



# SDI03K

(UL ANSI: FR-4.1) High Tg, Halogen Free & Low Dk Material for ultra-thin HDI PCB

## FEATURES

- Lead-free compatible.
- High Tg Halogen-free, Tg 185°C (DSC)
- UV Blocking/AOI compatible.
- Lower Z-axis CTE.

## APPLICATIONS

Smart phone, NB, Tablet, Instrumentation, VCR, TV, Electronic Game Machine, Communication Equipment, etc.

## GENERAL PROPERTIES

| Test Items                       | Test Method         | Test Condition             | Unit         | Typical Value        |
|----------------------------------|---------------------|----------------------------|--------------|----------------------|
| Tg                               | IPC-TM-650 2.4.25   | DSC                        | °C           | 185                  |
|                                  | IPC-TM-650 2.4.24   | TMA                        | °C           | 180                  |
|                                  | IPC-TM-650 2.4.24.2 | DMA                        | °C           | 200                  |
| Td                               | IPC-TM-650 2.4.24.6 | 5% Wt. Loss                | °C           | 390                  |
| T288                             | IPC-TM-650 2.4.24.1 | TMA                        | min          | >60                  |
| T260                             | IPC-TM-650 2.4.24.1 | TMA                        | min          | >60                  |
| Thermal Stress (Unetched/Etched) | IPC-TM-650 2.4.13.1 | 288°C, solder dipping      | -            | Pass/Pass            |
| CTE (Z-axis)                     | IPC-TM-650 2.4.24   | Before Tg                  | ppm/°C       | 45                   |
|                                  | IPC-TM-650 2.4.24   | After Tg                   | ppm/°C       | 240                  |
|                                  | IPC-TM-650 2.4.24   | 50-260°C                   | %            | 2.3                  |
| Dielectric Constant              | IPC-TM-650 2.5.5.9  | C-24/23/50, RC72%,1GHz     | -            | 3.44                 |
| Dissipation Factor               | IPC-TM-650 2.5.5.9  | C-24/23/50, RC72%,1GHz     | -            | 0.0066               |
| Volume Resistivity               | IPC-TM-650 2.5.17.1 | After moisture resistance  | MΩ/cm        | 4.76×10 <sup>8</sup> |
|                                  | IPC-TM-650 2.5.17.1 | E-24/125                   | MΩ/cm        | 5.00×10 <sup>6</sup> |
| Surface Resistivity              | IPC-TM-650 2.5.17.1 | After moisture resistance  | MΩ           | 1.84×10 <sup>7</sup> |
|                                  | IPC-TM-650 2.5.17.1 | E-24/125                   | MΩ           | 5.00×10 <sup>6</sup> |
| Arc Resistance                   | IPC-TM-650 2.5.1    | D-48/50+D-0.5/23           | s            | 181                  |
| Dielectric Breakdown             | IPC-TM-650 2.5.6    | D-48/50+D-0.5/23           | kV           | > 45                 |
| Peel Strength                    | IPC-TM-650 2.4.8    | 288°C/10s, HOz Copper Foil | N/mm [lb/in] | 1.1 [6.3]            |
|                                  | IPC-TM-650 2.4.8    | 125°C, HOz Copper Foil     | N/mm [lb/in] | 1.1 [6.3]            |
| Flexural Strength (LW/CW)        | IPC-TM-650 2.4.4    | A                          | MPa          | 595/547              |
| Water Absorption                 | IPC-TM-650 2.6.2.1  | D-24/23                    | %            | 0.07                 |
| Flammability                     | UL94                | C-48/23/50, E-24/125       | Rating       | V-0                  |
|                                  | UL94                | E-24/125+des               | Rating       | V-0                  |

- Remarks:
1. Specification sheet: IPC-4101/130, is for your reference only.
  2. All the typical value is based on the 1.0mm specimen.
  3. All the typical value listed above is for your reference only, please turn to Shengyi Technology Co., Ltd for detailed information, and all rights from this data sheet are reserved by Shengyi Technology Co., Ltd.



# SDI03KB PREPREG

(UL ANSI: FR-4.1) High Tg Halogen Free & Low Dk Ultra-thin prepreg

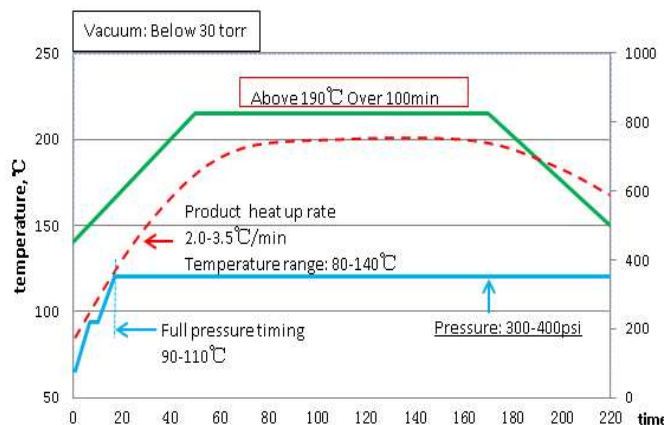
## PREPREG PARAMETERS

| Glass fabric type | Resin content (%) | Cured thickness (mm) | Dk (1GHz) | Df (1GHz) | Standard size (Roll type) |
|-------------------|-------------------|----------------------|-----------|-----------|---------------------------|
| 1027              | 72%               | 0.045                | 3.44      | 0.0066    | 1.260m×150m               |
|                   | 75%               | 0.050                | 3.38      | 0.0066    |                           |
| 1037              | 72%               | 0.054                | 3.44      | 0.0066    | 1.260m×150m               |
|                   | 75%               | 0.062                | 3.38      | 0.0066    |                           |
| 106               | 72%               | 0.056                | 3.44      | 0.0066    | 1.260m×150m               |
|                   | 75%               | 0.063                | 3.38      | 0.0066    |                           |
| 1067              | 69%               | 0.064                | 3.49      | 0.0065    | 1.260m×150m               |
| 1080              | 64%               | 0.079                | 3.58      | 0.0061    | 1.260m×150m               |
|                   | 68%               | 0.096                | 3.51      | 0.0065    |                           |

Remark: Dk and Df are tested according to IPC TM-650 2.5.5.9.

Prepreg type, resin content and size could be available upon request.

## HOT PRESSING CYCLE



- Heat up rate: 2.0-3.5°C/min (80-140°C).
- Curing time: >100min (190°C-200°C).
- Full pressure timing: product temperature 90-110°C.
- The hot pressing parameter is for your reference only, please turn to Shengyi Technology Co., Ltd for detailed information.

## STORAGE CONDITION

- 3 months when stored at < 23°C and <50% RH.
- 6 months when stored at <5°C. Normalize in room temperature for at least 4h before using.
- Beware of moisture, always keep wrapped in damp-proof material. Were kept in normal condition, prepreg might absorb moisture and its bonding strength would be weakened.