

Based Material Line Up



Autolad1G Core/Prepreg Line up

1. Core (C-Stage)

| Thickness | | ply-up | RC (%) | Dk | | | | Df | | | |
|-----------|------|---------|--------|-------|-------|-------|--------|-------|-------|-------|--------|
| mm | mil | | | 1 GHz | 3 GHz | 5 GHz | 10 GHz | 1 GHz | 3 GHz | 5 GHz | 10 GHz |
| 0.051 | 2.00 | 1 X106 | 72 | 3.72 | 3.70 | 3.69 | 3.64 | 0.011 | 0.013 | 0.013 | 0.014 |
| 0.051 | 2.00 | 1 X1067 | 66 | 3.83 | 3.81 | 3.79 | 3.74 | 0.011 | 0.012 | 0.013 | 0.013 |
| 0.058 | 2.30 | 1 X1067 | 70 | 3.75 | 3.73 | 3.72 | 3.67 | 0.011 | 0.013 | 0.013 | 0.013 |
| 0.058 | 2.30 | 1 X1078 | 57 | 4.01 | 3.99 | 3.97 | 3.92 | 0.010 | 0.011 | 0.011 | 0.012 |
| 0.064 | 2.50 | 1 X1067 | 73 | 3.70 | 3.68 | 3.67 | 3.62 | 0.011 | 0.013 | 0.013 | 0.014 |
| 0.064 | 2.50 | 1 X1078 | 60 | 3.95 | 3.93 | 3.91 | 3.86 | 0.011 | 0.012 | 0.013 | 0.013 |
| 0.076 | 3.00 | 1 X1080 | 65 | 3.85 | 3.83 | 3.81 | 3.76 | 0.011 | 0.012 | 0.013 | 0.013 |
| 0.076 | 3.00 | 1 X1078 | 65 | 3.85 | 3.83 | 3.81 | 3.76 | 0.011 | 0.012 | 0.013 | 0.013 |
| 0.076 | 3.00 | 1 X1086 | 61 | 3.93 | 3.91 | 3.89 | 3.84 | 0.011 | 0.012 | 0.013 | 0.013 |
| 0.102 | 4.00 | 1 X3313 | 57 | 4.01 | 3.99 | 3.97 | 3.92 | 0.010 | 0.011 | 0.011 | 0.012 |
| 0.102 | 4.00 | 2 X106 | 72 | 3.72 | 3.70 | 3.69 | 3.64 | 0.011 | 0.013 | 0.013 | 0.014 |
| 0.114 | 4.50 | 1 X2116 | 52 | 4.12 | 4.08 | 4.04 | 4.00 | 0.009 | 0.011 | 0.011 | 0.012 |
| 0.127 | 5.00 | 1 X2116 | 56 | 4.03 | 4.01 | 3.99 | 3.94 | 0.010 | 0.011 | 0.011 | 0.012 |
| 0.127 | 5.00 | 2 X1080 | 60 | 3.95 | 3.93 | 3.91 | 3.86 | 0.011 | 0.012 | 0.013 | 0.013 |
| 0.152 | 6.00 | 1 X1506 | 45 | 4.26 | 4.26 | 4.22 | 4.20 | 0.008 | 0.010 | 0.010 | 0.011 |
| 0.152 | 6.00 | 2 X1080 | 65 | 3.85 | 3.83 | 3.81 | 3.76 | 0.011 | 0.012 | 0.013 | 0.013 |
| 0.178 | 7.00 | 1 X7628 | 43 | 4.31 | 4.30 | 4.27 | 4.25 | 0.008 | 0.010 | 0.010 | 0.010 |
| 0.178 | 7.00 | 2 X3313 | 52 | 4.12 | 4.08 | 4.04 | 4.00 | 0.009 | 0.011 | 0.011 | 0.012 |

