



# TU-768

Core: TU-768

Prepreg: TU-768P

TU-768/ TU-768P laminate/ prepreg are made of high quality woven E-glass coated with the epoxy resin system, which provides the laminates with UV-block characteristic, and compatibility with automated optical inspection (AOI) process. These products are suitable for boards that need to survive severe thermal cycles, or to experience excessive assembly work. TU-768 laminates exhibit excellent CTE, superior chemical resistance and thermal stability plus CAF resistance property.

## Applications

- Consumer Electronics
- Server, workstation
- Automotive

## Performance and Processing Advantages

- Lead Free process compatible
- Excellent coefficient of thermal expansion
- Anti-CAF property
- Superior chemical and thermal resistance
- Fluorescence for AOI
- Moisture resistance

## Industry Approvals

- IPC-4101 Type Designation : /21, /24, /26, /28, /98, /99, /101, /126
- UL Designation – ANSI Grade: FR-4.0
- UL File Number: E189572
- Flammability Rating: 94V-0
- Maximum Operating Temperature: 130°C

## Standard Availability

- Thickness: 0.002" [0.05mm] to 0.062" [1.58mm], available in sheet or panel form
- Copper Foil Cladding: 1/8 to 12 oz (HTE) for built-up; 1/8 to 3 oz (HTE) for double sides and H to 2 oz (MLS)
- Prepregs: Available in roll or panel form
- Glass Styles: 106, 1080, 2113, 2116, 1506 and 7628 etc.





Typical Properties for TU-768 Laminate			
	Typical Values	Test Condition	SPEC
<b>Thermal</b>			
Tg (DMA) Tg (DSC) Tg (TMA) Td (TGA)	190 °C 180 °C 170 °C 350 °C	E-2/105+des	N/A
CTE x-axis CTE y-axis CTE z-axis	11~15 ppm/°C 11~15 ppm/°C 2.7 %	Ambient to Tg Ambient to Tg 50 to 260°C	N/A N/A < 3.0%
Thermal Stress, Solder Float, 288°C	> 60 sec	A	> 10 sec
T-260 T-288	> 60 min > 15 min	E-2/105+des	> 30 min > 15 min
Flammability	94V-0	E-24/125+des	94V-0
<b>Electrical</b>			
Permittivity (RC50%) 1GHz (SPC method/HP 4291B) 5GHz (SPC method) 10GHz (SPC method)	4.4/4.3 4.3 4.3	C-24/23/50	N/A
Loss Tangent (RC50%) 1GHz (SPC method/HP4291B) 5GHz (SPC method) 10GHz (SPC method)	0.019/0.018 0.021 0.023	C-24/23/50	N/A
Volume Resistivity	> 10 <sup>10</sup> MΩ·cm	C-96/35/90	> 10 <sup>6</sup> MΩ·cm
Surface Resistivity	> 10 <sup>8</sup> MΩ	C-96/35/90	> 10 <sup>4</sup> MΩ
Electric Strength	> 40 KV/mm	-	> 30 KV/mm
Dielectric Breakdown Voltage	> 50 KV	-	> 40 KV
<b>Mechanical</b>			
Young's Modulus Warp Direction Fill Direction	25 GPa 22 GPa	A	N/A
Flexural Strength Lengthwise Crosswise	> 60,000 psi > 50,000 psi	A A	> 60,000 psi > 50,000 psi
Peel Strength, 1.0 oz. Cu foil	7~9 lb/in	A	> 4 lb/in
Water Absorption	0.18 %	E-1/105+des+D-24/23	< 0.8 %

## NOTE:

- Property values are for information purposes only and not intended for specification.
- Any sales of these products will be governed by the terms and conditions of the agreement under which they are sold.

