## RF-35TC

## **Thermally Conductive Low Loss Laminate**



## **Benefits**

- "Best in Class" Loss Tangent
- Exceptional Thermal Management
- Dk Stability Across a Broad Temperature Range
- Enhanced Antenna Gains/Efficiencies
- Excellent Adhesion to Very Low Profile copper

## **Applications**

- Filters, Couplers & Power
- Amplifiers
- Antennas
- Satellites



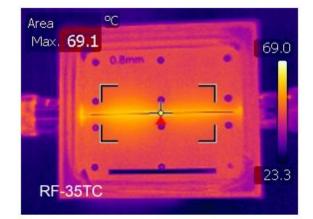
RF-35TC offers a "best in class" low dissipation factor with high thermal conductivity. This material is best suited for high power applications where every 1/10th of a dB is critical and the PWB substrate is expected to diffuse heat away from both transmission lines and surface mount components such as transistors or capacitors. RF-35TC is a PTFE based, ceramic filled fiberglass substrate. It will not oxidize, yellow or show upward drift in dielectric constant and dissipation factor like its synthetic rubber (hydrocarbon) competitors.

The low Z axis CTE and temperature stable Dk are critical for both narrow band and broad band overlay couplers. The low X and Y CTE values are crucial for maintaining critical distances between trace elements in a printed filter. The extremely low Df of 0.0011 and high thermal conductivity are particularly suited for power amplifier applications.

RF-35TC bonds very well to low profile copper, further reducing insertion loss.

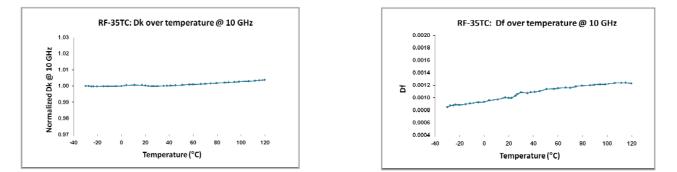
Like most material properties, there are many techniques for measuring thermal conductivity. Thermal conductivity measured on an unclad sample (no copper) offers the true thermal conductivity of the laminate. Measurements on a copper clad laminate typically yield higher values as the copper clad laminate offers the least thermal resistance at the interface between the laminate and measuring equipment.

When measured with or without copper cladding, RF-35TC has a state-of-the-art thermal conductivity. However, the low dissipation factor differentiates RF-35TC from the competition.

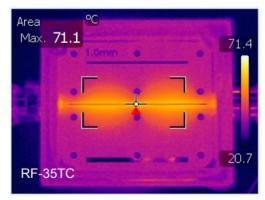


Thermal image of 0603 capacitor at the center of a microstrip (47pF/250V/C0G) assembled on RF-35TC under 200 watts applied power.

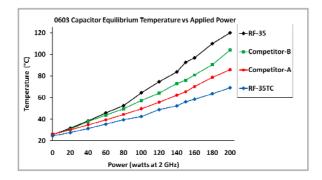




RF-35TC offers superior heat dissipation performance compared to competitive materials through a combination of exceptional thermal conductivity and "best in class" low dielectric loss.

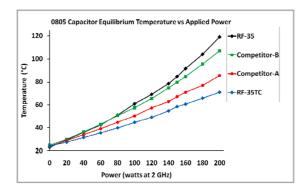


Thermal image of a microstrip transmission line with 0805 capacitor at center (47pF/250V/COG) assembled on RF-35TC under 200 watts applied power.

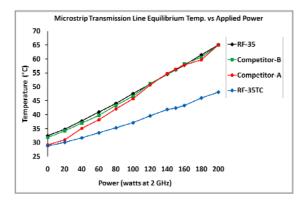


Maximum temperature as a function of applied power for a microstrip and 0603 capacitor assembled on RF-35TC, RF-35 and two competitive materials.

**RF-35TC : normalized Dk vs frequency** 



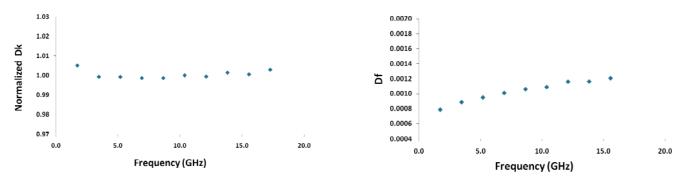
Maximum temperature as a function of applied power for a microstrip and 0805 capacitor assembled on RF-35TC, RF-35 and two competitive materials.



Maximum temperature as a function of applied power for a microstrip transmission line assembled on RF-35TC, RF-35 and two competitive materials.

