

IT-150

Features

- Tg >145 °C (DSC)
- Lower Z-axis CTE
- UL 94 V-0
- AOI and UV blocking characteristic

Properties

| ITEQ Laminate/ Prepreg : IT-150TC / IT-150BS | | | | | | |
|---|------------------------------------|-----------------|------------------------------------|-----------------|--|-----------------------------|
| IPC-4101A Spec / 21 | | | | | | |
| LAMINATE (IT-150TC) | | | | | | |
| Property | Thickness < 0.50 mm [0.0197 in] | | Thickness ≥ 0.50 mm [0.0197 in] | | Units | Test Method |
| | Typical Value | Spec | Typical Value | Spec | Metric (English) | IPC-TM-650 (or as noted) |
| Peel Strength, minimum | | | | | | |
| A. Low profile copper foil and very low profile copper foil - all copper weights > 17µm [0.669 mil] | 0.96(5.5) | 0.70(4.0) | 0.96(5.5) | 0.70(4.0) | N/mm (lb/inch) | 2.4.8 2.4.8.2 2.4.8.3 |
| B. Standard profile copper foil | | | | | | |
| 1. After Thermal Stress | 1.75(10.0) | 0.80 (4.57) | 1.93(11.0) | 1.05 (6.00) | | |
| 2. At 125°C [257 F] | 1.66(9.5) | 0.70 (4.00) | 1.66(9.5) | 0.70 (4.00) | | |
| Volume Resistivity, minimum | | | | | | |
| A. C-96/35/90 | 5x10 ⁸ | 10 ⁶ | | --- | MΩ-cm | 2.5.17.1 |
| B. After moisture resistance | - | --- | 5x10 ⁸ | 10 ⁴ | | |
| C. At elevated temperature E-24/125 | 5x10 ⁷ | 10 ³ | 5x10 ⁷ | 10 ³ | | |
| Surface Resistivity, minimum | | | | | | |
| A. C-96/35/90 | 3.5x10 ⁶ | 10 ⁴ | | --- | MΩ | 2.5.17.1 |
| B. After moisture resistance | --- | --- | 3.5x10 ⁶ --- | 10 ⁴ | | |
| C. At elevated temperature E-24/125 | 6x10 ⁶ | 10 ³ | 6x10 ⁶ | 10 ³ | | |
| Moisture Absorption, maximum | 0.30 | - | 0.1 | 0.8 | % | 2.6.2.1 |
| Dielectric Breakdown, minimum | - | - | 60 | 40 | kV | 2.5.6 |
| Permittivity at 1 MHz, maximum (Laminates & Prepreg as laminated) | 4.6 | 5.4 | 4.6 | 5.4 | --- | 2.5.5.3 |
| Loss Tangent at 1 MHz, maximum (Laminates & Prepreg as laminated) | 0.016 | 0.035 | 0.016 | 0.035 | --- | 2.5.5.3 |
| Flexural Strength, minimum | | | | | | |
| A. Length direction | - | --- | 500(72,500) | 415 (60,190) | N/mm ² (lb/in ²) | 2.4.4 |
| B. Cross direction | - | --- | 440(64,000) | 345 (50,140) | | |
| Arc Resistance, minimum | 120 | 60 | 120 | 60 | S | 2.5.1 |
| Thermal Stress 10 s at 288°C [550.4F], minimum | Pass | Pass Visual | Pass | Pass Visual | Rating | 2.4.13.1 |
| A. Unetched | Pass | Pass Visual | Pass | Pass Visual | | |
| B. Etched | | | | | | |
| Electric Strength, minimum (Laminates & Prepreg as laminated) | 45 | 30 | - | --- | kV/mm | 2.5.6.2 |
| Flammability, (Laminates & Prepreg as laminated) | V-0 | V-1 | V-0 | V-1 | Rating | UL94 |
| Glass Transition Temperature | 150 | 110 - 150 | 150 | 110 - 150 | °C | 2.4.25 |
| Decomposition Temperature | | -- | 302 | - | °C | 2.3.40 (5% wt loss) |
| Z-Axis CTE | | | | | | |
| A. Alpha 1 | - | -- | 55 | - | PPM/°C | 2.4.24 |
| B. Alpha 2 | - | -- | 280 | - | PPM/°C | |
| C. 50 to 260 Degrees C | - | -- | 3.8 | - | % | |
| Thermal Resistance | | | | | | |
| A. T260 | - | -- | 15 | - | Minutes | 2.4.24.1 |
| B. T288 | - | -- | 2 | - | Minutes | |

| PREPREG (IT-150BS) | | | | |
|--|------------------|---------------|-------|-------------|
| | Typical Value | Specification | Units | Test Method |
| 1. Shelf Life, minimum (Condition 1/Condition 2) | Meet requirement | 180/90 | Days | AABUS |
| 2. Volatile content maximum | 0.3 | 0.75 | % | 2.3.19 |
| *AABUS = As agreed upon between user and supplier. | | | | |

Recommended Press Cycle For IT150