



High Tg / Ultra Low Loss / Halogenated EM-891K / EM-891BK

- Very low Df and excellent electrical performance
- Excellent CAF resistance
- Multiple lamination and high thermal reliability applications
- For high speed server, network and telecom applications
- Applicable IPC-4101 Slash Sheets: /102

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	170
			2.4.24.4	DMA	°C	205
	CTE, X/Y-axis		2.4.24.5	< Tg, TMA	ppm/°C	12/13
	CTE, Z-axis		2.4.24	< Tg, TMA	ppm/°C	40~45
				> Tg, TMA	ppm/°C	180~200
	Z-axis Expansion		2.4.24	50~260°C	%	2.2
	Td		2.4.24.6	TGA (5% W.L)	°C	400
T288		2.4.24.1	Clad	Min	>60	
Electrical	Dk (R/C: 50/70%)	1 GHz	2.5.5.9	C-24/23/50	-	3.2/3.0
		10 GHz	Cavity Resonator		-	3.1/3.0
		10 GHz	SPC method		-	3.1/3.0
	Df (R/C: 50/70%)	1 GHz	2.5.5.9	C-24/23/50	-	0.0024/0.0025
		10 GHz	Cavity Resonator		-	0.0032/0.0033
		10 GHz	SPC method		-	0.0024/0.0025
	Volume Resistivity		2.5.17.1	C-96/35/90	MΩ-cm	>10 ¹⁰
	Surface Resistivity		2.5.17.1	C-96/35/90	MΩ	>10 ⁹
Physical	Water Absorption		2.6.2.1	E-1/105+D-24/23	%	0.10
	Peel Strength (HVLP)	H oz	2.4.8	As Received	lb/in	4.0
	Flexural Strength	Warp	2.4.4	As Received	MPa	450-510
		Fill				400-450
Flame Resistance		UL-94	A & E-24/125	-	V-0	

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