Rf-35TC : Df vs frequency





Dielectric Organization         (mm) 10 GHz         3.5 ± 0.05         (PC-650 2.5.5.1. [Modified])           Dissipation Factor         (@) 10 GHz         0.002         IPC-650 2.5.5.1. [Modified]           Dissipation Factor         (@) 10 GHz         0.002         IPC-650 2.5.5.1. [Modified]           Surface Resistivity         6.42 × 107         Mohms         IPC-650 2.5.17.1 [After Humidify]           Volume Resistivity         5.19 × 10 <sup>6</sup> Mohms/cm         IPC-650 2.5.17.1 [After Humidify]           Thermal Properties         (PC-650 2.5.17.1 [After Humidify])         IPC-650 2.5.17.1 [After Humidify]           Thermal Conductivity         C1/C1, 125 °C         0.92         W/M*K         ASTM F433 [Guarded Heat Flow)           The C41 2.5 °C         0.87         W/M*K         ASTM F433 [Guarded Heat Flow)         IPC-650 2.4.41 / ASTM D 3386           Ta         2% WL loss         436 [817]         *C (°F)         IPC-650 2.4.41 / ASTM D 3386           Ta         2% WL loss         436 [817]         *C (°F)         IPC-650 2.4.4 / ASTM D 3386           Dielectric Strength         Ý oz CVH         1.25 [7.0]         N/mm [bs])         ASTM D 149 [Through Plane]           Felswardth         CD         8.05 (11,700)         N/mm' [bs])         ASTM D 3039 / IPC-TM-650 2.4.19           Voung's Modulus	Properties	Conditions	Typical Value	Unit	Test Method	
Dielectric Constant         @ 10 GHz         3.5 ± 0.05         IPC-650 25.5 ± 1.1 (Addrffed)           Disspation Factor         @ 10 GHZ         0.002         IPC-650 25.5 ± 1.1 (Addrffed)           Surface Resistivity         6.42 ± 10 <sup>7</sup> Mohms         IPC-650 25.5 ± 1.1 (After Elevated Temp.)           Volume Resistivity         5.19 ± 0.0 <sup>6</sup> Mohms/cm         IPC-650 25.17.1 (After Elevated Temp.)           Thermal Properties         1.0 ± 0.002         W/M*K         RSTM F433 (Guarded Heat Flow)           Thermal Conductivity         Uncled. 125 °C         0.60         W/M*K         ASTM F433 (Guarded Heat Flow)           CH/CL1, 125 °C         0.92         W/M*K         ASTM F433 (Guarded Heat Flow)         CH/CL1, 125 °C           Ta         X         11         ppm/°C         IPC-650 2.4.41 / ASTM D 3386           CTE (23 to 125 °C)         Y         13         ppm/°C         IPC-650 2.4.41 / ASTM D 3386           Ta         S% WL Loss         420 (788)         °C (°F)         IPC-650 2.4.4 / ASTM D 3386           Felseural Strength         % oz CVH         1.25 (7.0)         N/mm (Ibs/in)         IPC-650 2.4.4 (Thermal Stress)           Diedertic Strength         MD         8.8 4 (200)         N/mm (Ips)         ASTM D 3039 / IPC-TM-650 2.4.19           Flexural Strength	Electrical Properties					
Surface Resistivity         8.33 x 10 <sup>7</sup> Mohms         IPC-650 25.17.1 (After Elevated Temp.)           Volume Resistivity         5.19 x 10 <sup>9</sup> Mohms/cm         IPC-650 25.17.1 (After Elevated Temp.)           Volume Resistivity         2.91 x 10 <sup>9</sup> Mohms/cm         IPC-650 25.17.1 (After Elevated Temp.)           Thermal Properties         Unclad, 125 °C         0.60         W/M*K         IPC-650 2.5.17.1 (After Elevated Temp.)           Thermal Conductivity         C1/C1, 125 °C         0.92         W/M*K         ASTM F433 (Guarded Heat Flow)           C1/C1, 125 °C         0.87         W/M*K         ASTM F433 (Guarded Heat Flow)         IPC-650 2.4.41 / ASTM D 3386           C1 (23 to 125 °C)         Y         13         ppm/°C         IPC-650 2.4.41 / ASTM D 3386           Ta         2% Wt. Loss         420 (788)         °C (°F)         IPC-650 2.4.41 / ASTM D 3386           Mochanical Properties         5% Wt. Loss         420 (788)         °C (°F)         IPC-650 2.4.41 / ASTM D 3386           Peel Strength         ½0 CVH         1.2 S (7.0)         N/mm (br/m)         ASTM D 149 (Through Plane)           Flexural Strength         MD         8.8.94 (12,500)         N/mm² (psi)         ASTM D 3039 / IPC-7M-650 2.4.19           Poisson's Ratio         CD         1.70         % <t< td=""><td>Dielectric Constant</td><td>@ 10 GHz</td><td>3.5 ± 0.05</td><td></td><td colspan="2">IPC-650 2.5.5.5.1 (Modified)</td></t<>	Dielectric Constant	@ 10 GHz	3.5 ± 0.05		IPC-650 2.5.5.5.1 (Modified)	
Sundae Resistivity         6.42 x 10 <sup>7</sup> Mohms         IPC-650 2.5.17.1 (After Humidity)           Volume Resistivity         5.19 x 10 <sup>8</sup> Mohms/cm         IPC-650 2.5.17.1 (After Humidity)           Thermal Properties         Unclad, 125 °C         0.60         W/M*K         ATTM F433 (Guarded Heat Flow)           Thermal Conductivity         C1/C1, 125 °C         0.60         W/M*K         ATTM F433 (Guarded Heat Flow)           CTE (23 to 125 °C)         X         11         ppm/°C         IPC-650 2.4.41 / ASTM D 3386           Ta         28 Wt. Loss         420 (788)         °C (°F)         IPC-650 2.4.41 / ASTM D 3386           Ta         28 Wt. Loss         420 (788)         °C (°F)         IPC-650 2.4.2 (AftGA           Softwit. Loss         420 (788)         °C (°F)         IPC-650 2.4.3 (Thermal Stress)           Dielectric Strength         ½ oz CVH         1.25 (7.0)         N/mm (Ibs/in)         IPC-650 2.4.4           Electric Strength         MD         82.44 (12,900)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Flexural Strength         MD         6.2.19 (9.020)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Flexural Strength         CD         1.70         %         ASTM D 3039 / IPC-TM-650 2.4.19           V	Dissipation Factor	@ 10 GHz	0.002		IPC-650 2.5.5.5.1 (Modified)	
Sundae Resistivity         6.42 x 10 <sup>7</sup> Mohms         IPC-650 2.5.17.1 (After Humidity)           Volume Resistivity         5.19 x 10 <sup>8</sup> Mohms/cm         IPC-650 2.5.17.1 (After Humidity)           Thermal Properties         Unclad, 125 °C         0.60         W/M*K         ATTM F433 (Guarded Heat Flow)           Thermal Conductivity         C1/C1, 125 °C         0.60         W/M*K         ATTM F433 (Guarded Heat Flow)           CTE (23 to 125 °C)         X         11         ppm/°C         IPC-650 2.4.41 / ASTM D 3386           Ta         28 Wt. Loss         420 (788)         °C (°F)         IPC-650 2.4.41 / ASTM D 3386           Ta         28 Wt. Loss         420 (788)         °C (°F)         IPC-650 2.4.2 (AftGA           Softwit. Loss         420 (788)         °C (°F)         IPC-650 2.4.3 (Thermal Stress)           Dielectric Strength         ½ oz CVH         1.25 (7.0)         N/mm (Ibs/in)         IPC-650 2.4.4           Electric Strength         MD         82.44 (12,900)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Flexural Strength         MD         6.2.19 (9.020)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Flexural Strength         CD         1.70         %         ASTM D 3039 / IPC-TM-650 2.4.19           V			8.33 x 10 <sup>7</sup>	Mohms		
