185HR

High Reliability Epoxy Laminate and Prepreg

Revision No: D | May 14, 2022

Dielectric Constant(Dk) / Dissipation factor (Df) Table

Core Data

Constructions	Resin Content %	Standard/Alternate	Thickness (inch)	Thickness (mm)	Dielectric Constant (DK)/ Dissipation Factor (DF)					
					100 MHz	500 MHz	1 GHz	2 GHz	5 GHz	10 GHz
1x1080	60%	Standard	0.0025	0.064	4.06 0.0160	3.98 0.0190	3.96 0.0200	3.93 0.0210	3.81 0.0250	3.80 0.0250
1x1067	73%	Alt/Spread	0.0025	0.064	3.84 0.0180	3.77 0.0210	3.74 0.0230	3.70 0.0240	3.55 0.0290	3.54 0.0290
1x1080	66%	Standard	0.0030	0.076	3.96 0.0170	3.89 0.0200	3.86 0.0220	3.82 0.0220	3.68 0.0270	3.68 0.0270
1x1086	61%	Alt/Spread	0.0030	0.076	4.04 0.0170	3.97 0.0190	3.94 0.0200	3.91 0.0210	3.78 0.0250	3.78 0.0250
1x3313	52%	Alternate	0.0035	0.089	4.20 0.0150	4.13 0.0170	4.11 0.0180	4.09 0.0190	3.97 0.0220	3.98 0.0220
1x2113	54%	Standard	0.0035	0.089	4.19 0.0160	4.10 0.0170	4.07 0.0190	4.04 0.0200	3.92 0.0230	3.92 0.0230
2x106	68%	Standard	0.0035	0.089	3.92 0.0140	3.88 0.0150	3.86 0.0180	3.84 0.0190	3.69 0.0190	3.69 0.0190
1x2116	48%	Standard	0.0040	0.102	4.28 0.0150	4.21 0.0160	4.20 0.0180	4.18 0.0180	4.05 0.0210	4.05 0.0210
1x3313	57%	Alternate	0.0040	0.102	4.11 0.0160	4.04 0.0180	4.03 0.0190	3.99 0.0200	3.86 0.0240	3.86 0.0240
2x106	72%	Standard	0.0040	0.102	3.86 0.0180	3.78 0.0210	3.76 0.0230	3.72 0.0240	3.57 0.0280	3.56 0.0290
1x2116	53%	Standard	0.0045	0.114	4.18 0.0150	4.11 0.0170	4.10 0.0190	4.07 0.0190	3.94 0.0230	3.94 0.0230
1x106 / 1x1080	65%	Alternate	0.0045	0.114	3.97 0.0170	3.90 0.0200	3.87 0.0210	3.84 0.0220	3.70 0.0260	3.70 0.0260
1x2116	57%	Standard	0.0050	0.127	4.11 0.0160	4.04 0.0180	4.03 0.0190	3.99 0.0200	3.86 0.0240	3.86 0.0240
2x1080	60%	Standard	0.0050	0.127	4.06 0.0160	3.98 0.0190	3.96 0.0200	3.93 0.0210	3.81 0.0250	3.80 0.0250
2x1067	73%	Alt/Spread	0.0050	0.127	3.84 0.0180	3.77 0.0210	3.74 0.0230	3.70 0.0240	3.55 0.0290	3.54 0.0290
2x1080	63%	Alternate	0.0055	0.140	4.00 0.0170	3.93 0.0190	3.91 0.0210	3.87 0.0220	3.74 0.0260	3.74 0.0260
1x106 / 1x2113	60%	Alternate	0.0055	0.140	4.06 0.0160	3.98 0.0190	3.96 0.0200	3.93 0.0210	3.81 0.0250	3.80 0.0250
1x1652	52%	Standard	0.0060	0.152	4.20 0.0150	4.13 0.0170	4.11 0.0180	4.09 0.0190	3.97 0.0220	3.98 0.0220

