

Data Sheet

High Speed, Low Loss Multi-layer Materials

Low Dk glass cloth version

MEGTRON6

Laminate R-5775(N)
Prepreg R-5670(N)

Apr. 2022 No.22040130

Specification / Laminate R-5775(N)

| Property | | Units | Test Method | Condition | Typical Value | |
|------------------|-----------------------------------|---------------|-------------------|---------------------|---------------|---------------------|
| THERMAL | Glass Transition Temp (Tg) | C | DSC | As received | 185 | |
| | | | DMA | As received | 210 | |
| | Thermal Decomposition Temp (Td) | | C | TGA | As received | 410 |
| | 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 | > 120 |
| | CTE : $\alpha 1$ | X - axis | ppm / C | IPC TM-650 2.4.24 | < Tg | 14 - 16 |
| | | Y - axis | ppm / C | IPC TM-650 2.4.24 | < Tg | 14 - 16 |
| | | Z - axis | ppm / C | IPC TM-650 2.4.24 | < Tg | 45 |
| CTE : $\alpha 2$ | Z - axis | ppm / C | IPC TM-650 2.4.24 | > Tg | 260 | |
| 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) | @ 1GHz | - | IPC TM-650 2.5.5.9 | C-24/23/50 | 3.40 |
| | | @ 13GHz | - | *Note 1 | C-24/23/50 | 3.34 |
| | Dissipation Factor (Df) | @ 1GHz | - | IPC TM-650 2.5.5.9 | C-24/23/50 | 0.002 |
| | | @ 13GHz | - | *Note 1 | C-24/23/50 | 0.0037 |
| PHYSICAL | Water Absorption | | % | IPC TM-650 2.6.2.1 | D-24/23 | 0.14 |
| | Peel Strength | 1oz (H-VLP) | kN / m | IPC TM-650 2.4.8 | As received | 0.8 |
| | Flammability | | - | UL | C-48/23/50 | 94V-0 |

Sample thickness : 29.5 mil = 0.750 mm (Core Type 30)

Note 1 : Balanced-type Circular Disk Resonance Method [IEC 63185 (2020)]

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

Specification / Laminate R-5775(N)

1GHz ; IPC TM650-2.5.5.9

13-58GHz ; Balanced-type Circular Disk Resonance Method [IEC 63185 (2020)]

| Core Type | Actual Thickness | | Cloth Style | ply | Typical Resin Content (%) | Typical Dk | | | | | |
|-----------|------------------|-------|-------------|-----|---------------------------|------------|--------|--------|--------|--------|--------|
| | mil | mm | | | | 1 GHz | 13 GHz | 24 GHz | 36 GHz | 47 GHz | 58 GHz |
| 2 | 2.0 | 0.050 | 1035 | 1 | 67 | 3.25 | 3.19 | 3.19 | 3.19 | 3.19 | 3.19 |
| 2.6 | 2.6 | 0.065 | 1078 | 1 | 59 | 3.37 | 3.29 | 3.29 | 3.29 | 3.29 | 3.29 |
| 3 | 3.0 | 0.075 | 1078 | 1 | 65 | 3.28 | 3.22 | 3.22 | 3.22 | 3.22 | 3.22 |
| 3.5 | 3.5 | 0.090 | 1078 | 1 | 70 | 3.22 | 3.16 | 3.16 | 3.16 | 3.16 | 3.16 |
| 4 | 3.9 | 0.100 | 2013 | 1 | 56 | 3.40 | 3.34 | 3.34 | 3.34 | 3.34 | 3.34 |
| 4 | 3.9 | 0.100 | 1035 | 2 | 67 | 3.25 | 3.19 | 3.19 | 3.19 | 3.19 | 3.19 |
| 5 | 5.0 | 0.127 | 1078 | 2 | 59 | 3.37 | 3.29 | 3.29 | 3.29 | 3.29 | 3.29 |
| 5 | 4.9 | 0.125 | 2116 | 1 | 56 | 3.40 | 3.34 | 3.34 | 3.34 | 3.34 | 3.34 |
| 6 | 5.7 | 0.146 | 1078 | 2 | 65 | 3.28 | 3.22 | 3.22 | 3.22 | 3.22 | 3.22 |
| 7 | 7.0 | 0.178 | 1078 | 2 | 70 | 3.22 | 3.16 | 3.16 | 3.16 | 3.16 | 3.16 |
| 8 | 7.9 | 0.200 | 2013 | 2 | 56 | 3.40 | 3.34 | 3.34 | 3.34 | 3.34 | 3.34 |
| 10 | 9.8 | 0.250 | 2116 | 2 | 56 | 3.40 | 3.34 | 3.34 | 3.34 | 3.34 | 3.34 |
| 12 | 11.8 | 0.300 | 2013 | 3 | 56 | 3.40 | 3.34 | 3.34 | 3.34 | 3.34 | 3.34 |
| 16 | 15.7 | 0.400 | 2013 | 4 | 56 | 3.40 | 3.34 | 3.34 | 3.34 | 3.34 | 3.34 |
| 20 | 19.7 | 0.500 | 2116 | 4 | 56 | 3.40 | 3.34 | 3.34 | 3.34 | 3.34 | 3.34 |
| 25 | 24.6 | 0.625 | 2116 | 5 | 56 | 3.40 | 3.34 | 3.34 | 3.34 | 3.34 | 3.34 |
| 30 | 29.5 | 0.750 | 2116 | 6 | 56 | 3.40 | 3.34 | 3.34 | 3.34 | 3.34 | 3.34 |

