



High Speed / Low Loss & Green

EM-888 / EM-888B

- Low Dk and Df ,excellent electrical performance
- Low moisture absorption
- Excellent CAF resistance
- Halogen, antimony and red phosphorus free
- For high speed sever, network and telecom application

Basic Laminate Property

Item	IPC-TM-650	Test condition	Unit	Typical Value	
Glass transition temp.	2.4.24.3	TMA	°C	170	
	2.4.24.2	DMA	°C	210	
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	50	
		Alpha 2, TMA	ppm/°C	240	
Z-axis Expansion	2.4.24	50~260°C, TMA	%	2.6	
Decomposition temp.	2.4.24.6	TGA	°C	380	
Thermal stress 10sec 288°C	2.4.13.1	Clad	—	Pass Visual	
		Etched	—	Pass Visual	
Water absorption	2.6.2.1	E-1/105+D-24/23	%	0.05	
Peel strength (HTE)	0.5 oz	2.4.8	as received	lb/in	6.3
Peel strength (VLP)	0.5 oz	2.4.8	as received	lb/in	4.8
Permittivity (RC 50%)	1GHz	2.5.5.9	C-24/23/50	—	3.9
	10 GHz	Cavity		—	3.8
Loss tangent (RC 50%)	1 GHz	2.5.5.9	C-24/23/50	—	0.006
	10 GHz	Cavity		—	0.008
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	
Flame resistance	UL-94	A&E-24/125	—	V-0	



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Basic Available Prepreg

Type	Resin Content (%)	Unclad Laminate Thickness (mil)	Remark
7629	45.0±3.0	7.8	
1501	49.0±3.0	6.8	
2116	53.0±3.0	4.8	
	55.0±3.0	5.1	
	59.0±3.0	5.7	
2113	55.0±3.0	3.8	
	57.0±3.0	4.0	
1080	63.0±3.0	2.9	
	67.0±3.0	3.4	
106	71.0±3.0	2.0	
	75.0±3.0	2.4	
3313	55.0±3.0	3.9	Customer assigned
	57.0±3.0	4.2	
1067	71.0±3.0	2.5	Customer assigned
	75.0±3.0	2.9	
1078	63.0±3.0	2.9	Customer assigned
	67.0±3.0	3.4	
1086	63.0±3.0	3.3	Customer assigned
	67.0±3.0	3.7	
1037	71.0±3.0	1.9	Customer assigned
	75.0±3.0	2.3	

Notice:

1. Lower resin content might be insufficient resin for lower copper residual or heavy copper of inner layer.
2. If you have any other requirement, please contact our sales or customer service representatives.



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Basic Available CCL

Nominal Thickness inch (mm)	Tolerance inch (mm)	Construction	Remark
0.002" (0.051)	± 0.0005" (0.013)	1037×1	Customer assigned
0.002" (0.051)	± 0.0005" (0.013)	106×1	
0.0025" (0.064)	± 0.0005" (0.013)	1067×1	Customer assigned
0.003" (0.076)	± 0.0005" (0.013)	1080×1	
0.003" (0.076)	± 0.0005" (0.013)	1086×1	Customer assigned
0.0035" (0.089)	± 0.0005" (0.013)	2113×1	
0.0035" (0.089)	± 0.0005" (0.013)	3313×1	Customer assigned
0.0035" (0.089)	± 0.0005" (0.013)	1037×2	Customer assigned
0.004" (0.102)	± 0.0005" (0.013)	2113×1	
0.004" (0.102)	± 0.0005" (0.013)	3313×1	Customer assigned
0.004" (0.102)	± 0.0005" (0.013)	106×2	
0.004" (0.102)	± 0.0005" (0.013)	1037×2	Customer assigned
0.0045" (0.114)	± 0.0005" (0.013)	2116×1	
0.0045" (0.114)	± 0.0005" (0.013)	3313×1	Customer assigned
0.0045" (0.114)	± 0.0005" (0.013)	1067×2	Customer assigned
0.005" (0.127)	± 0.0007" (0.018)	1067×2	Customer assigned
0.005" (0.127)	± 0.0007" (0.018)	1080×2	
0.005" (0.127)	± 0.0007" (0.018)	2116×1	
0.006" (0.152)	± 0.0007" (0.018)	1080×2	
0.006" (0.152)	± 0.0007" (0.018)	1086×2	Customer assigned
0.006" (0.157)	± 0.0007" (0.018)	1501×1	
0.007" (0.178)	± 0.0010" (0.025)	7628×1	
0.007" (0.178)	± 0.0010" (0.025)	2113×2	
0.007" (0.178)	± 0.0010" (0.025)	3313×2	Customer assigned
0.008" (0.203)	± 0.0010" (0.025)	7629×1	
0.008" (0.203)	± 0.0010" (0.025)	3313×2	Customer assigned
0.008" (0.203)	± 0.0010" (0.025)	2116×2	
0.010" (0.254)	± 0.0010" (0.025)	2116×2	
0.012" (0.305)	± 0.0015" (0.038)	1501×2	
0.014" (0.355)	± 0.0015" (0.038)	7628×2	
0.015" (0.355)	± 0.0015" (0.038)	7629×2	
0.021" (0.533)	± 0.0020" (0.051)	7628×3	
0.028" (0.711)	± 0.0020" (0.051)	7628×4	
0.031" (0.787)	± 0.0030" (0.076)	7629×4	

* Above thickness does not include copper.



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Press Cycle

Basic press cycle for normal construction of multilayer PWB:

- ◆ Pre Vacuum of 30 minutes
- ◆ Kiss pressure : 5~7kgf/cm²(70~100psi)
- ◆ Heat rate(80~130°C): 1.8~2.5°C/min
- ◆ Full pressure : 27~30 kgf /cm²(380~420psi)
- ◆ Apply full pressure at : 80~100°C
- ◆ Reduce the full pressure to kiss when 50~60% of curing stage.
- ◆ Curing condition recommend: >190°C x90mins for board thickness <3.5mm; 190°C x110mins for board thickness ≥3.5mm. For board thickness ≥ 5mm, please contact local customer service for further assistance.
- ◆ Peak temperature of material should be preferable achieved at 210°C .
- ◆ Cooling condition: cooling rate in hot press < 2°C/min is preferred from end of curing time at 190°C .

The higher heating rate gives the better peel strength and inner layer pattern filling. The lower heating rate provides lower press flow for better thickness uniformity. Please contact our customer service for setting suitable press cycle if necessary.

Prepreg storage (Shelf life)

EM-888B should be stored under 23°C, RH 55% for 3 month shelf life.