Volume Resistivity         5.19 × 10 <sup>8</sup> Mohms/cm         IPC-650 2.5.17.1 (After Humidity)           Thermal Properties         Unclad, 125 °C         0.60         W/M*K           Thermal Conductivity         C1/C1, 125 °C         0.80         W/M*K           CTE (23 to 125 °C)         Y         13         ppm/°C           Ta         2 W/M Tk         ATM F433 (Guarded Heat Flow)           CTE (23 to 125 °C)         Y         13         ppm/°C           Ta         2 W/M Tk         ATM F433 (Guarded Heat Flow)           Mchanical Properties         436 (817)         °C (°F)           Wetchaics         430 (788)         °C (°F)           Mechanical Properties         90         N/M The State	Surface Resistivity		6.42 x 10 <sup>7</sup>	Mohms		
Internal Properties         Uncled, 125 °C         0.60         W/M*K         IPC-650 2.5, 17.1 (After Humidity)           Thermal Conductivity         Uncled, 125 °C         0.60         W/M*K         ASTM F433 (Guarded Heat Flow)           CH (CH, 125 °C         0.87         W/M*K         ASTM F433 (Guarded Heat Flow)           CTE (23 to 125 °C)         Y         13         ppm/°C           Z         34          Processort           Ta         2% WL toss         420 (788)         °C (°F)         IPC-650 2.4.24 (AT / ASTM D 3386           Peel Strength         X oz CVH         1.25 (7.0)         N/mm (Ibs/in)         IPC-650 2.4.24 (AT / ASTM D 3386           Delectric Strength         X oz CVH         1.25 (7.0)         N/mm (Ibs/in)         IPC-650 2.4.24 (AT / ASTM D 3386           Peel Strength         X oz CVH         1.25 (7.0)         N/mm (Ibs/in)         IPC-650 2.4.4 (AT / ASTM D 3386           Peel Strength         M oz 62.19 (9.020)         N/mm? (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Prosteringth         CD         5.33 7.7 (740)         N/mm (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         CD         1.38         %         ASTM D 3039 / IPC-TM-650 2.4.19           Poisson's Ratio         CD         0.23 <td></td> <td></td> <td>5.19 x 10<sup>8</sup></td> <td>Mohms/cm</td> <td></td>			5.19 x 10 <sup>8</sup>	Mohms/cm		
Thermal Properties         Uncled, 125 °C         0.60         W/M*K           Thermal Conductivity         CI/CI, 125 °C         0.92         W/M*K         ASTM F433 (Guarded Heat Flow)           CTE (23 to 125 °C)         X         11         Properties         Properties           Ta         2% WL Loss         420 (788)         °C (°F)         IPC-650 2.4.41 / ASTM D 3386           Ta         2% WL Loss         420 (788)         °C (°F)         IPC-650 2.4.24.6/TGA           Mechanical Properties         7         22,441 (570)         V/mm (Ibs/in)         IPC-650 2.4.24.6/TGA           Peel Strength         ½ oz CVH         1.25 (7.0)         N/mm (Ibs/in)         IPC-650 2.4.8 (Thermal Stress)           Peel Strength         ½ oz CVH         1.25 (7.0)         N/mm (Ibs/in)         IPC-650 2.4.19 (Through Plane)           Flexural Strength         CD         80.67 (11,700)         N/mm? (psi)         ASTM D 149 (Through Plane)           Flexural Strength         CD         53.37 (7,740)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         CD         1.39         %         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         CD         0.23         mm/M (mils/in)         IPC-650 2.4.39 Sec. 5.4 (After Etch)	Volume Resistivity		2.91 x 10 <sup>8</sup>			
Unclad, 125 °C         0.60         W/M*K         ASTM F433 (Guarded Heat Flow)           Thermal Conductivity         C1/C1, 125 °C         0.92         W/M*K         ASTM F433 (Guarded Heat Flow)           CTE (23 to 125 °C)         X         11         pm/°C         IPC-650 2.4.41 / ASTM D 3386           Z         34         pm/°C         IPC-650 2.4.41 / ASTM D 3386           Ta         2% Wt. Loss         420 (788)         °C (°F)         IPC-650 2.4.41 / ASTM D 3386           Ta         5% Wt. Loss         436 (817)         °C (°F)         IPC-650 2.4.46/TGA           Mechanical Properties         5% Wt. Loss         436 (817)         °C (°F)         IPC-650 2.4.46/TGA           Delectric Strength         Xo 2 CVH         1.25 (7.0)         N/mm (Ibs/in)         IPC-650 2.4.4         N/mat/sess)           Delectric Strength         MD         88.94 (12.900)         N/mm² (psi)         ASTM D 3039 / IPC-7M-650 2.4.19           Flexural Strength         CD         88.94 (12.900)         N/mm² (psi)         ASTM D 3039 / IPC-7M-650 2.4.19           Tensile Strength         MD         62.19 (9.020)         N/mm² (psi)         ASTM D 3039 / IPC-7M-650 2.4.19           Young's Modulus         CD         1.70         %         ASTM D 3039 / IPC-7M-650 2.4.19	Thermal Properties		1			
Thermal Conductivity         C1/C1, 125 °C         0.92         W/M*K         ASTM F433 (Guarded Heat Flow)           CTF (23 to 125 °C)         X         11         pm/°C         IPC-650 2.4.41 / ASTM D 3386           Z         34         pm/°C         IPC-650 2.4.41 / ASTM D 3386           Ta         2% Wt. Loss         420 (788)         °C (°F)         IPC-650 2.4.24.6/TGA           Mechanical Properties         7         S% Wt. Loss         436 (817)         °C (°F)         IPC-650 2.4.24.6/TGA           Peel Strength         ½ oz CVH         1.25 (7.0)         N/mm (Un/iII)         ASTM D 149 (Through Plane)           Mechanical Properties         CD         80.67 (11.700)         N/mm? (pis)         ASTM D 190 / IPC-650 2.4.4           Peel Strength         MD         62.19 (9.020)         N/mm? (pis)         ASTM D 303 / IPC-TM-650 2.4.19           Flexural Strength         CD         1.83<%	•	Unclad, 125 °C	0.60	W/M*K	ASTM F433 (Guarded Heat Flow)	
CH/CH, 125 °C $0.87$ W/M*K           X         11         ppm/'C         IPC-650 2.4.41 / ASTM D 3386           Ta         2% WL Loss         420 (788)         °C (°F)         IPC-650 2.4.24.6/TGA           Ta         2% WL Loss         436 (817)         °C (°F)         IPC-650 2.4.24.6/TGA           Mechanical Properties         5% WL Loss         436 (817)         °C (°F)         IPC-650 2.4.24.6/TGA           Peel Strength         5% OC VH         1.25 (7.0)         N/mm (lbs/in)         IPC-650 2.4.3 (Thermal Stress)           Dielectric Strength         MD         22.441 (570)         V/mm (V/mil)         ASTM D 149 (Through Plane)           Flexural Strength         MD         62.19 (9.020)         N/mm² (psi)         ASTM D 790 / IPC-650 2.4.4           Tensile Strength         CD         53.37 (7,740)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Floagation at Break         CD         1.70         %         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         CD         4.392 (637,000)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Poisson's Ratio         CD         0.64         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.4 (After Etch)           Dimensional Stability         CD	Thermal Conductivity		0.92			
