

Data Sheet

High Speed, Low Loss Multi-layer Materials

MEGTRON M

Laminate R-5735
Prepreg R-5630

Apr. 2022 No.22040149

Specification / Laminate R-5735

Property		Units	Test Method	Condition	Typical Value	
THERMAL	Glass Transition Temp (Tg)	C	DSC	As received	195	
			TMA	As received	185	
			DMA	As received	210	
	Thermal Decomposition Temp (Td)		C	TGA	As received	360
	Time to Delam (T288)	Without Cu	min	IPC TM-650 2.4.24.1	As received	> 120
		With Cu	min	IPC TM-650 2.4.24.1	As received	35
	CTE : $\alpha 1$	X - axis	ppm / C	IPC TM-650 2.4.24	< Tg	12 ~ 15
		Y - axis	ppm / C	IPC TM-650 2.4.24	< Tg	12 ~ 15
		Z - axis	ppm / C	IPC TM-650 2.4.24	< Tg	31
	CTE : $\alpha 2$	Z - axis	ppm / C	IPC TM-650 2.4.24	> Tg	240
ELECTRICAL	Volume Resistivity		M Ω - cm	IPC TM-650 2.5.17.1	C-96/35/90	1 x 10 ⁹
	Surface Resistivity		M Ω	IPC TM-650 2.5.17.1	C-96/35/90	1 x 10 ⁸
	Dielectric Constant (Dk)	@ 1MHz	-	IPC TM-650 2.5.5.9	C-24/23/50	4.01
		@ 1GHz	-	IPC TM-650 2.5.5.9	C-24/23/50	3.92
	Dissipation Factor (Df)	@ 1MHz	-	IPC TM-650 2.5.5.9	C-24/23/50	0.005
		@ 1GHz	-	IPC TM-650 2.5.5.9	C-24/23/50	0.005
PHYSICAL	Water Absorption		%	IPC TM-650 2.6.2.1	D-24/23	0.14
	Peel Strength	1oz	kN / m	IPC TM-650 2.4.8	As received	1.3
	Flammability		-	UL	C-48/23/50	94V-0

Sample thickness ; 32 mil (0.8 mm) #3313 × 8 ply

* The data in the above table are not guaranteed values.

Specification / Laminate R-5735

1MHz - 1GHz ; IPC TM650-2.5.5.9

Core Type	Actual Thickness		Cloth Style	Typical Resin Content (%)	Typical Dk			Typical Df		
	mil	mm			1MHz	100MHz	1GHz	1MHz	100MHz	1GHz
2	2.0	0.050	106 X 1	72	3.65	3.58	3.55	0.005	0.005	0.006
2	2.0	0.050	1067 X 1	65	3.80	3.73	3.70	0.005	0.005	0.005
2.5	2.4	0.060	1080 X 1	58	3.96	3.90	3.87	0.005	0.005	0.005
2.5	2.4	0.060	1067 X 1	70	3.69	3.63	3.59	0.005	0.005	0.006
3	3.1	0.080	1080 X 1	65	3.80	3.73	3.70	0.005	0.005	0.005
3	3.1	0.080	1078 X 1	65	3.80	3.73	3.70	0.005	0.005	0.005
3.4	3.5	0.090	1078 X 1	69	3.71	3.65	3.61	0.005	0.005	0.006
3.5	3.5	0.090	106 X 2	69	3.71	3.65	3.61	0.005	0.005	0.006
3.5	3.5	0.090	3313 X 1	52	4.12	4.06	4.02	0.005	0.005	0.005
4	3.9	0.100	3313 X 1	56	4.01	3.95	3.92	0.005	0.005	0.005
4	3.9	0.100	1067 X 2	65	3.80	3.73	3.70	0.005	0.005	0.005
4.5	4.3	0.110	2116 X 1	52	4.12	4.06	4.02	0.005	0.005	0.005
4.7	4.7	0.120	1080 X 2	58	3.96	3.90	3.87	0.005	0.005	0.005
5	5.1	0.130	2116 X 1	56	4.01	3.95	3.92	0.005	0.005	0.005
6	5.9	0.150	1080 X 2	65	3.80	3.73	3.70	0.005	0.005	0.005
6	5.9	0.150	1504 X 1	49	4.20	4.14	4.11	0.004	0.005	0.005
6	5.9	0.150	1078 X 2	65	3.80	3.73	3.70	0.005	0.005	0.005
7	7.1	0.180	3313 X 2	52	4.12	4.06	4.02	0.005	0.005	0.005
7	7.1	0.180	1067 X 3	70	3.69	3.63	3.59	0.005	0.005	0.006
8	7.9	0.200	3313 X 2	56	4.01	3.95	3.92	0.005	0.005	0.005
8	7.9	0.200	2116 X 2	47	4.26	4.20	4.17	0.004	0.005	0.005
9	9.1	0.230	2116 X 2	52	4.12	4.06	4.02	0.005	0.005	0.005
10	9.8	0.250	2116 X 2	56	4.01	3.95	3.92	0.005	0.005	0.005
12	11.8	0.300	1504 X 2	49	4.20	4.14	4.11	0.004	0.005	0.005