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| | | | | | | | | | | | |
|-------|-------|---------|----|------|------|------|------|-------|-------|-------|-------|
| 0.203 | 8.00 | 1 X7628 | 47 | 4.22 | 4.21 | 4.18 | 4.16 | 0.009 | 0.010 | 0.010 | 0.011 |
| 0.203 | 8.00 | 2 X3313 | 57 | 4.01 | 3.99 | 3.97 | 3.92 | 0.010 | 0.011 | 0.011 | 0.012 |
| 0.254 | 10.00 | 2 X2116 | 56 | 4.03 | 4.01 | 3.99 | 3.94 | 0.010 | 0.011 | 0.011 | 0.012 |
| 0.305 | 12.00 | 2 X1506 | 45 | 4.26 | 4.26 | 4.22 | 4.20 | 0.008 | 0.010 | 0.010 | 0.011 |
| 0.318 | 12.50 | 2 X1506 | 47 | 4.22 | 4.21 | 4.18 | 4.16 | 0.009 | 0.010 | 0.010 | 0.011 |
| 0.356 | 14.00 | 2 X7628 | 43 | 4.31 | 4.30 | 4.27 | 4.25 | 0.008 | 0.010 | 0.010 | 0.010 |
| 0.406 | 16.00 | 2 X7628 | 47 | 4.22 | 4.21 | 4.18 | 4.16 | 0.009 | 0.010 | 0.010 | 0.011 |
| 0.457 | 18.00 | 4 X2116 | 52 | 4.12 | 4.08 | 4.04 | 4.00 | 0.009 | 0.011 | 0.011 | 0.012 |
| 0.508 | 20.00 | 4 X2116 | 56 | 4.03 | 4.01 | 3.99 | 3.94 | 0.010 | 0.011 | 0.011 | 0.012 |
| 0.508 | 20.00 | 3 X7628 | 41 | 4.36 | 4.34 | 4.32 | 4.30 | 0.008 | 0.010 | 0.010 | 0.010 |
| 0.610 | 24.00 | 3 X7628 | 47 | 4.22 | 4.21 | 4.18 | 4.16 | 0.009 | 0.010 | 0.010 | 0.011 |
| 0.711 | 28.00 | 4 X7628 | 43 | 4.31 | 4.30 | 4.27 | 4.25 | 0.008 | 0.010 | 0.010 | 0.010 |
| 1.016 | 40.00 | 5 X7628 | 47 | 4.22 | 4.21 | 4.18 | 4.16 | 0.009 | 0.010 | 0.010 | 0.011 |
| 1.499 | 59.00 | 8 X7628 | 45 | 4.26 | 4.26 | 4.22 | 4.20 | 0.008 | 0.010 | 0.010 | 0.011 |
| 1.600 | 63.00 | 8 X7628 | 47 | 4.22 | 4.21 | 4.18 | 4.16 | 0.009 | 0.010 | 0.010 | 0.011 |

2. Prepreg (B-Stage)

| Glass style | RC (%) Nominal | Thickness | | Dk | | | | Df | | | |
|-------------|-------------------|-----------|------|-------|-------|-------|--------|-------|-------|-------|--------|
| | | mm | mil | 1 GHz | 3 GHz | 5 GHz | 10 GHz | 1 GHz | 3 GHz | 5 GHz | 10 GHz |
| 1027 | 72 | 0.041 | 1.60 | 3.72 | 3.70 | 3.69 | 3.64 | 0.011 | 0.013 | 0.013 | 0.014 |
| | 75 | 0.046 | 1.80 | 3.64 | 3.62 | 3.60 | 3.56 | 0.011 | 0.013 | 0.014 | 0.015 |
| | 77 | 0.051 | 2.00 | 3.60 | 3.58 | 3.56 | 3.52 | 0.011 | 0.014 | 0.015 | 0.015 |
| 1037 | 72 | 0.048 | 1.90 | 3.72 | 3.70 | 3.69 | 3.64 | 0.011 | 0.013 | 0.013 | 0.014 |