X         11         ppm/*C         IPC-650 2.4.41 / ASTM D 3386           Td         2% Wt. Loss         420 (788)         *C (*F)         IPC-650 2.4.41 / ASTM D 3386           Td         2% Wt. Loss         420 (788)         *C (*F)         IPC-650 2.4.24.6/TGA           Mechanical Properties         *C (*F)         IPC-650 2.4.24.6/TGA         IPC-650 2.4.24.6/TGA           Mechanical Strength         % oz CVH         1.25 (7.0)         N/mm (lbs/in)         IPC-650 2.4.3 (Thermal Stress)           Dielectric Strength         MD         88.94 (12.900)         N/mm² (psi)         ASTM D 190 / IPC-650 2.4.4           Flexural Strength         CD         80.67 (11,700)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Flexural Strength         CD         53.37 (7,740)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         MD         4.599 (667,000)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Madulus         CD         0.18         ASTM D 3039 / IPC-TM-650 2.4.19           Poisson's Ratio         CD         0.23         mm/M (mils/in)           Dimensional Stability         MD         -0.24         mm/M (mils/in)           Dimensional Stability         CD         0.64         mm/M (mi	,					
Y         13         ppm/*C         IPC-650 2.4.41 / ASTM D 3386           Ta         2% Wt.Loss         420 (788)         *C (*F)         IPC-650 2.4.24.6/TGA           Mechanical Properties         5% Wt.Loss         436 (817)         *C (*F)         IPC-650 2.4.24.6/TGA           Peel Strength         ½ or CVH         1.25 (7.0)         N/mm (lbs/in)         IPC-650 2.4.24.6/TGA           Dielectric Strength         ½ or CVH         1.25 (7.0)         N/mm (lbs/in)         IPC-650 2.4.24.6/TGA           Peel Strength         ½ or CVH         1.25 (7.0)         N/mm (lbs/in)         IPC-650 2.4.4         STM D 149 (Through Plane)           Flexural Strength         MD         8.8.94 (12,900)         N/mm? (psi)         ASTM D 790 / IPC-650 2.4.19           Tensile Strength         CD         80.219 (9.020)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         CD         1.70         %         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         CD         4,599 (667,000)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Poisson's Ratio         CD         0.23         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.4 (After Etch)           Dimensional Stability         MD         -0.04         mm/M (mils/in) <t< td=""><td></td><td></td><td></td><td></td><td colspan="2" rowspan="3">IPC-650 2.4.41 / ASTM D 3386</td></t<>					IPC-650 2.4.41 / ASTM D 3386	
Z         34         Here         Automation           Ta         2% Wt. Loss         420 (788)         *C (*F)         IPC-650 2.4.24.6/TGA           Mechanical Properties         5% Wt. Loss         436 (817)         *C (*F)         IPC-650 2.4.24.6 (Tremal Stress)           Dielectric Strength         ½ oz CVH         1.25 (7.0)         N/mm (lbs/in)         IPC-650 2.4.3 (Thermal Stress)           Dielectric Strength         MD         82.94 (12,900)         N/mm² (psi)         ASTM D 149 (Through Plane)           Flexural Strength         MD         88.94 (12,900)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Tensile Strength         CD         53.37 (7,740)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           CD         1.70         %         ASTM D 3039 / IPC-TM-650 2.4.19         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         CD         4,392 (637,000)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Poisson's Ratio         CD         0.23         mm//m² (mils/in)         IPC-650-2.4.39 Sec. 5.4 (After Etch)           Dimensional Stability         CD         0.64         mm//m (mils/in)         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           Chemical / Physical Properties         192         V-0         U-94 <td>CTF (23 to 125 °C)</td> <td></td> <td></td> <td>nnm/°C</td>	CTF (23 to 125 °C)			nnm/°C		
Td         2% Wt. Loss         420 (788)         *C (*F)         IPC-650 2.4.24.6/TGA           Mechanical Properties         5% Wt. Loss         436 (817)         *C (*F)         IPC-650 2.4.24.6/TGA           Peel Strength         ½ oz CVH         1.25 (7.0)         N/mm (lbs/in)         IPC-650 2.4.28 (Thermal Stress)           Dielectric Strength         MD         22,441 (570)         V/mm (V/mil)         ASTM D 149 (Through Plane)           Flexural Strength         MD         88.94 (12,900)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Tensile Strength         MD         62.19 (9.020)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Elongation at Break         MD         1.89         %         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         CD         4,392 (637,000)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Poisson's Ratio         CD         0.23         mm/M (mils/in)         IPC-650 2.4.39 Sec. 5.4 (After Etch)           Dimensional Stability         MD         0.044         mm/M (mils/in)         IPC-650 2.4.39 Sec. 5.5 (Thermal Stress)           Chemical / Physical Properties         T         V-0         UL-94           Flamability         Q.046         mm/M (mils/in)         IPC-650 2.3.5 (In-Plane,				ppin/ c		
Id         S% Wt. Loss         436 (817)         *C (*F)         IPC-650 2.4.24.6/1GA           Mechanical Properties         Peel Strength         ½ oz CVH         1.25 (7.0)         N/mm (lbs/in)         IPC-650 2.4.8 (Thermal Stress)           Dielectric Strength         MD         88.94 (12,900)         N/mm² (psi)         ASTM D 149 (Through Plane)           Flexural Strength         MD         88.94 (12,900)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.4           Tensile Strength         MD         62.19 (9,020)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Flexural Strength         CD         53.37 (7,740)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Flexural Strength         CD         1.89         %         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         CD         1.70         %         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         CD         0.23         mm/M (mils/in)         PC-650-2.4.39 Sec. 5.4 (After Etch)           Dimensional Stability         MD         -0.23         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           CD         0.64         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           Dimension				°C (°F)		
