





Delivering Value through Innovation and Dedication

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**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-4101E Type Designation : /98, /99, /101, /126
- IPC-4101E/126 Validation Services QPL Certified
- UL Designation ANSI Grade: FR-4.0
- UL File Number: E189572Flammability 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.









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	Typical Values	Conditioning	IPC-4101 /126
Thermal			
Tg (DMA)	190°C		170°C
Tg (DSC) Tg (TMA)	180°C 170°C	E-2/105	> 170°C
Td (TGA)	350°C		> 340°C
CTE x-axis	11~15 ppm/°C		N/A
CTE y-axis	11~15 ppm/°C	E-2/105	N/A
CTE z-axis	2.7 %		< 3.0%
Thermal Stress,			
Solder Float, 288°C	> 60 sec	A	> 10 sec
T260	> 60 min		> 30 min
T288	> 15 min	E-2/105	> 15 min
T300	> 2 min		> 2 min
Flammability	94V-0	E-24/125	94V-0
Electrical			
Permittivity (RC50%)			
1GHz (SPC method/HP 4291B)		E 2/105	< 5.2
5GHz (SPC method) 10GHz (SPC method)	4.3 4.3	E-2/105	N/A N/A
Todriz (SFC Method)	4.3		IN/A
Loss Tangent (RC50%)	0.010/0.010		
1GHz (SPC method/HP4291B) 5GHz (SPC method)	0.019/0.018 0.021	E-2/105	< 0.035 N/A
10GHz (SPC method)	0.021	E-2/103	N/A N/A
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Volume Resistivity	> 10 <sup>10</sup> MΩ·cm	C-96/35/90	> 10 <sup>6</sup> MΩ • cm
Surface Resistivity	$> 10^8 \ M\Omega$	C-96/35/90	$> 10^4 \ M\Omega$
Electric Strength	> 40 KV/mm	A	> 30 KV/mm
Dielectric Breakdown Voltage	> 50 KV	A	> 40 KV
Mechanical			
Young's Modulus			
Warp Direction	25 GPa	A	N / A
Fill Direction	22 GPa	^	N/A
Flexural Strength			
Lengthwise	> 60,000 psi	A	> 60,000 psi
Crosswise	> 50,000 psi	A	> 50,000 psi
Peel Strength,			
1.0 oz RTF Cu foil	7~9 lb/in	A	> 4 lb/in
Water Absorption	0.18 %	E-1/105+D-24/23	< 0.8 %

### NOTE:

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