* The data in the above table are not guaranteed values.

Specification / Laminate R-5735

2GHz-10GHz ; IPC TM650-2.5.5.5

Core Type	Actual Thickness		Cloth Style	Typical Resin Content (%)	Typical Dk					Typical Df				
	mil	mm			2GHz	4GHz	6GHz	8GHz	10GHz	2GHz	4GHz	6GHz	8GHz	10GHz
2	2.0	0.050	106 X 1	72	3.54	3.53	3.52	3.52	3.52	0.006	0.006	0.007	0.008	0.008
2	2.0	0.050	1067 X 1	65	3.69	3.68	3.67	3.67	3.67	0.006	0.006	0.007	0.008	0.008
2.5	2.4	0.060	1080 X 1	58	3.86	3.85	3.84	3.84	3.83	0.006	0.006	0.006	0.007	0.007
2.5	2.4	0.060	1067 X 1	70	3.58	3.57	3.57	3.56	3.56	0.006	0.006	0.007	0.008	0.008
3	3.1	0.080	1080 X 1	65	3.69	3.68	3.67	3.67	3.67	0.006	0.006	0.007	0.008	0.008
3	3.1	0.080	1078 X 1	65	3.69	3.68	3.67	3.67	3.67	0.006	0.006	0.007	0.008	0.008
3.4	3.5	0.090	1078 X 1	69	3.60	3.59	3.59	3.58	3.58	0.006	0.006	0.007	0.008	0.008
3.5	3.5	0.090	106 X 2	69	3.60	3.59	3.59	3.58	3.58	0.006	0.006	0.007	0.008	0.008
3.5	3.5	0.090	3313 X 1	52	4.02	4.01	4.00	4.00	3.99	0.006	0.006	0.006	0.007	0.007
4	3.9	0.100	3313 X 1	56	3.91	3.90	3.89	3.89	3.89	0.006	0.006	0.006	0.007	0.007
4	3.9	0.100	1067 X 2	65	3.69	3.68	3.67	3.67	3.67	0.006	0.006	0.007	0.008	0.008
4.5	4.3	0.110	2116 X 1	52	4.02	4.01	4.00	4.00	3.99	0.006	0.006	0.006	0.007	0.007
4.7	4.7	0.120	1080 X 2	58	3.86	3.85	3.84	3.84	3.83	0.006	0.006	0.006	0.007	0.007
5	5.1	0.130	2116 X 1	56	3.91	3.90	3.89	3.89	3.89	0.006	0.006	0.006	0.007	0.007
6	5.9	0.150	1080 X 2	65	3.69	3.68	3.67	3.67	3.67	0.006	0.006	0.007	0.008	0.008
6	5.9	0.150	1504 X 1	49	4.10	4.09	4.09	4.08	4.08	0.006	0.006	0.006	0.007	0.007
6	5.9	0.150	1078 X 2	65	3.69	3.68	3.67	3.67	3.67	0.006	0.006	0.007	0.008	0.008
7	7.1	0.180	3313 X 2	52	4.02	4.01	4.00	4.00	3.99	0.006	0.006	0.006	0.007	0.007
7	7.1	0.180	1067 X 3	70	3.58	3.57	3.57	3.56	3.56	0.006	0.006	0.007	0.008	0.008
8	7.9	0.200	3313 x 2	56	3.91	3.90	3.89	3.89	3.89	0.006	0.006	0.006	0.007	0.007
8	7.9	0.200	2116 x 2	47	4.16	4.15	4.15	4.14	4.14	0.006	0.006	0.006	0.007	0.007
9	9.1	0.230	2116 x 2	52	4.02	4.01	4.00	4.00	3.99	0.006	0.006	0.006	0.007	0.007
10	9.8	0.250	2116 x 2	56	3.91	3.90	3.89	3.89	3.89	0.006	0.006	0.006	0.007	0.007
12	11.8	0.300	1504 x 2	49	4.10	4.09	4.09	4.08	4.08	0.006	0.006	0.006	0.007	0.007