Mechanical Properties         Voz CVH         1.25 (7.0)         N/mm (lbs/in)         IPC-650 2.4.8 (Thermal Stress)           Dielectric Strength         MD         88.94 (12,900)         N/mm (V/mil)         ASTM D 149 (Through Plane)           Flexural Strength         MD         88.94 (12,900)         N/mm² (psi)         ASTM D 790 / IPC-650 2.4.4           Tensile Strength         CD         80.67 (11,700)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Tensile Strength         CD         53.37 (7,740)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Tensile Strength         CD         1.89         %         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         CD         1.70         %         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         CD         4,392 (637,000)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Poisson's Ratio         CD         0.23         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.4 (After Etch)           Dimensional Stability         MD         -0.04         mm/M (mils/in)         IPC-650 2.4.50           CD         0.64         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           Chemical / Physical Properties         1         V-0         UL-94	Td				- IPC-650 2.4.24.6/TGA	
Peel Strength         ½ oz CVH         1.25 (7.0)         N/mm (lbs/in)         IPC-650 2.4.8 (Thermal Stress)           Dielectric Strength         22,441 (570)         V/mm (Vmil)         ASTM D 149 (Through Plane)           Flexural Strength         MD         88.94 (12,900)         N/mm² (psi)         ASTM D 790 / IPC-650 2.4.4           Tensile Strength         MD         62.19 (9,020)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Elongation at Break         MD         1.89         %         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         CD         1.70         %         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         CD         4,599 (667,000)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Poisson's Ratio         CD         0.18         ASTM D 3039 / IPC-TM-650 2.4.19           Dimensional Stability         MD         0.23         mm/M (mils/in)           Dimensional Stability         CD         0.64         mm/M (mils/in)           Dimensional Stability         CD         0.46         mm/M (mils/in)           Dimensional Stability         CD         0.46         mm/M (mils/in)           Dimensional Stability         CD         0.46         mm/M (mils/in)           Dielec	Mechanical Properties	570 Wt. 2033	430 (017)	0(1)		
Dielectric Strength         22,441 (570)         V/mm (V/mil)         ASTM D 149 (Through Plane)           Flexural Strength         MD         88.94 (12,900)         N/mm² (psi)         ASTM D 790 / IPC-650 2.4.4           Tensile Strength         MD         62.19 (9.020)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Tensile Strength         MD         1.89         %         ASTM D 3039 / IPC-TM-650 2.4.19           Elongation at Break         CD         1.70         %         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         CD         4,599 (667,000)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         CD         4,599 (667,000)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Poisson's Ratio         CD         0.23         mm/M (mils/in)         IPC-650 2.4.39 Sec. 5.4 (After Etch)           Dimensional Stability         MD         0.23         mm/M (mils/in)         IPC-650 2.4.39 Sec. 5.4 (After Etch)           Dimensional Stability         CD         0.64         mm/M (mils/in)         IPC-650 2.4.39 Sec. 5.4 (After Etch)           Dimensional Stability         CD         0.46         mm/M (mils/in)         IPC-650 2.4.50           Density         QP         0.35         g/m³         IP		1% oz CVH	1 25 (7 0)	N/mm (lbs/in)	IPC-650 2 4 8 (Thermal Stress)	
MD         88.94 (12,900)         N/mm² (psi)         ASTM D 790 / IPC-650 2.4.4           Tensile Strength         MD         62.19 (9,020)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Tensile Strength         CD         53.37 (7,740)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Elongation at Break         MD         1.89         %         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         MD         4,599 (667,000)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         CD         4,392 (637,000)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Poisson's Ratio         CD         0.23         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.4 (After Etch)           Dimensional Stability         CD         0.64         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           Chemical / Physical Properties         V-0         UL-94         Specific Heat         0.94         j/(g*C)         IPC-650 2.4.50           Density         2.35         g/cm³         IPC-650 2.5.6 (In-Plane,Two Pins in Oil)         Moily the seconds         IPC-650 2.5.6 (In-Plane,Two Pins in Oil)           Motic Breakdown         56.7         kV         IPC-650 2.5.6 (In-Plane,Two Pins in Oil)         Moily 1PC-150 2.6.6	0	72 02 CVII				
CD         80.67 (11,700)         N/mm² (psi)         ASTM D 790 / IPC-650 2.4.4           Tensile Strength         MD         62.19 (9.020)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Elongation at Break         MD         1.89         %         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         MD         4,599 (667,000)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         MD         4,392 (637,000)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Poisson's Ratio         CD         4,392 (637,000)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Dimensional Stability         MD         0.18         ASTM D 3039 / IPC-TM-650 2.4.19           Dimensional Stability         MD         0.23         mm/M (mils/in)           Dimensional Stability         MD         -0.04         mm/M (mils/in)           Dimensional Stability         MD         -0.04         mm/M (mils/in)           Dimensional Stability         MD         -0.04         mm/M (mils/in)           Dimensional Stability         V-0         UL-94           Specific Heat         0.94         j/(g *C)         IPC-650 2.4.39 Sec. 5.5 (Thermal Stress)           Dielectric Breakdown         56.7 </td <td>Dielectric Strength</td> <td>MD</td> <td></td> <td></td> <td colspan="2">ASTIM D 149 (THrough Plane)</td>	Dielectric Strength	MD			ASTIM D 149 (THrough Plane)	
