



# S1141 150

(ANSI:FR-4)Mid-Tg/UV Blocking

## 特点

- Tg150℃(DSC)。
- UV Blocking/AOI兼容。
- 优良的PCB加工性能。

## FEATURES

- Tg 150℃(DSC)。
- UV Blocking/AOI compatible.
- Good PCB mechanical processability.

## 应用领域

电脑、仪器仪表、摄像机、通讯设备、电子游戏机、汽车电子等。

## APPLICATIONS

Computer, instrumentation, VCR, communication equipment, electronic toy, automotive, and etc.

## GENERAL PROPERTIES

| Test Item                  |                           | Treatment Condition                  | Unit  | Property Data     |                     |
|----------------------------|---------------------------|--------------------------------------|-------|-------------------|---------------------|
|                            |                           |                                      |       | SPEC              | Typical Value       |
| Tg                         |                           | DSC                                  | ℃     | ≥ 145             | 150                 |
| Flammability               |                           | C-48/23/50                           | -     | V-0               | V-0                 |
|                            |                           | E-24/125+des                         |       |                   |                     |
| Volume Resistivity         | After moisture resistance | E-24/125                             | MΩ-cm | ≥ 10 <sup>6</sup> | 4.7×10 <sup>8</sup> |
|                            |                           |                                      |       | ≥ 10 <sup>3</sup> | 5.3×10 <sup>6</sup> |
| Surface Resistivity        | After moisture resistance | E-24/125                             | MΩ    | ≥ 10 <sup>4</sup> | 5.3×10 <sup>7</sup> |
|                            |                           |                                      |       | ≥ 10 <sup>3</sup> | 5.4×10 <sup>6</sup> |
| Arc Resistance             |                           | D-48/50+D-0.5/23                     | S     | ≥60               | 120                 |
| Dielectric Breakdown       |                           | D-48/50+D-0.5/23                     | KV    | ≥ 40              | 60                  |
| Dielectric Constant (1MHz) |                           | C-24/23/50                           | -     | ≤ 5.4             | 4.6                 |
| Dissipation Factor (1MHz)  |                           | C-24/23/50                           | -     | ≤ 0.035           | 0.015               |
| Thermal Stress             | Unetched                  | 288℃, solder dip                     | -     | >10s              | 60s                 |
|                            | Etched                    |                                      |       | No delamination   | No delamination     |
| Peel Strength              | 1oz                       | 288℃, 10s                            | N/mm  | ≥ 1.05            | 1.8                 |
|                            | Cu. Foil                  | 125℃                                 |       | ≥ 0.70            | 1.6                 |
| Flexural Strength          | LW                        | A                                    | MPa   | ≥ 415             | 600                 |
|                            | CW                        |                                      |       | ≥ 345             | 500                 |
| Water Absorption           |                           | D-24/23                              | %     | ≤ 0.8             | 0.15                |
| CTE Z-axis                 | Before Tg                 | TMA                                  | μm/m℃ | -                 | 58                  |
|                            | After Tg                  | TMA                                  | μm/m℃ | -                 | 285                 |
|                            | 50~260℃                   | TMA                                  | %     | -                 | 4.2                 |
| Td                         |                           | 10℃/min, N <sub>2</sub> , 5% Wt Loss | ℃     | -                 | 310                 |
| T260                       |                           | TMA                                  | min   | -                 | 15                  |
| T288                       |                           | TMA                                  | min   | -                 | 2                   |
| CTI                        |                           | IEC60112 Method                      | V     | 175~250(grade3)   | 200                 |

Remarks: All the data listed above can meet IPC-4101/21 requirement.  
Specimen Thickness:1.6mm

Explanations: C = Humidity conditioning;  
D = Immersion conditioning in distilled water;  
E = Temperature conditioning.

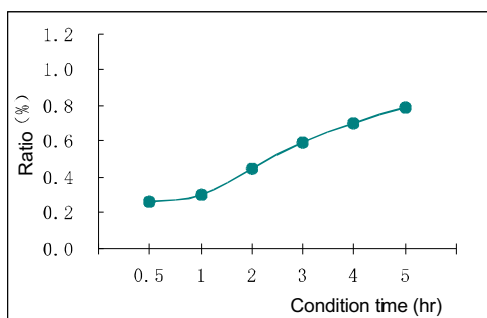
The figures following the letter symbols indicate with the first digit the duration of the preconditioning in hours, with the second digit the preconditioning temperature in ℃ and with the third digit the relative humidity.



