

EM-A56 / EM-A56B

High Tg / Ultra Low Loss / Halogen Free

- Applications Include: Autonomous Driving System, Networking, and High Speed Applications
- Ultra Low Transmission Loss Material
- Designed for High Thermal Reliability with Excellent CAF Resistance
- Outstanding multiple lamination capability
- RoHS Compliant
- UL File: E150504
- Applicable IPC Slash Sheets: IPC-4101 /134; IPC-4103/240, /540

Basic Laminate Property

Property	Item		Typical Value	Unit	Test Condition	IPC-TM-650
Thermal	Tg		N/A	°C	DSC	2.4.25
			170	°C	TMA	2.4.24
			200	°C	DMA	2.4.24.4
	CTE, X/Y-axis		12/13	ppm/°C	< Tg, TMA	2.4.24.5
	CTE, Z-axis		35~40	ppm/°C	< Tg, TMA	2.4.24
			140~160	ppm/°C	> Tg, TMA	
	Z-axis Expansion		1.8	%	50~260°C	2.4.24
	Td		425	°C	TGA (5% W.L)	2.4.24.6
	T288		> 120	Min	Clad	2.4.24.1
			> 120	Min	Etched	
	Thermal Conductivity		0.50	W/m.K	-	ASTM D5470
Electrical	Dk (RC: 50/ 70%)	10 GHz	3.7/ 3.2	-	C-24/23/50	Cavity Resonator
	Df (RC: 50/ 70%)	10 GHz	0.005/ 0.004	-	C-24/23/50	Cavity Resonator
	Volume Resistivity		>10 ¹⁰	MΩ-cm	C-96/35/90	2.5.17.1
	Surface Resistivity		>10 ⁹	MΩ	C-96/35/90	2.5.17.1
	Electric Strength		>40	kV/mm	D-48/50+D-0.5/23	2.5.6.2
	Dielectric Breakdown		>40	kV	D-48/50+D-0.5/23	2.5.6
Physical	Water Absorption		0.10	%	E-1/105+D-24/23	2.6.2.1
	Peel Strength (RTF)	1 oz	4.5	lb/in	As Received	2.4.8
	Flexural Strength	Warp	430-470	MPa	As Received	2.4.4
		Fill	410-450	MPa	As Received	
	Flame Resistance		V-0	-	C-48/23/50	UL-94

Above typical values are tested under specified constructions and not intended for specification.