MD         62.19 (9,020)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Elongation at Break         MD         1.89         %           CD         1.70         %         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         MD         4,599 (667,000)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         CD         4,392 (637,000)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Poisson's Ratio         CD         0.23         MTM D 3039 / IPC-TM-650 2.4.19           Dimensional Stability         MD         0.23         mm/M (mils/in)           Dimensional Stability         MD         -0.04         mm/M (mils/in)           Dimensional Stability         V-0         UL-94         Seconds           Specific Heat         0.94         j/(g °C)         IPC-650 2.5.6 (In-Plane,Two Pins in Oil)           Dielectric Breakdown         0.0	Flexural Strength				ASTM D 790 / IPC-650 2.4.4	
CD         53.37 (7,740)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Elongation at Break         MD         1.89         %           Young's Modulus         CD         1.70         %           MD         4,599 (667,000)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         CD         4,392 (637,000)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Poisson's Ratio         CD         0.18         ASTM D 3039 / IPC-TM-650 2.4.19           Poisson's Ratio         CD         0.23         ASTM D 3039 / IPC-TM-650 2.4.19           Dimensional Stability         CD         0.64         mm/M (mils/in)           Dimensional Stability         CD         0.64         mm/M (mils/in)           Dimensional Stability         CD         0.46         mm/M (mils/in)           Dimensional Stability         CD         0.64         mm/M (mils/in)	Tensile Strength	-				
MD         1.89         %         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         MD         4,599 (667,000)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         CD         4,392 (637,000)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Poisson's Ratio         MD         0.18         ASTM D 3039 / IPC-TM-650 2.4.19           Dimensional Stability         MD         0.23         mm/M (mils/in)           Dimensional Stability         MD         0.04         mm/M (mils/in)           Dimensional Stability         MD         -0.04         mm/M (mils/in)           Dimensional Stability         CD         0.46         mm/M (mils/in)           CD         0.46         mm/M (mils/in)         IPC-650 2.4.39 Sec. 5.5 (Thermal Stress)           Chemical / Physical Properties         V-0         UL-94           Specific Heat         0.94         j/(g *C)         IPC-650 2.5.0           Density         2.35         g/cm³         IPC-650 2.5.1           Marcesstance         304         seconds         IPC-650 2.6.2.1           Arc Resistance         304         seconds         IPC-650 2.5.1           Hardness         79.1         %         ASTM D 2240 (Shore D)<			() /		ASTM D 3039 / IPC-TM-650 2.4.19	
Elongation at Break         CD         1.70         %         ASTM D 3039 / IPC-TM-650 2.4.19           Young's Modulus         MD         4,599 (667,000)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Poisson's Ratio         CD         4,392 (637,000)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Poisson's Ratio         CD         0.23         ASTM D 3039 / IPC-TM-650 2.4.19           Dimensional Stability         MD         0.23         mm/M (mils/in)           Dimensional Stability         CD         0.644         mm/M (mils/in)           Dimensional Stability         CD         0.46         mm/M (mils/in)           Dimensional Stability         CD         0.46         mm/M (mils/in)           Dimensional Stability         CD         0.46         mm/M (mils/in)           Chemical / Physical Properties         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           Flammability         CD         0.46         mm/M (mils/in)           IDelectric Breakdown         56.7         kV         IPC-650 2.4.50           Density         2.35         g/cm³         IPC-650 2.5.1           Motional Absorption         0.05         %         IPC-650 2.5.1           Arc Resistance         304         seconds						
MD         4,599 (667,000)         N/mm² (psi)         ASTM D 3039 / IPC-TM-650 2.4.19           Poisson's Ratio         MD         0.18         ASTM D 3039 / IPC-TM-650 2.4.19           Poisson's Ratio         CD         0.23         ASTM D 3039 / IPC-TM-650 2.4.19           Dimensional Stability         MD         0.23         mm/M (mils/in)           Dimensional Stability         CD         0.64         mm/M (mils/in)           Dimensional Stability         MD         -0.04         mm/M (mils/in)           Dimensional Stability         CD         0.46         mm/M (mils/in)           CHemical / Physical Properties         F         F         F           Flammability         V-0         UL-94         S           Specific Heat         0.94         j/(g °C)         IPC-650 2.4.50           Dielectric Breakdown         56.7         kV         IPC-650 2.5.1           Mot         0.05	Elongation at Break				ASTM D 3039 / IPC-TM-650 2.4.19	
Young's Modulus         CD         4,392 (637,000)         N/mm² (psi)         ASTM D 3039 / IPC-1M-650 2.4.19           Poisson's Ratio         CD         0.18         ASTM D 3039 / IPC-1M-650 2.4.19           Dimensional Stability         MD         0.23         MTM D 3039 / IPC-1M-650 2.4.19           Dimensional Stability         MD         0.23         mm/M (mils/in)           Dimensional Stability         CD         0.64         mm/M (mils/in)           Dimensional Stability         MD         -0.04         mm/M (mils/in)           Dimensional Stability         MD         -0.04         mm/M (mils/in)           Chemical / Physical Properties         CD         0.46         mm/M (mils/in)           Flammability         V-0         UL-94           Specific Heat         0.94         j/(g °C)         IPC-650 2.4.50           Dielectric Breakdown         56.7         kV         IPC-650 2.5.0           Dielectric Breakdown         56.7         kV         IPC-650 2.5.0           Moisture Absorption         0.055         %         IPC-650 2.5.1           Arc Resistance         304         seconds         IPC-650 2.5.1           Hardness         79.1         %         ASTM D 2240 (Shore D)           Typical Thick	~					
CD         4,392 (637,000)         N/mm* (psi)           Poisson's Ratio         MD         0.18         ASTM D 3039 / IPC-TM-650 2.4.19           Dimensional Stability         MD         0.23         mm/M (mils/in)           Dimensional Stability         MD         0.04         mm/M (mils/in)           Dimensional Stability         MD         -0.04         mm/M (mils/in)           Discontract Properties         IPC-650 2.4.39 Sec. 5.5 (Thermal Stress)           Chemical / Physical Properties         V-0         UL-94           Specific Heat         0.94         j/(g *C)         IPC-650 2.4.50           Density         2.35         g/cm³         IPC-650 2.5.6 (In-Plane,Two Pins in Oil)           Moisture Absorption         0.05         %         IPC-650 2.6.2.1           Arc Resistance         304         seconds         IPC-650 2.5.1           Hardness         79.1         %         ASTM D 2240 (Shore D	Young's Modulus				ASTM D 3039 / IPC-TM-650 2.4.19	
