



SI10U

Halogen-free Low CTE Laminate for IC Plastic Packages

FEATURES

- Low CTE and high modulus, effective to reduce the warpage of substrate for IC PKG.
- Superior heat resistance after moisture absorption.
- Good drill processability.
- Halogen-free material.

APPLICATIONS

Substrates for Memory, CSP, BGA, POP etc.

GENERAL PROPERTIES

| Items | Test Method | Test Condition | Unit | SI10U | SI10U LC |
|---|--------------------|--------------------------|--------|---------|---------------|
| Tg | - | DMA | °C | 270 | 270 |
| X/Y-CTE | - | <Tg | ppm/°C | 10 | 7 |
| Flexural modulus | - | A | GPa | 30 | 32 |
| Peel Strength | IPC-TM650 2.4.8 | 12um LP | N/mm | 0.8 | 0.8 |
| Heat resistance after Moisture absorption | - | PCT 5h +288°C solder 20s | - | Pass | Pass |
| Heat resistance | - | 300°C/solder dip | S | >300 | >300 |
| Moisture Absorption | - | C-168/85/85 | % | 0.35 | 0.35 |
| Dk(1GHz) | IPC-TM650 2.5.5.9 | IPC-TM650 2.5.5.9 | - | 4.6 | 4.2 |
| Df(1GHz) | IPC-TM650 2.5.5.9 | | - | 0.006 | 0.006 |
| T300 | IPC-TM650 2.4.24.1 | TMA | min | >60 | >60 |
| Td | IPC-TM650 2.4.24.6 | 5% loss | °C | >400 | >400 |
| Flammability | UL-94 | UL-94 | - | V-0 | V-0 |
| Halogen free | - | - | - | Yes | Yes |
| Glass | - | - | - | E glass | Low CTE-glass |

- Remarks:1. These properties were measured with 0.80mm laminates except for XY-CTE that was measured with 0.10mm laminates.
 2. All the typical values listed above are for your reference only and not intended for specification. Please contact Shengyi Technology Co., Ltd. for detailed information. All rights from this data sheet are reserved by Shengyi Technology Co., Ltd.
 3. The preconditioning temperature in °C and with the third digit the relative humidity.

Explanation: C=Humidity conditioning, D=Immersion conditioning in distilled water, E=Temperature conditioning
 The first digit following the letter indicates the duration of preconditioning in hours, the second digit the preconditioning temperature in °C and the third digit the relative humidity.



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Line up of Core Material

| Designation | Type | Nominal Thickness(mm) | Glass Fabric Construction | Glass Fabric Type |
|-------------|------|-----------------------|---------------------------|-------------------|
| SI10U | - | 0.10 | 1x2116 | E-glass |
| | | 0.20 | 2x2116 | |
| | | 0.25 | 2116+1078+2116 | |
| | | 0.30 | 3x2116 | |
| | | 0.40 | 4x2116 | |
| | M | 0.04 | 2x1015 | |
| | | 0.06 | 2x1037 | |
| | | 0.10 | 2x1078 | |
| | | 0.15 | 3x1078 | |
| | | 0.20 | 4x1078 | |
| | LC | 0.04 | 1x1067 | Low CTE-glass |
| | | 0.06 | 1x1280 | |
| | | 0.10 | 1x2116 | |
| | | 0.15 | 2x2013 | |
| | | 0.20 | 2x2116 | |
| | | 0.25 | 2116+1078+2116 | |
| | | 0.30 | 3x2116 | |
| | LCM | 0.06 | 2x1037 | |
| | | 0.10 | 2x1078 | |
| | | 0.15 | 3x1078 | |

Line up of PREPREG

| Designation | Nominal Thickness(um) (Copper Remaining 100%) | Resin Content (Wt%) | Glass Fabric Construction | Glass Fabric Type |
|-------------|--|------------------------|---------------------------|-------------------|
| SI10NB | 30 | 76 | 1017 | E-glass |
| | 40 | 73 | 1027 | |
| | 50 | 74 | 1037 | |
| | 60 | 72 | 1067 | |
| | 70 | 64 | 1078 | |
| SI10NB LC | 30 | 76 | 1017 | Low CTE-glass |
| | 40 | 73 | 1027 | |
| | 50 | 74 | 1037 | |
| | 60 | 72 | 1067 | |
| | 70 | 64 | 1078 | |