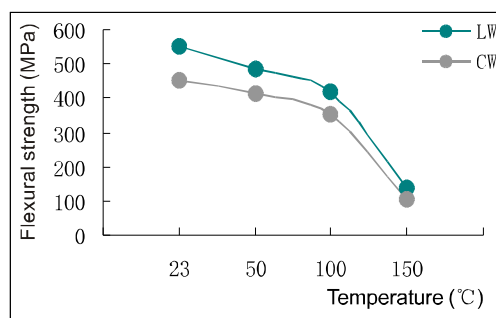
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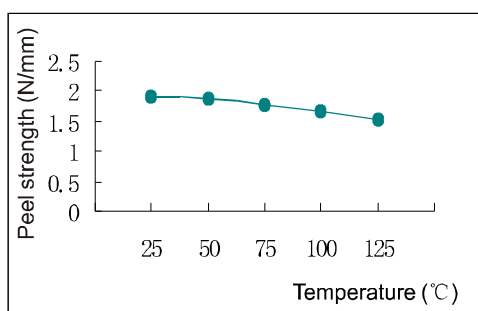
## Water absorption at pressure cooker



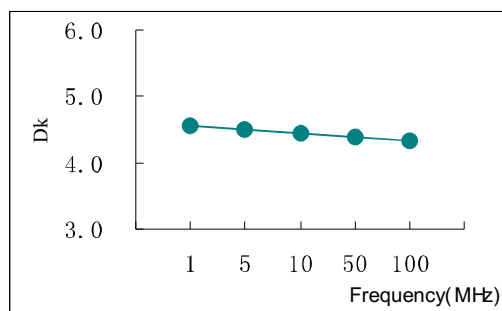
## Flexural strength



## Peel strength



## Dielectric constant



## S1141 150 VS. Conventional FR-4

| Property                  | S1141 150 | Conventional FR-4 (S1130) |
|---------------------------|-----------|---------------------------|
| Tg (°C)                   | 150       | 135                       |
| Z-CTE (ppm/°C) [30~260°C] | 178       | 205                       |

## PURCHASING INFORMATION

| Thickness       | Copper foil       | Standard Size   |
|-----------------|-------------------|---|
| 0.05mm to 3.2mm | 12 μ m to 105 μ m | 1,020×1,220mm (40" ×48" )<br>915×1,220mm (36" ×48" )<br>1,070×1,220mm (42" ×48" ) |

※ Other sheet size and thickness could be available upon request.



# S0401 150 PREPREG

(ANSI:FR-4) Bonding Prepreg For S1141 150

## 特点

- Tg150℃ (DSC)。
- UV Blocking/AOI兼容。
- 优良的粘结性能，作业窗口宽。

## FEATURES

- Tg150℃ (DSC) .
- UV Blocking/AOI Compatible.
- Excellent bonding strength ,wide operating window.

## PREPREG PARAMETERS

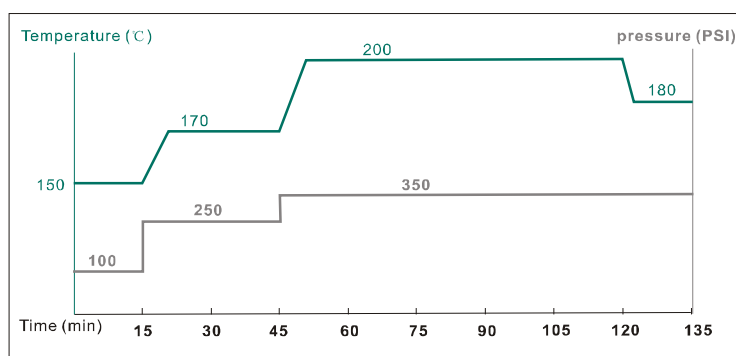
| Designation | Glass fabric type | Performance | Gel time (sec) | Resin Content (%) | Resin flow (%) | Cured Thickness (μm) | Standard Size (roll type)    |
|-------------|-------------------|-------------|----------------|-------------------|----------------|----------------------|------------------------------|
| S0401150    | 106               | Tg<br>150℃  | 110±20         | 71±3              | 37±5           | 50±10                | 1,260mm×114.3m<br>(125yards) |
|             | 1080              |             |                | 64±3              | 36±5           | 76±10                |                              |
|             | 2116              |             |                | 52±3              | 28±5           | 120±15               |                              |
|             | 7628              |             |                | 43±3              | 23±5           | 195±20               |                              |

Type , Resin Content and Size Could be Available Upon Request

## Prepreg Test Method

- Resin Content, Resin Flow, Gel Time: IPC-TM-650

## HOT PRESSING CYCLE



Heat-up rate: 1.5~2.5℃/min(80~140℃)  
Curing time: >45min(170~180℃)

## STORAGE CONDITION

- Three months when stored at <23℃ and <50% RH .
- Six months when stored at <5℃. 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.
- Avoid UV-rays and strong light.