |                                      | Float 288 °C / 10 Sec   |          |                   | 1.40                 |
|                        | Flexural Strength<br>弯曲强度          | 2.4.4                                | Lengthwise              |          | N/mm <sup>2</sup> | 602                  |
|                        |                                    |                                      | Crosswise               |          |                   | 534                  |
|                        | Water Absorption<br>吸水率            | 2.6.2.1                              | D-24/23                 |          | %                 | 0.11                 |

Remarks:

- Typical Values for reference only.
- Standard Values according to IPC-4101E/130
- Typical Value of Specimen thickness is 1.6mm (#7628\*8)

注:

- 典型值只供参考
- 规格值参照 IPC-4101E/130
- 样品的厚度为 1.6mm (#7628\*8)