* The data in the above table are not guaranteed values.

Specification / Laminate R-5735

13-55GHz ; Balanced-type Circular Disk Resonance Method [IEC 63185 (2020)]

Core Type	Actual Thickness		Cloth Style	Typical Resin Content (%)	Typical Dk					Typical Df				
	mil	mm			13GHz	23GHz	34GHz	45GHz	55GHz	13GHz	23GHz	34GHz	45GHz	55GHz
2	2.0	0.050	106 X 1	72	3.44	3.44	3.44	3.44	3.44	0.0087	0.0089	0.0091	0.0093	0.0095
2	2.0	0.050	1067 X 1	65	3.58	3.58	3.58	3.58	3.58	0.0087	0.0089	0.0091	0.0093	0.0095
2.5	2.4	0.060	1080 X 1	58	3.73	3.73	3.73	3.73	3.73	0.0087	0.0089	0.0091	0.0093	0.0095
2.5	2.4	0.060	1067 X 1	70	3.48	3.48	3.48	3.48	3.48	0.0087	0.0089	0.0091	0.0093	0.0095
3	3.1	0.080	1080 X 1	65	3.58	3.58	3.58	3.58	3.58	0.0087	0.0089	0.0091	0.0093	0.0095
3	3.1	0.080	1078 X 1	65	3.58	3.58	3.58	3.58	3.58	0.0087	0.0089	0.0091	0.0093	0.0095
3.4	3.5	0.090	1078 X 1	69	3.50	3.50	3.50	3.50	3.50	0.0087	0.0089	0.0091	0.0093	0.0095
3.5	3.5	0.090	106 X 2	69	3.50	3.50	3.50	3.50	3.50	0.0087	0.0089	0.0091	0.0093	0.0095
3.5	3.5	0.090	3313 X 1	52	3.84	3.84	3.84	3.84	3.84	0.0087	0.0089	0.0091	0.0093	0.0095
4	3.9	0.100	3313 X 1	56	3.75	3.75	3.75	3.75	3.75	0.0087	0.0089	0.0091	0.0093	0.0095
4	3.9	0.100	1067 X 2	65	3.58	3.58	3.58	3.58	3.58	0.0087	0.0089	0.0091	0.0093	0.0095
4.5	4.3	0.110	2116 X 1	52	3.84	3.84	3.84	3.84	3.84	0.0087	0.0089	0.0091	0.0093	0.0095
4.7	4.7	0.120	1080 X 2	58	3.73	3.73	3.73	3.73	3.73	0.0087	0.0089	0.0091	0.0093	0.0095
5	5.1	0.130	2116 X 1	56	3.75	3.75	3.75	3.75	3.75	0.0087	0.0089	0.0091	0.0093	0.0095
6	5.9	0.150	1080 X 2	65	3.58	3.58	3.58	3.58	3.58	0.0087	0.0089	0.0091	0.0093	0.0095
6	5.9	0.150	1504 X 1	49	3.92	3.92	3.92	3.92	3.92	0.0087	0.0089	0.0091	0.0093	0.0095
6	5.9	0.150	1078 X 2	65	3.58	3.58	3.58	3.58	3.58	0.0087	0.0089	0.0091	0.0093	0.0095
7	7.1	0.180	3313 X 2	52	3.84	3.84	3.84	3.84	3.84	0.0087	0.0089	0.0091	0.0093	0.0095
7	7.1	0.180	1067 X 3	70	3.48	3.48	3.48	3.48	3.48	0.0087	0.0089	0.0091	0.0093	0.0095
8	7.9	0.200	3313 x 2	56	3.75	3.75	3.75	3.75	3.75	0.0087	0.0089	0.0091	0.0093	0.0095
8	7.9	0.200	2116 x 2	47	3.97	3.97	3.97	3.97	3.97	0.0087	0.0089	0.0091	0.0093	0.0095
9	9.1	0.230	2116 x 2	52	3.84	3.84	3.84	3.84	3.84	0.0087	0.0089	0.0091	0.0093	0.0095
10	9.8	0.250	2116 x 2	56	3.75	3.75	3.75	3.75	3.75	0.0087	0.0089	0.0091	0.0093	0.0095
12	11.8	0.300	1504 x 2	49	3.92	3.92	3.92	3.92	3.92	0.0087	0.0089	0.0091	0.0093	0.0095