2x1080	65%	Standard	0.0060	0.152	3.97 0.0170	3.90 0.0200	3.87 0.0210	3.84 0.0220	3.70 0.0260	3.70 0.0260
2x1086	61%	Alt/Spread	0.0060	0.152	4.04 0.0170	3.97 0.0190	3.94 0.0200	3.91 0.0210	3.78 0.0250	3.78 0.0250
1x7628	43%	Alternate	0.0070	0.178	4.38 0.0140	4.32 0.0150	4.31 0.0160	4.27 0.0170	4.16 0.0200	4.15 0.0200
2x2113	54%	Alternate	0.0070	0.178	4.19 0.0160	4.10 0.0170	4.07 0.0190	4.04 0.0200	3.92 0.0230	3.92 0.0230
2x3313	52%	Alternate	0.0070	0.178	4.20 0.0150	4.13 0.0170	4.11 0.0180	4.09 0.0190	3.97 0.0220	3.98 0.0220
1x7628	46%	Alternate	0.0075	0.191	4.32 0.0140	4.27 0.0160	4.24 0.0170	4.21 0.0180	4.10 0.0200	4.10 0.0210
1x7628	48%	Standard	0.0080	0.203	4.28 0.0150	4.21 0.0160	4.20 0.0180	4.18 0.0180	4.05 0.0210	4.05 0.0210
2x2116	48%	Standard	0.0080	0.203	4.28 0.0150	4.21 0.0160	4.20 0.0180	4.18 0.0180	4.05 0.0210	4.05 0.0210
2x3313	57%	Alternate	0.0080	0.203	4.11 0.0160	4.04 0.0180	4.03 0.0190	3.99 0.0200	3.86 0.0240	3.86 0.0240
2x2116	53%	Alternate	0.0090	0.229	4.18 0.0150	4.11 0.0170	4.10 0.0190	4.07 0.0190	3.94 0.0230	3.94 0.0230
2x2116	57%	Standard	0.0100	0.254	4.11 0.0160	4.04 0.0180	4.03 0.0190	3.99 0.0200	3.86 0.0240	3.86 0.0240
2x1652	52%	Standard	0.0120	0.305	4.20 0.0150	4.13 0.0170	4.11 0.0180	4.09 0.0190	3.97 0.0220	3.98 0.0220
3x2116	48%	Alternate	0.0120	0.305	4.28 0.0150	4.21 0.0160	4.20 0.0180	4.18 0.0180	4.05 0.0210	4.05 0.0210
2x7628	43%	Standard	0.0140	0.356	4.38 0.0140	4.32 0.0150	4.31 0.0160	4.27 0.0170	4.16 0.0200	4.15 0.0200
2x7628	47%	Standard	0.0160	0.406	4.33 0.0140	4.30 0.0160	4.28 0.0170	4.26 0.0180	4.16 0.0200	4.16 0.0210
2x7628 / 1x2116	44%	Standard	0.0180	0.457	4.36 0.0140	4.30 0.0150	4.29 0.0170	4.25 0.0170	4.14 0.0200	4.13 0.0200
3x7628	43%	Standard	0.0210	0.533	4.38 0.0140	4.32 0.0150	4.31 0.0160	4.27 0.0170	4.16 0.0200	4.15 0.0200
3x7628	45%	Standard	0.0240	0.610	4.31 0.0140	4.30 0.0160	4.26 0.0180	4.24 0.0180	4.15 0.0220	4.15 0.0220
4x7628	43%	Standard	0.0280	0.711	4.38 0.0140	4.32 0.0150	4.31 0.0160	4.27 0.0170	4.16 0.0200	4.15 0.0200
4x7628	45%	Standard	0.0310	0.787	4.31 0.0140	4.30 0.0160	4.26 0.0180	4.24 0.0180	4.15 0.0220	4.15 0.0220
5x7628	43%	Alternate	0.0350	0.889	4.38 0.0140	4.32 0.0150	4.31 0.0160	4.27 0.0170	4.16 0.0200	4.15 0.0200
5x7628	45%	Alternate	0.0390	0.991	4.31 0.0140	4.30 0.0160	4.26 0.0180	4.24 0.0180	4.15 0.0220	4.15 0.0220

