

# EMC's Very Low Loss and Ultra Low Loss Materials for 25/ 50Gbps PCB Design Applications

New product  
EM-891

Very Low Loss Material for Very High Speed Applications

## Feature

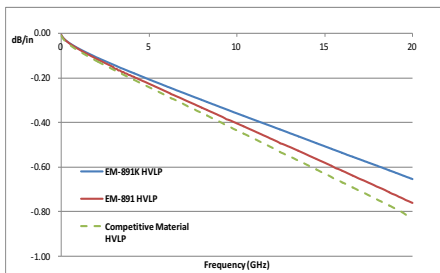
- Very low Dk Df
- Low water absorption
- Hi-Tg low CTE
- Excellent signal integrity
- Excellent thermal reliability for lead free process

## Application

- Very high speed server, network and telecom PCBs with 25 to 28Gbps per channel design

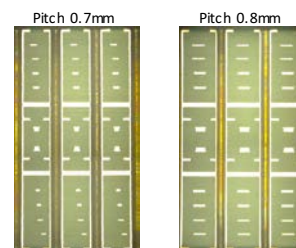
Property	IPC-TM-650	Test Condition/ Equipment	Unit	EM-891	
Thermal	Tg	2.4.24.2	DMA	200	
		2.4.24.3	TMA	165	
		2.4.24.2	DSC	n/a	
	Td	2.4.24.6	TGA	410	
	CTE Z-Axis	2.4.24	Alpha 1, TMA	ppm/°C	45
		2.4.24	Alpha 2, TMA		225
Z-axis Expansion	2.4.24	50~260°C, TMA	%	2.8	
T288 (Clad)	2.4.24.1	TMA	min.	>60	
Electrical	Permittivity (RC 50%)	2.5.5.9	1 GHz	3.7	
		SPDR	10 GHz	3.6	
	Loss Tangent (RC 50%)	2.5.5.9	1 GHz	--	0.002
		SPDR	10 GHz	--	0.0045
Physical	Moisture Absorption	2.6.2.1	--	%	0.10
	Peel Strength (HVLP, 1 oz)	2.4.8	As Received	lb/in	5.0
	Flammability	UL-94			94V-0

## Insertion loss



- Single ended stripline; line width/ length: 8 mils/ 16 inches
- Impedance control: 50ohm
- VNA S21 measurement

## Thermal Reliability



- 26L board 130mil
- Pitch Design 0.7, 0.8mm
- Test Condition and Result : IR reflow 260°C 6X with no abnormality

New Product  
EM-891K

Ultra Low Loss Material for Ultra High Speed Applications

## Feature

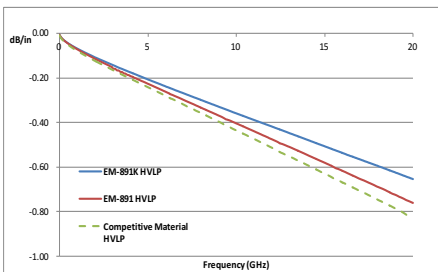
- Very low Dk Df
- Low water absorption
- Hi-Tg low CTE
- Excellent signal integrity
- Excellent thermal reliability for lead free process
- With Low Dk glass fabric

## Application

- Ultra high speed server, network and telecom PCBs with 40 to 50Gbps per channel design

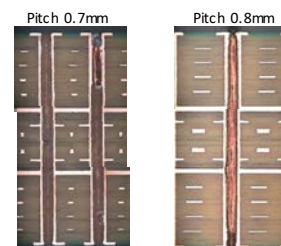
Property	IPC-TM-650	Test Condition/ Equipment	Unit	EM-891K	
Thermal	Tg	2.4.24.2	DMA	200	
		2.4.24.3	TMA	165	
		2.4.24.2	DSC	n/a	
	Td	2.4.24.6	TGA	410	
	CTE Z-Axis	2.4.24	Alpha 1, TMA	ppm/°C	45
		2.4.24	Alpha 2, TMA		225
Z-axis Expansion	2.4.24	50~260°C, TMA	%	2.8	
T288 (Clad)	2.4.24.1	TMA	min.	>60	
Electrical	Permittivity (RC 50%)	2.5.5.9	1 GHz	3.2	
		SPDR	10 GHz	3.1	
	Loss Tangent (RC 50%)	2.5.5.9	1 GHz	--	0.002
		SPDR	10 GHz	--	0.0033
Physical	Moisture Absorption	2.6.2.1	--	%	0.10
	Peel Strength (HVLP, 1 oz)	2.4.8	As Received	lb/in	5.0
	Flammability	UL-94			94V-0

## Insertion loss



- Single ended stripline; line width/ length: 8 mils/ 16 inches
- Impedance control: 50ohm
- VNA S21 measurement

## Thermal Reliability



- 26L board 130mil
- Pitch Design 0.7, 0.8mm
- Test Condition and Result : IR reflow 260°C 6X with no abnormality



**TECHNICA, U.S.A.**

Fulfilling Manufacturing Needs  
Throughout the Electronics Industry

More info: 408-240-5950

technica.com