Poisson's Ratio         CD         0.23         ASTM D 3039 / IPC-TM-650 2.4.19           Dimensional Stability         MD         0.23         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.4 (After Etch)           Dimensional Stability         MD         -0.04         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           Dimensional Stability         MD         -0.04         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           Chemical / Physical Properties         MD         -0.04         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           Chemical / Physical Properties         MD         -0.04         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           Specific Heat         0.94         j/(g °C)         IPC-650 2.4.50         Descendenter           Density         2.35         g/cm³         IPC-650 2.3.5         Dielectric Breakdown         S66.7         kV         IPC-650 2.5.6 (In-Plane,Two Pins in Oil)           Moisture Absorption         0.05         %         IPC-650 2.5.1         IPC-650 2.5.1           Arc Resistance         304         seconds         IPC-650 2.5.1           Hardness         mm         Inches         mm           0.0050         0.13         0.0300         0.76 <tr< td=""><td></td><td>-</td><td></td><td>N/mm² (psi)</td><td colspan="2">· · ·</td></tr<>		-		N/mm² (psi)	· · ·	
CD         0.23         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.4 (After Etch)           Dimensional Stability         MD         0.04         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           Dimensional Stability         MD         -0.04         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           Chemical / Physical Properties         CD         0.46         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           Chemical / Physical Properties         CD         0.46         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           Chemical / Physical Properties         CD         0.46         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           Chemical / Physical Properties         CD         0.46         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           Chemical / Physical Properties         CD         0.46         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           Specific Heat         0.94         j/(g °C)         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           Dielectric Breakdown         56.7         KV         IPC-650-2.4.50         IPC-650-2.4.50           Dielectric Breakdown         0.05         %         IPC-650-2.5.1         IPC-650-2.5.1           Motisture Absorption<	Poisson's Ratio				ASTM D 3039 / IPC-TM-650 2.4.19	
Dimensional Stability         CD         0.64         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.4 (After Etch)           Dimensional Stability         MD         -0.04         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           Dimensional Stability         CD         0.46         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           Chemical / Physical Properties         CD         0.46         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           Chemical / Physical Properties         CD         0.46         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           Chemical / Physical Properties         CD         0.46         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           Chemical / Physical Properties         0.46         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           Specific Heat         0.94         j/(g °C)         IPC-650-2.4.50           Density         2.35         g/cm³         IPC-650 2.4.50           Dielectric Breakdown         56.7         kV         IPC-650 2.5.6 (In-Plane,Two Pins in Oil)           Moisture Absorption         0.05         %         IPC-650 2.5.1           Hardness         79.1         %         ASTIM D 2240 (Shore D)		-				
CD         0.64         mm/M (mils/in)           MD         -0.04         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           Chemical / Physical Properties           IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)           Flammability         V-0         UL-94          IPC-650 2.4.50           Specific Heat         0.94         j/(g °C)         IPC-650 2.4.50           Density         2.35         g/cm³         IPC-650 2.3.5           Dielectric Breakdown         56.7         kV         IPC-650 2.5.6 (In-Plane,Two Pins in Oil)           Moisture Absorption         0.05         %         IPC-650 2.5.1           Arc Resistance         304         seconds         IPC-650 2.5.1           Hardness         79.1         %         ASTM D 2240 (Shore D)           Typical Thicknesses         mm         0.03300         0.76           0.0100         0.25         0.0600         1.52           0.0200         0.51         Mm         Inches         mm	Dimensional Stability				IPC-650-2.4.39 Sec. 5.4 (After Etch)	
Dimensional Stability         CD         0.46         mm/M (mils/in)         IPC-650-2.4.39 Sec. 5.5 (Inermal Stress)           Chemical / Physical Properties         V-0         UL-94           Flammability         V-0         UL-94           Specific Heat         0.94         j/(g °C)         IPC-650 2.4.50           Density         2.35         g/cm³         IPC-650 2.3.5           Dielectric Breakdown         56.7         kV         IPC-650 2.6.0 (In-Plane, Two Pins in Oil)           Moisture Absorption         0.05         %         IPC-650 2.5.1 (In-Plane, Two Pins in Oil)           Moisture Absorption         0.05         %         IPC-650 2.5.1           Hardness         79.1         %         ASTM D 2240 (Shore D)           Typical Thicknesses           Inches         mm         Inches         mm           0.0050         0.13         0.0300         0.76           0.0100         0.25         0.0600         1.52           0.0200         0.51         Available Sheet Sizes         mm		CD				
CD         0.46         mm/M (mils/in)           Chemical / Physical Properties           Flammability         V-0         UL-94           Specific Heat         0.94         j/(g °C)         IPC-650 2.4.50           Density         2.35         g/cm³         IPC-650 2.3.5           Dielectric Breakdown         56.7         kV         IPC-650 2.6.2.1           Moisture Absorption         0.05         %         IPC-650 2.5.6 (In-Plane,Two Pins in Oil)           Moisture Absorption         0.05         %         IPC-650 2.5.1           Arc Resistance         304         seconds         IPC-650 2.5.1           Hardness         79.1         %         ASTM D 2240 (Shore D)           Typical Thicknesses           1         0.0300         0.76           0.0050         0.13         0.0300         0.76           0.0100         0.25         0.0600         1.52           0.0200         0.51         Available Sheet Sizes         mm	Dimensional Stability				IPC-650-2.4.39 Sec. 5.5 (Thermal Stress)	
