



## Low CTE High Tg Material EM-827 / EM-827B

- Low Z-axis CTE
- Low moisture absorption
- Excellent CAF resistance
- Excellent thermal stability for lead-free processing
- For automotive and high layer count like server, back panel related application

### Basic Laminate Property

Item	Test method	Test condition	Unit	Core thickness		
				≥ 0.031" ( 0.78mm)		
				*IPC Spec.	Typical Value	
Glass transition temp.	2.4.25	DSC	°C	min. 170	175	
CTE, X-, Y-axis	2.4.24	Pre-Tg, TMA	ppm/°C	—	12/15	
CTE, Z-axis	2.4.24	Alpha 1, TMA	ppm/°C	max. 60	45	
		Alpha 2, TMA	ppm/°C	max. 300	260	
Z-axis Expansion	2.4.24	50~260°C, TMA	%	max. 3.0	2.6	
Decomposition temp.	2.4.24.26	TGA	°C	min. 340	350	
Thermal stress 10sec 288°C	2.4.13.1	Clad	—	Pass Visual	Pass Visual	
		Etched	—	Pass Visual	Pass Visual	
Water absorption	2.6.2.1	E-1/105+D-24/23	%	max.0.5	0.12	
Peel strength	0.5 oz	2.4.8	as received	lb/in	—	6.5
			after thermal stress	lb/in	—	6.5
	1.0 oz	2.4.8	as received	lb/in	min. 6	8.5
			after thermal stress	lb/in	min. 6	8.5
Permittivity (RC 50%)	1 MHz	2.5.5.9	C-24/23/50	—	max. 5.4	4.8
	1 GHz			—		4.2
Loss tangent (RC 50%)	1 MHz	2.5.5.9	C-24/23/50	—	max. 0.035	0.018
	1 GHz			—		0.019
Volume resistivity	2.5.17.1	C-96/35/90	MΩ-cm	min. 1*10 <sup>6</sup>	>10 <sup>10</sup>	
Surface resistivity	2.5.17.1	C-96/35/90	MΩ	min. 1*10 <sup>4</sup>	>10 <sup>9</sup>	
Flexural strength	Warp	2.4.4	as received	MPa	min. 415	420~540
	Fill		as received	MPa	min. 345	380~440
Flame resistance	UL-94	A&E-24/125	—	min. V-0	V-0	