



# SP175M

## High Performance, High-Tg Prepreg Material

### FEATURES

- Lead-free compatible
- Low water absorption
- Excellent thermal reliability
- Excellent through-hole reliability

### APPLICATIONS

Computer, router  
 Communication equipment  
 Precise apparatus and instrument  
 Suitable for high aspect ratio and high-layer PCB.

### GENERAL PROPERTIES

| Test Items           | Test Method         | Test Condition    | Unit         | Typical Value       |
|----------------------|---------------------|-------------------|--------------|---------------------|
| Tg                   | IPC-TM-650 2.4.25D  | DSC               | °C           | 175                 |
| Td                   | IPC-TM-650 2.4.24.6 | TGA (5% W.L)      | °C           | 348                 |
| T288                 | IPC-TM-650 2.4.24.1 | TMA               | min          | 20                  |
| T260                 | IPC-TM-650 2.4.24.1 | TMA               | min          | 60                  |
| Thermal Stress       | IPC-TM-650 2.4.13.1 | 288°C, solder dip | s            | >100                |
| CTE(Z-axis)          | IPC-TM-650 2.4.24   | Before Tg         | ppm/°C       | 56                  |
|                      | IPC-TM-650 2.4.24   | After Tg          | ppm/°C       | 326                 |
|                      | IPC-TM-650 2.4.24   | 50-260°C          | %            | 3.8                 |
| Permittivity (1GHz)  | IPC-TM-650 2.5.5.9  | C-24/23/50        | -            | 3.6                 |
| Loss Tangent (1GHz)  | IPC-TM-650 2.5.5.9  | C-24/23/50        | -            | 0.016               |
| Volume Resistivity   | IPC-TM-650 2.5.17.1 | C-96/35/90        | MΩ-cm        | 4.6×10 <sup>6</sup> |
| Surface Resistivity  | IPC-TM-650 2.5.17.1 | C-96/35/90        | MΩ           | 7.9×10 <sup>5</sup> |
| Arc Resistance       | IPC-TM-650 2.5.1    | D-48/50+D-0.5/23  | s            | 90                  |
| Dielectric Breakdown | IPC-TM-650 2.5.6    | D-48/50+D-0.5/23  | kV           | >45                 |
| Peel Strength (1oz)  | IPC-TM-650 2.4.8    | 288°C/10s         | N/mm [lb/in] | 1.3 [7.43]          |
| Water Absorption     | IPC-TM-650 2.6.2.1  | D-24/23           | %            | 0.20                |
| Flammability         | UL94                | C-48/23/50        | Rating       | V-0                 |
| CTI                  | IEC60112            | A                 | Rating       | PLC 3               |

Remarks:1. All the typical value is based on the 1.8mm specimen.

2. 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.

### PREPREG PARAMENTERS

| Designation | Resin content (%) | Cured thickness (mm) | Standard size |
|-------------|-------------------|----------------------|---------------|
| SP175M      | 89                | 0.150                | 508mm×610mm   |
|             | 92                | 0.200                |               |

Remarks: Storage: 3 months when stored at <23°C and <50%RH, 6 months when stored at <5°C.  
 Curing time: >60min(185-195°C)