* The data in the above table are not guaranteed values.

Specification / Prepreg R-5630

1MHz - 1GHz ; IPC TM650-2.5.5.9

Cloth Style	Resin Content (%)	Typical Thickness (um)	Typical Dk			Typical Df		
			1MHz	100MHz	1GHz	1MHz	100MHz	1GHz
106	72	51	3.65	3.58	3.55	0.005	0.005	0.006
	75	57	3.59	3.53	3.49	0.005	0.005	0.006
1067	66	51	3.78	3.71	3.68	0.005	0.005	0.005
	70	59	3.69	3.63	3.59	0.005	0.005	0.006
	74	69	3.61	3.54	3.51	0.005	0.005	0.006
1080	65	75	3.80	3.73	3.70	0.005	0.005	0.005
	69	87	3.71	3.65	3.61	0.005	0.005	0.006
	73	101	3.63	3.56	3.53	0.005	0.005	0.006
1078	64	74	3.82	3.76	3.72	0.005	0.005	0.005
	69	88	3.71	3.65	3.61	0.005	0.005	0.006
3313	57	103	3.99	3.92	3.89	0.005	0.005	0.005
	60	112	3.91	3.85	3.82	0.005	0.005	0.005
	63	123	3.84	3.78	3.75	0.005	0.005	0.005
2116	53	117	4.09	4.03	4.00	0.005	0.005	0.005
	56	127	4.01	3.95	3.92	0.005	0.005	0.005
	59	138	3.94	3.87	3.84	0.005	0.005	0.005
1504	51	159	4.14	4.08	4.05	0.004	0.005	0.005
1501	51	177	4.14	4.08	4.05	0.004	0.005	0.005

* The data in the above table are not guaranteed values.

Specification / Prepreg R-5630

2GHz-10GHz ; IPC TM650-2.5.5.5

Cloth Style	Resin Content (%)	Typical Thickness (um)	Typical Dk					Typical Df				
			2GHz	4GHz	6GHz	8GHz	10GHz	2GHz	4GHz	6GHz	8GHz	10GHz
106	72	51	3.54	3.53	3.52	3.52	3.52	0.006	0.006	0.007	0.008	0.008
	75	57	3.48	3.47	3.46	3.46	3.46	0.006	0.007	0.007	0.008	0.009
1067	66	51	3.67	3.66	3.65	3.65	3.64	0.006	0.006	0.007	0.008	0.008
	70	59	3.58	3.57	3.57	3.56	3.56	0.006	0.006	0.007	0.008	0.008
	74	69	3.50	3.49	3.48	3.48	3.48	0.006	0.007	0.007	0.008	0.008
1080	65	75	3.69	3.68	3.67	3.67	3.67	0.006	0.006	0.007	0.008	0.008
	69	87	3.60	3.59	3.59	3.58	3.58	0.006	0.006	0.007	0.008	0.008
	73	101	3.52	3.51	3.50	3.50	3.50	0.006	0.006	0.007	0.008	0.008
1078	64	74	3.71	3.70	3.70	3.69	3.69	0.006	0.006	0.007	0.008	0.008
	69	88	3.60	3.59	3.59	3.58	3.58	0.006	0.006	0.007	0.008	0.008
3313	57	103	3.88	3.87	3.87	3.86	3.86	0.006	0.006	0.006	0.007	0.007
	60	112	3.81	3.80	3.79	3.79	3.78	0.006	0.006	0.006	0.007	0.007
	63	123	3.74	3.73	3.72	3.72	3.71	0.006	0.006	0.007	0.007	0.007
2116	53	117	3.99	3.98	3.97	3.97	3.97	0.006	0.006	0.006	0.007	0.007
	56	127	3.91	3.90	3.89	3.89	3.89	0.006	0.006	0.006	0.007	0.007
	59	138	3.83	3.82	3.82	3.81	3.81	0.006	0.006	0.006	0.007	0.007
1504	51	159	4.04	4.03	4.03	4.03	4.02	0.006	0.006	0.006	0.007	0.007
1501	51	177	4.04	4.03	4.03	4.03	4.02	0.006	0.006	0.006	0.007	0.007

