

tec-speed 30.0 - VT-6880

UL Approval: E214381 Version: A1

High Frequency Laminate

General Information

- > Non-woven glass reinforced PTFE
- > Excellent high frequency performance & extremely low loss
- > Excellent chemical resistance
- > Low moisture absorption

Application

- > Military & Defense Radar
- > Airborne Radar
- > mm Wave Radar
- > Radio Frequency Applications

Availability

| Item | Availability |
|----------------------|--|
| Dielectric Thickness | 0.010" (0.254mm) 0.020" (0.508mm) 0.030" (0.752mm) |
| Copper Foil | Hoz, 1oz, HTE & RTF & Resistive Foil |
| Metal Base | Al 5052 & 6061, 1~4mm Cu C1100, 1~3mm |
| Panel Size | 18"*12" (457*305mm) 18"*24" (457*610mm) |

Note: Additional options may be available upon request.

Storage Condition

| Properties | | Laminate |
|-------------------|-------------------|----------|
| Storage Condition | Temperature | Room |
| | Relative humidity | / |

Note: The prepreg exceeding shelf life should be retested.

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Properties Sheet

| Properties | Test Method | Units | Conditions | Typical Value |
|------------------------------|---------------------------|------------------|----------------------|-------------------|
| Electrical Properties | | | | |
| Dielectric Constant (Dk) | IPC-TM-650 2.5.5.5 | - | 10GHz | 2.20 ± 0.02 |
| Design Dk | Differential phase method | - | 8~40GHz | 2.20 |
| Dissipation Factor | IPC-TM-650 2.5.5.5 | - | 10GHz | 0.0009 |
| Thermal Coefficient of Dk | IPC-TM-650 2.5.5.5 | ppm/°C | -50~150°C | -140 |
| Volume Resistivity | IPC-TM-650 2.5.17.1 | MΩ-cm | After Moisture | 2*10 ⁷ |
| Surface Resistivity | IPC-TM-650 2.5.17.1 | MΩ | After Moisture | 3*10 ⁷ |
| Thermal Properties | | | | |
| Td @ 5% Weight Loss | ASTM D3850 | °C | 2hrs @ 105°C | 500 |
| Thermal Conductivity | ASTM D5470 | W/MK | As received | 0.20 |
| XY-axis CTE | IPC-TM-650 2.4.24.5 | ppm/°C | 0~100°C | 40/40 |
| Z-axis CTE | IPC-TM-650 2.4.24 | ppm/°C | 0~100°C | 75 |
| Thermal Stress @ 288°C | IPC-TM-650 2.4.13.1 | Second | 10sec/cycle | >300 |
| Mechanical Properties | | | | |
| Peel Strength (1oz) | IPC-TM-650 2.4.8 | lb/in (N/mm) | After thermal stress | 20 (3.51) |
| Tensile Modulus (x, y-axis) | ASTM D638 | MPa | As received | 900 / 800 |
| Physical Properties | | | | |
| Density | ASTM D792 | g/m ³ | As received | 2.1 |
| Moisture Absorption | IPC-TM-650 2.6.2.1 | % | D48/50 | 0.02 |
| Flammability | UL-94 | Rating | | V-0 |
| Lead free process compatible | - | - | - | YES |
| IPC-4103 | - | - | - | /210 |

All test data provided are preliminary typical values and not intended to be specification values.

Disclaimer: The information and data contained in this technical literature is based on data and knowledge correct at the time of printing and is believed to be accurate and is offered in good faith for the benefit of the user. The user should make his own tests to verify the suitability of this product for any application before its use. All data are typical values only and subject to change without notice.