



High Tg / Very Low Loss / Halogen Free

EM-528 / EM-528B

- Low Df, excellent electrical performance
- Low CTE for Z -axis direction
- Multiple lamination and high thermal reliability applications
- For high speed sever, network and telecom applications

Basic Laminate Property

Property	Item		IPC-TM-650	Test Condition	Unit	Typical Value		
Thermal	Tg		2.4.25	DSC	°C	N/A		
			2.4.24	TMA	°C	220		
			2.4.24.4	DMA	°C	250		
	CTE, X/Y-axis		2.4.24.5	< Tg, TMA	ppm/°C	9/10		
	CTE, Z-axis		2.4.24	< Tg, TMA	ppm/°C	25~30		
				> Tg, TMA	ppm/°C	130~150		
	Z-axis Expansion		2.4.24	50~260°C	%	1.4		
	Td		2.4.24.6	TGA (5%W.L)	°C	420		
T288		2.4.24.1	Clad	Min	> 60			
			Etched	Min	> 60			
Electrical	Dk (R/C:50/70%)		1GHz	2.5.5.9	C-24/23/50	-	4.0/3.6	
			10GHz	Cavity Resonator			3.9/3.5	
			10GHz	SPC method			3.9/3.5	
	Df (R/C:50/70%)		10GHz	1GHz	2.5.5.9	C-24/23/50	-	0.0047/0.0044
				Cavity Resonator	0.0061/0.0058			
				SPC method	0.0050/0.0046			
	Volume Resistivity		2.5.17.1	C-96/35/90	MΩ-cm	> 10 ¹⁰		
	Surface Resistivity				MΩ	> 10 ⁹		
CTI		UL-746A	ASTM D3638	PLC	2			
Physical	Water Absorption		2.6.2.1	E-1/105+D-24/23	%	0.11		
	Peel Strength (RTF)	0.5 oz	2.4.8	As Received	lb/in	5.0		
	Peel Strength (HVLP)	0.5 oz				4.0		
	Flexural Modulus		Warp	2.4.4	As Received	GPa	24-26	
			Fill				23-25	
Flame Resistance		UL-94	A & E-4/125	-	V-0			