Flammability         V-0         UL-94           Specific Heat         0.94         j/(g °C)         IPC-650 2.4.50           Density         2.35         g/cm³         IPC-650 2.3.5           Dielectric Breakdown         56.7         kV         IPC-650 2.5.6 (In-Plane,Two Pins in Oil)           Moisture Absorption         0.05         %         IPC-650 2.6.2.1           Arc Resistance         304         seconds         IPC-650 2.5.1           Hardness         79.1         %         ASTM D 2240 (Shore D)           Typical Thicknesses           Inches         mm         0.0300         0.76           0.0100         0.25         0.0600         1.52           0.0200         0.51         Available Sheet Sizes         Inches         mm		-	0.46	mm/M (mils/in)		
Specific Heat         0.94         j/(g °C)         IPC-650 2.4.50           Density         2.35         g/cm³         IPC-650 2.3.5           Dielectric Breakdown         56.7         kV         IPC-650 2.5.6 (In-Plane,Two Pins in Oil)           Moisture Absorption         0.05         %         IPC-650 2.6.2.1           Arc Resistance         304         seconds         IPC-650 2.5.1           Hardness         79.1         %         ASTM D 2240 (Shore D)           Typical Thicknesses           0.0050         0.13         0.0300         0.76           0.0100         0.25         0.0600         1.52         0.0200         0.51           Available Sheet Sizes           Inches         mm		ties			1	
Density         2.35         g/cm <sup>3</sup> IPC-650 2.3.5           Dielectric Breakdown         56.7         kV         IPC-650 2.5.6 (In-Plane,Two Pins in Oil)           Moisture Absorption         0.05         %         IPC-650 2.5.1 (In-Plane,Two Pins in Oil)           Moisture Absorption         0.05         %         IPC-650 2.5.1 (In-Plane,Two Pins in Oil)           Arc Resistance         304         seconds         IPC-650 2.5.1 (In-Plane,Two Pins in Oil)           Arc Resistance         304         seconds         IPC-650 2.5.1 (In-Plane,Two Pins in Oil)           Hardness         79.1         %         ASTM D 2240 (Shore D)           Typical Thicknesses           0.0050         0.13         0.0300         0.76           0.0100         0.25         0.0600         1.52           0.0200         0.51         Available Sheet Sizes         Mm				-		
Dielectric Breakdown         56.7         kV         IPC-650 2.5.6 (In-Plane, Two Pins in Oil)           Moisture Absorption         0.05         %         IPC-650 2.6.2.1           Arc Resistance         304         seconds         IPC-650 2.5.1           Hardness         79.1         %         ASTM D 2240 (Shore D)           Typical Thicknesses           Inches         mm           0.0050         0.13         0.0300         0.76           0.0100         0.25         0.0600         1.52           0.0200         0.51          1.52           Available Sheet Sizes           Inches         mm         Inches         mm	Specific Heat					
Moisture Absorption         0.05         %         IPC-650 2.6.2.1           Arc Resistance         304         seconds         IPC-650 2.5.1           Hardness         79.1         %         ASTM D 2240 (Shore D)           Typical Thicknesses           Inches         mm         Inches         mm           0.0050         0.13         0.0300         0.76           0.0100         0.25         0.0600         1.52           0.0200         0.51             Available Sheet Sizes           Inches         mm         Inches         mm	Density					
Arc Resistance         304         seconds         IPC-650 2.5.1           Hardness         79.1         %         ASTM D 2240 (Shore D)           Typical Thicknesses           Inches         mm         Inches         mm           0.0050         0.13         0.0300         0.76           0.0100         0.25         0.0600         1.52           O.0200         0.51         Available Sheet Sizes         mm	Dielectric Breakdown				IPC-650 2.5.6 (In-Plane, Two Pins in Oil)	
Hardness         79.1         %         ASTM D 2240 (Shore D)           Typical Thicknesses           Inches         mm         Inches         mm           0.0050         0.13         0.0300         0.76           0.0100         0.25         0.0600         1.52           0.0200         0.51             Available Sheet Sizes           Inches         mm         Inches         mm	Moisture Absorption		0.05	%	IPC-650 2.6.2.1	
Typical Thicknesses           Inches         mm         Inches         mm           0.0050         0.13         0.0300         0.76           0.0100         0.25         0.0600         1.52           0.0200         0.51            Available Sheet Sizes           Inches         mm         Inches         mm	Arc Resistance				IPC-650 2.5.1	
Inches         mm         Inches         mm           0.0050         0.13         0.0300         0.76           0.0100         0.25         0.0600         1.52           0.0200         0.51         Valiable Sheet Sizes         Valiable Sheet Sizes           Inches         mm	Hardness		79.1	%	ASTM D 2240 (Shore D)	
0.0050         0.13         0.0300         0.76           0.0100         0.25         0.0600         1.52           0.0200         0.51         Image: Comparison of the sector o			Typical Thicl	knesses		
0.0100         0.25         0.0600         1.52           0.0200         0.51         Image: Comparison of the set sizes         Image: Comparison of the set sizes           Available Sheet Sizes           Inches         mm	Inches	mm		Inches	mm	
0.0200 0.51 Available Sheet Sizes Inches mm Inches mm	0.0050	0.13		0.0300 0.76		
0.0200 0.51 Available Sheet Sizes Inches mm Inches mm	0.0100		0.25		1.52	
Available Sheet Sizes Inches mm Inches mm	0.0200		0.51			
Inches mm Inches mm				eet Sizes		
	12 x 18	305 x 457		18 x 24	406 x 914	

16 x 18	406 x 457	16 x 36	610 x 914
18 x 24	457 x 610		

\* All test data provided are typical values and not intended to be specification values. For review of critical specification tolerances, please contact a company representative directly.

\* RF-35TC can be manufactured in increments of 0.005"(0.125mm).

\* Standard panel size is 18" x 24" (457 mm x 610 mm).

\* Please contact AGC for availability of additional thicknesses, other sizes & any other type of cladding.



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