* The data in the above table are not guaranteed values.

Specification / Prepreg R-5630

13-55GHz ; Balanced-type Circular Disk Resonance Method [IEC 63185 (2020)]

Cloth Style	Resin Content (%)	Typical Thickness (um)	Typical Dk					Typical Df				
			13GHz	23GHz	34GHz	45GHz	55GHz	13GHz	23GHz	34GHz	45GHz	55GHz
106	72	51	3.44	3.44	3.44	3.44	3.44	0.0087	0.0089	0.0091	0.0093	0.0095
	75	57	3.39	3.39	3.39	3.39	3.39	0.0087	0.0089	0.0091	0.0093	0.0095
1067	66	51	3.56	3.56	3.56	3.56	3.56	0.0087	0.0089	0.0091	0.0093	0.0095
	70	59	3.48	3.48	3.48	3.48	3.48	0.0087	0.0089	0.0091	0.0093	0.0095
	74	69	3.40	3.40	3.40	3.40	3.40	0.0087	0.0089	0.0091	0.0093	0.0095
1080	65	75	3.58	3.58	3.58	3.58	3.58	0.0087	0.0089	0.0091	0.0093	0.0095
	69	87	3.50	3.50	3.50	3.50	3.50	0.0087	0.0089	0.0091	0.0093	0.0095
	73	101	3.42	3.42	3.42	3.42	3.42	0.0087	0.0089	0.0091	0.0093	0.0095
1078	64	74	3.60	3.60	3.60	3.60	3.60	0.0087	0.0089	0.0091	0.0093	0.0095
	69	88	3.50	3.50	3.50	3.50	3.50	0.0087	0.0089	0.0091	0.0093	0.0095
3313	57	103	3.75	3.75	3.75	3.75	3.75	0.0087	0.0089	0.0091	0.0093	0.0095
	60	112	3.68	3.68	3.68	3.68	3.68	0.0087	0.0089	0.0091	0.0093	0.0095
	63	123	3.62	3.62	3.62	3.62	3.62	0.0087	0.0089	0.0091	0.0093	0.0095
2116	53	117	3.82	3.82	3.82	3.82	3.82	0.0087	0.0089	0.0091	0.0093	0.0095
	56	127	3.75	3.75	3.75	3.75	3.75	0.0087	0.0089	0.0091	0.0093	0.0095
	59	138	3.70	3.70	3.70	3.70	3.70	0.0087	0.0089	0.0091	0.0093	0.0095
1504	51	159	3.87	3.87	3.87	3.87	3.87	0.0087	0.0089	0.0091	0.0093	0.0095
1501	51	177	3.87	3.87	3.87	3.87	3.87	0.0087	0.0089	0.0091	0.0093	0.0095

* The data in the above table are not guaranteed values.

++ Before purchase ++

【Notes before you use】

- Please verify the suitability and fitness for intended application by quality testing, evaluation or other means at your own option before any adoption, use or change of use conditions of a product listed in the datasheet.
- We would like to have a delivery specifications mutually agreed for the product that you have decided to use. The agreements defined in the delivery specifications are assigned higher priority.
- Please note that images shown may somewhat differ from the actual product in color.
- Please note that specifications and external design are subject to change for product improvement without notice.
- For details on products in the datasheet, please contact your distributor or our sales department.

【Safety Information】

- Before using the product, please read the delivery specifications carefully or contact the distributor from which you purchased the product or our sales department in order to use the product correctly.
- The products in the datasheet are Electronic circuit board materials for electronic and electrical devices. Please do not use them for other than specified use.

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