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

Specification / Laminate R-5775(N)

1GHz ; IPC TM650-2.5.5.9

13-58GHz ; Balanced-type Circular Disk Resonance Method [IEC 63185 (2020)]

| Core Type | Actual Thickness | | Cloth Style | ply | Typical Resin Content (%) | Typical Df | | | | | |
|-----------|------------------|-------|-------------|-----|---------------------------|------------|--------|--------|--------|--------|--------|
| | mil | mm | | | | 1 GHz | 13 GHz | 24 GHz | 36 GHz | 47 GHz | 58 GHz |
| 2 | 2.0 | 0.050 | 1035 | 1 | 67 | 0.002 | 0.0037 | 0.0040 | 0.0043 | 0.0044 | 0.0046 |
| 2.6 | 2.6 | 0.065 | 1078 | 1 | 59 | 0.002 | 0.0037 | 0.0040 | 0.0042 | 0.0044 | 0.0046 |
| 3 | 3.0 | 0.075 | 1078 | 1 | 65 | 0.002 | 0.0037 | 0.0040 | 0.0042 | 0.0044 | 0.0046 |
| 3.5 | 3.5 | 0.090 | 1078 | 1 | 70 | 0.002 | 0.0037 | 0.0040 | 0.0043 | 0.0044 | 0.0046 |
| 4 | 3.9 | 0.100 | 2013 | 1 | 56 | 0.002 | 0.0037 | 0.0040 | 0.0042 | 0.0044 | 0.0046 |
| 4 | 3.9 | 0.100 | 1035 | 2 | 67 | 0.002 | 0.0037 | 0.0040 | 0.0043 | 0.0044 | 0.0046 |
| 5 | 5.0 | 0.127 | 1078 | 2 | 59 | 0.002 | 0.0037 | 0.0040 | 0.0042 | 0.0044 | 0.0046 |
| 5 | 4.9 | 0.125 | 2116 | 1 | 56 | 0.002 | 0.0037 | 0.0040 | 0.0042 | 0.0044 | 0.0046 |
| 6 | 5.7 | 0.146 | 1078 | 2 | 65 | 0.002 | 0.0037 | 0.0040 | 0.0042 | 0.0044 | 0.0046 |
| 7 | 7.0 | 0.178 | 1078 | 2 | 70 | 0.002 | 0.0037 | 0.0040 | 0.0043 | 0.0044 | 0.0046 |
| 8 | 7.9 | 0.200 | 2013 | 2 | 56 | 0.002 | 0.0037 | 0.0040 | 0.0042 | 0.0044 | 0.0046 |
| 10 | 9.8 | 0.250 | 2116 | 2 | 56 | 0.002 | 0.0037 | 0.0040 | 0.0042 | 0.0044 | 0.0046 |
| 12 | 11.8 | 0.300 | 2013 | 3 | 56 | 0.002 | 0.0037 | 0.0040 | 0.0042 | 0.0044 | 0.0046 |
| 16 | 15.7 | 0.400 | 2013 | 4 | 56 | 0.002 | 0.0037 | 0.0040 | 0.0042 | 0.0044 | 0.0046 |
| 20 | 19.7 | 0.500 | 2116 | 4 | 56 | 0.002 | 0.0037 | 0.0040 | 0.0042 | 0.0044 | 0.0046 |
| 25 | 24.6 | 0.625 | 2116 | 5 | 56 | 0.002 | 0.0037 | 0.0040 | 0.0042 | 0.0044 | 0.0046 |
| 30 | 29.5 | 0.750 | 2116 | 6 | 56 | 0.002 | 0.0037 | 0.0040 | 0.0042 | 0.0044 | 0.0046 |