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| | | | | | | | | | | | |
|-----------|----|-------|------|------|------|------|------|-------|-------|-------|-------|
| | 75 | 0.053 | 2.10 | 3.64 | 3.62 | 3.60 | 3.56 | 0.011 | 0.013 | 0.014 | 0.015 |
| | 77 | 0.058 | 2.30 | 3.60 | 3.58 | 3.56 | 3.52 | 0.011 | 0.014 | 0.015 | 0.015 |
| 106 | 72 | 0.051 | 2.00 | 3.72 | 3.70 | 3.69 | 3.64 | 0.011 | 0.013 | 0.013 | 0.014 |
| | 75 | 0.056 | 2.20 | 3.64 | 3.62 | 3.60 | 3.56 | 0.011 | 0.013 | 0.014 | 0.015 |
| | 77 | 0.061 | 2.40 | 3.60 | 3.58 | 3.56 | 3.52 | 0.011 | 0.014 | 0.015 | 0.015 |
| 1067 | 70 | 0.058 | 2.30 | 3.75 | 3.73 | 3.72 | 3.67 | 0.011 | 0.013 | 0.013 | 0.013 |
| | 72 | 0.064 | 2.50 | 3.72 | 3.70 | 3.69 | 3.64 | 0.011 | 0.013 | 0.013 | 0.014 |
| | 75 | 0.071 | 2.80 | 3.64 | 3.62 | 3.60 | 3.56 | 0.011 | 0.013 | 0.014 | 0.015 |
| 1080/1078 | 65 | 0.076 | 3.00 | 3.85 | 3.83 | 3.81 | 3.76 | 0.011 | 0.012 | 0.013 | 0.013 |
| | 69 | 0.086 | 3.40 | 3.76 | 3.75 | 3.73 | 3.68 | 0.011 | 0.013 | 0.013 | 0.013 |
| | 71 | 0.094 | 3.70 | 3.73 | 3.71 | 3.71 | 3.66 | 0.011 | 0.013 | 0.013 | 0.014 |
| 3313 | 57 | 0.102 | 4.00 | 4.01 | 3.99 | 3.97 | 3.92 | 0.010 | 0.011 | 0.011 | 0.012 |
| | 59 | 0.109 | 4.30 | 3.97 | 3.95 | 3.93 | 3.88 | 0.011 | 0.012 | 0.013 | 0.013 |
| | 61 | 0.114 | 4.50 | 3.93 | 3.91 | 3.89 | 3.84 | 0.011 | 0.012 | 0.013 | 0.013 |
| 2116 | 55 | 0.122 | 4.80 | 4.05 | 4.03 | 4.01 | 3.96 | 0.010 | 0.011 | 0.011 | 0.012 |
| | 59 | 0.137 | 5.40 | 3.97 | 3.95 | 3.93 | 3.88 | 0.011 | 0.012 | 0.013 | 0.013 |
| 1506 | 48 | 0.163 | 6.40 | 4.21 | 4.20 | 4.17 | 4.15 | 0.009 | 0.010 | 0.010 | 0.011 |
| | 50 | 0.170 | 6.70 | 4.16 | 4.13 | 4.09 | 4.05 | 0.009 | 0.011 | 0.011 | 0.012 |
| 7628 | 46 | 0.196 | 7.70 | 4.24 | 4.23 | 4.20 | 4.18 | 0.009 | 0.010 | 0.010 | 0.011 |
| | 49 | 0.211 | 8.30 | 4.18 | 4.17 | 4.13 | 4.10 | 0.009 | 0.010 | 0.010 | 0.011 |
| | 50 | 0.221 | 8.70 | 4.16 | 4.13 | 4.09 | 4.05 | 0.009 | 0.011 | 0.011 | 0.012 |

3. Remark

- 1) Dk/Df measuring method: IPC TM650-2.5.5.5C and modified TM650-2.5.5.5C
- 2) All the values listed above are for your reference only. Please contact Shengyi Technology Co., Ltd. for detailed information. All rights from this line

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3) Last update: April, 2022