



High Tg Low CTE for IC Package EM-LX

- Tg 280°C (DMA)
- Low X/Y-axis CTE: 6 ppm/°C
- Halogen & Red phosphorous free material
- High Modulus
- Suitable for CSP, FC-PKG, BGA&PGA application

Basic Laminate Property

Item	IPC-TM-650	Test condition	Unit	Typical Value		
				Regular	Low CTE	
Glass transition temp.	2.4.24.2	DMA	°C	280		
CTE, X/Y-axis	2.4.24.2	TMA, < Tg	ppm/°C	6	4	
CTE, Z-axis	2.4.24	TMA, < Tg	ppm/°C	20		
Thermal stress 10sec 288°C	2.4.13.1	Clad	—	Pass Visual		
		Etched	—	Pass Visual		
Water absorption	2.6.2.1	E-1/105+D-24/23	%	0.12		
Peel strength	0.5 oz (HTE)	2.4.8	As received	lb/in	6.0	
			After thermal	lb/in	6.0	
Permittivity at 2 GHz (RC 50%)	Cavity	C-24/23/50	—	4.1	3.9	
Loss Tangent at 2 GHz (RC 50%)	Cavity	C-24/23/50	—	0.010	0.011	
Flexural modulus	2.4.4	Room temp.	GPa	30	32	
Volume resistivity	2.5.17.1	C-96/35/90	MΩ-cm	10 ^{10~11}		
Surface resistivity	2.5.17.1	C-96/35/90	MΩ	>10 ⁹		