

EM-891 / EM-891B

High Tg / Ultra Low Loss / Halogenated

- Applications include: high-speed Ethernet, network and telecom.
- Designed for high thermal reliability with excellent CAF resistance.
- Outstanding multiple lamination capability.
- Fabrication friendly resin can be combined with mid-loss resins for "hybrid" designs.
- RoHS Compliant
- UL File: E150504
- Applicable IPC Slash Sheets: IPC-4101 /102; 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
			205	°C	DMA	2.4.24.4
	CTE, X/Y-axis		12/13	ppm/°C	< Tg, TMA	2.4.24.5
	CTE, Z-axis		40~45	ppm/°C	< Tg, TMA	2.4.24
			180~200	ppm/°C	> Tg, TMA	
	Z-axis Expansion		2.2	%	50~260 °C	2.4.24
	Td		400	°C	TGA (5% W.L)	2.4.24.6
	T288		>60	min.	Clad	2.4.24.1
			>60	min.	Etched	
	Thermal Conductivity		0.50	W/m.K	-	ASTM D5470
Electrical	Dk (R/C: 55/70%)	1 GHz	3.8/3.3	-	C-24/23/50	2.5.5.9
		10 GHz	3.6/3.2	-		Cavity Resonator
			3.6/3.2	-		SPC method
	Df (R/C: 55/70%)	1 GHz	0.0041/0.0035	-	C-24/23/50	2.5.5.9
		10 GHz	0.0054/0.0045	-		Cavity Resonator
			0.0043/0.0037	-		SPC method
	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
Physical	Water Absorption		0.10	%	E-1/105+D-24/23	2.6.2.1
	Peel Strength (HVLP)	H oz	4.0	lb/in	As Received	2.4.8
	Flexural Strength	Warp	450~510	MPa	As Received	2.4.4
		Fill	400~450	MPa		
Flame Resistance		V-0	-	C-48/23/50	UL-94	

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