8x7628	43%	Alternate	0.0590	1.499	4.38 0.0140	4.32 0.0150	4.31 0.0160	4.27 0.0170	4.16 0.0200	4.15 0.0200

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Prepreg Dielectric Constant(Dk) / Dissipation factor (Df) Table

Prepreg Data

Glass Style	Resin Content %	Offering	Thickness (inch)	Thickness (mm)	Dielectric Constant (DK)/ Dissipation Factor (DF)					
					100 MHz	500 MHz	1 GHz	2 GHz	5 GHz	10 GHz
106	73.0%	Alternate	0.0020	0.051	3.84 0.0180	3.81 0.0210	3.83 0.0230	3.68 0.0240	3.51 0.0280	3.50 0.0280
1067	71.0%	Alternate	0.0023	0.058	3.88 0.0180	3.84 0.0210	3.82 0.0230	3.79 0.0240	3.65 0.0280	3.65 0.0280
106	77.0%	Standard	0.0025	0.064	3.79 0.0190	3.71 0.0220	3.69 0.0240	3.65 0.0250	3.50 0.0300	3.49 0.0300
1086	64.0%	Alternate	0.0032	0.081	3.99 0.0170	3.96 0.0190	3.94 0.0210	3.91 0.0220	3.78 0.0260	3.78 0.0260
1080	67.0%	Standard	0.0032	0.081	3.94 0.0170	3.86 0.0200	3.84 0.0220	3.78 0.0230	3.66 0.0270	3.66 0.0270
1080	72.0%	Alternate	0.0039	0.099	3.86 0.0180	3.78 0.0210	3.76 0.0230	3.72 0.0240	3.57 0.0280	3.56 0.0290
1080	74.0%	Alternate	0.0042	0.107	3.82 0.0190	3.66 0.0220	3.66 0.0240	3.60 0.0250	3.44 0.0300	3.44 0.0300
2113	60.0%	Standard	0.0042	0.107	4.06 0.0160	3.98 0.0190	3.96 0.0200	3.93 0.0210	3.81 0.0250	3.80 0.0250
3313	60.0%	Alternate	0.0044	0.112	4.06 0.0160	3.98 0.0190	3.96 0.0200	3.93 0.0210	3.81 0.0250	3.80 0.0250
2116	54.0%	Alternate	0.0048	0.122	4.14 0.0150	4.09 0.0170	4.08 0.0180	4.05 0.0190	3.92 0.0220	3.91 0.0230
2116	57.0%	Standard	0.0051	0.130	4.11 0.0160	4.04 0.0180	4.03 0.0190	3.99 0.0200	3.86 0.0240	3.86 0.0240
2116	59.0%	Alternate	0.0054	0.137	4.09 0.0160	4.01 0.0190	4.00 0.0200	3.96 0.0210	3.84 0.0250	3.83 0.0250
1652	52.0%	Alternate	0.0060	0.152	4.20 0.0150	4.13 0.0170	4.11 0.0180	4.09 0.0190	3.97 0.0220	3.98 0.0230
7628	44.0%	Alternate	0.0073	0.185	4.36 0.0140	4.32 0.0160	4.29 0.0170	4.23 0.0180	4.15 0.0200	4.15 0.0210
7628	46.0%	Standard	0.0077	0.196	4.32 0.0140	4.27 0.0160	4.24 0.0170	4.21 0.0180	4.10 0.0200	4.10 0.0210
7628	49.0%	Alternate	0.0082	0.208	4.27 0.0140	4.19 0.0170	4.17 0.0180	4.16 0.0190	4.03 0.0210	4.03 0.0220

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NOTE

Revisions:
A - Original
B - Added Availability
C - Added 2116 59% RC
D - Added 5x7628 39 mil construction option 5/2022
"Standard or Std" - Commonly available with the best availability.
"Alternate or Alt" - Available, but not stocked with longer lead time
"Spread" - Glass is spread in both directions