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

Specification / Prepreg R-5670(N)

1GHz ; IPC TM650-2.5.5.9

13-58GHz ; Balanced-type Circular Disk Resonance Method [IEC 63185 (2020)]

| Cloth Style | Resin Content (%) | Typical Thickness (um) | Typical Dk | | | | | |
|-------------|-------------------|------------------------|------------|--------|--------|--------|--------|--------|
| | | | 1 GHz | 13 GHz | 24 GHz | 36 GHz | 47 GHz | 58 GHz |
| 1035 | 72 | 60 | 3.20 | 3.13 | 3.13 | 3.13 | 3.13 | 3.13 |
| | 75 | 68 | 3.16 | 3.10 | 3.10 | 3.10 | 3.10 | 3.10 |
| | 77 | 74 | 3.13 | 3.08 | 3.08 | 3.08 | 3.08 | 3.08 |
| 1078 | 66 | 77 | 3.26 | 3.20 | 3.20 | 3.20 | 3.20 | 3.20 |
| | 70 | 89 | 3.22 | 3.16 | 3.16 | 3.16 | 3.16 | 3.16 |
| | 74 | 104 | 3.17 | 3.11 | 3.11 | 3.11 | 3.11 | 3.11 |
| | 77 | 118 | 3.13 | 3.08 | 3.08 | 3.08 | 3.08 | 3.08 |
| 2013 | 56 | 98 | 3.40 | 3.34 | 3.34 | 3.34 | 3.34 | 3.34 |
| | 59 | 106 | 3.37 | 3.29 | 3.29 | 3.29 | 3.29 | 3.29 |
| 2116 | 56 | 125 | 3.40 | 3.34 | 3.34 | 3.34 | 3.34 | 3.34 |
| | 58 | 132 | 3.37 | 3.31 | 3.31 | 3.31 | 3.31 | 3.31 |

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

Specification / Prepreg R-5670(N)

1GHz ; IPC TM650-2.5.5.9

13-58GHz ; Balanced-type Circular Disk Resonance Method [IEC 63185 (2020)]

| Cloth Style | Resin Content (%) | Typical Thickness (um) | Typical Df | | | | | |
|-------------|-------------------|------------------------|------------|--------|--------|--------|--------|--------|
| | | | 1 GHz | 13 GHz | 24 GHz | 36 GHz | 47 GHz | 58 GHz |
| 1035 | 72 | 60 | 0.002 | 0.0037 | 0.0040 | 0.0043 | 0.0044 | 0.0046 |
| | 75 | 68 | 0.002 | 0.0037 | 0.0040 | 0.0043 | 0.0044 | 0.0046 |
| | 77 | 74 | 0.002 | 0.0037 | 0.0040 | 0.0043 | 0.0044 | 0.0046 |
| 1078 | 66 | 77 | 0.002 | 0.0037 | 0.0040 | 0.0043 | 0.0044 | 0.0046 |
| | 70 | 89 | 0.002 | 0.0037 | 0.0040 | 0.0043 | 0.0044 | 0.0046 |
| | 74 | 104 | 0.002 | 0.0037 | 0.0040 | 0.0043 | 0.0044 | 0.0046 |
| | 77 | 118 | 0.002 | 0.0037 | 0.0040 | 0.0043 | 0.0044 | 0.0046 |
| 2013 | 56 | 98 | 0.002 | 0.0037 | 0.0040 | 0.0042 | 0.0044 | 0.0046 |
| | 59 | 106 | 0.002 | 0.0037 | 0.0040 | 0.0042 | 0.0044 | 0.0046 |
| 2116 | 56 | 125 | 0.002 | 0.0037 | 0.0040 | 0.0042 | 0.0044 | 0.0046 |
| | 58 | 132 | 0.002 | 0.0037 | 0.0040 | 0.0042 | 0.0044 | 0.0046 |

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

++ Before purchase ++

【Notes before you use】

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