

Base Material Line Up



1.Thin Core (Synamic8G)

| Typical Thickness | | Ply-up | RC,% | Typical Dk | | | | | Typical Df | | | | |
|-------------------|-------|--------|------|------------|------|------|--------|-------|------------|--------|--------|--------|--------|
| mil | mm | | | 1 GHz | 3GHz | 5GHz | 10 GHz | 15GHz | 1 GHz | 3GHz | 5GHz | 10 GHz | 15GHz |
| 2.0 | 0.051 | 1x1035 | 66 | 3.41 | 3.41 | 3.40 | 3.40 | 3.39 | 0.0019 | 0.0022 | 0.0025 | 0.0028 | 0.0031 |
| 2.5 | 0.064 | 1x1035 | 72 | 3.23 | 3.23 | 3.22 | 3.22 | 3.21 | 0.0016 | 0.0019 | 0.0022 | 0.0025 | 0.0028 |
| 2.5 | 0.064 | 1x1078 | 59 | 3.57 | 3.57 | 3.56 | 3.56 | 3.55 | 0.0022 | 0.0025 | 0.0028 | 0.0031 | 0.0034 |
| 3.0 | 0.076 | 1x1035 | 76 | 3.11 | 3.11 | 3.10 | 3.10 | 3.09 | 0.0014 | 0.0017 | 0.0020 | 0.0023 | 0.0026 |
| 3.0 | 0.076 | 1x1078 | 64 | 3.44 | 3.44 | 3.43 | 3.43 | 3.42 | 0.0019 | 0.0022 | 0.0025 | 0.0028 | 0.0031 |
| 3.0 | 0.076 | 2x1037 | 67 | 3.40 | 3.40 | 3.39 | 3.39 | 3.38 | 0.0018 | 0.0021 | 0.0024 | 0.0027 | 0.0030 |
| 3.5 | 0.089 | 1x1078 | 69 | 3.29 | 3.29 | 3.28 | 3.28 | 3.27 | 0.0017 | 0.0020 | 0.0023 | 0.0026 | 0.0029 |
| 3.5 | 0.089 | 1x1086 | 67 | 3.40 | 3.40 | 3.39 | 3.39 | 3.38 | 0.0018 | 0.0021 | 0.0024 | 0.0027 | 0.0030 |
| 3.5 | 0.089 | 2X1037 | 71 | 3.25 | 3.25 | 3.24 | 3.24 | 3.23 | 0.0017 | 0.0020 | 0.0023 | 0.0026 | 0.0029 |
| 4.0 | 0.102 | 1x3313 | 56 | 3.65 | 3.65 | 3.64 | 3.64 | 3.63 | 0.0023 | 0.0026 | 0.0029 | 0.0032 | 0.0035 |
| 4.0 | 0.102 | 2x1035 | 66 | 3.41 | 3.41 | 3.40 | 3.40 | 3.39 | 0.0019 | 0.0022 | 0.0025 | 0.0028 | 0.0031 |
| 4.0 | 0.102 | 1x1086 | 71 | 3.25 | 3.25 | 3.24 | 3.24 | 3.23 | 0.0017 | 0.0020 | 0.0023 | 0.0026 | 0.0029 |
| 4.5 | 0.114 | 2x1035 | 69 | 3.33 | 3.33 | 3.32 | 3.32 | 3.31 | 0.0017 | 0.0020 | 0.0023 | 0.0026 | 0.0029 |
| 4.5 | 0.114 | 1x3313 | 60 | 3.54 | 3.54 | 3.53 | 3.53 | 3.52 | 0.0021 | 0.0024 | 0.0027 | 0.0030 | 0.0033 |
| 5.0 | 0.127 | 1x2116 | 55 | 3.67 | 3.67 | 3.66 | 3.66 | 3.65 | 0.0023 | 0.0026 | 0.0029 | 0.0032 | 0.0035 |
| 5.0 | 0.127 | 2x1035 | 72 | 3.23 | 3.23 | 3.22 | 3.22 | 3.21 | 0.0016 | 0.0019 | 0.0022 | 0.0025 | 0.0028 |
| 5.0 | 0.127 | 2x1078 | 59 | 3.57 | 3.57 | 3.56 | 3.56 | 3.55 | 0.0022 | 0.0025 | 0.0028 | 0.0031 | 0.0034 |
| 5.5 | 0.140 | 1x2116 | 59 | 3.57 | 3.57 | 3.56 | 3.56 | 3.55 | 0.0022 | 0.0025 | 0.0028 | 0.0031 | 0.0034 |
| 6.0 | 0.152 | 2x1078 | 64 | 3.44 | 3.44 | 3.43 | 3.43 | 3.42 | 0.0019 | 0.0022 | 0.0025 | 0.0028 | 0.0031 |
| 7.0 | 0.178 | 2x1086 | 67 | 3.40 | 3.40 | 3.39 | 3.39 | 3.38 | 0.0018 | 0.0021 | 0.0024 | 0.0027 | 0.0030 |
| 8.0 | 0.203 | 2x3313 | 56 | 3.65 | 3.65 | 3.64 | 3.64 | 3.63 | 0.0023 | 0.0026 | 0.0029 | 0.0032 | 0.0035 |

Base Material Line Up



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|------|-------|---------|----|------|------|------|------|------|--------|--------|--------|--------|--------|
| 10.0 | 0.254 | 2x2116 | 55 | 3.67 | 3.67 | 3.66 | 3.66 | 3.65 | 0.0023 | 0.0026 | 0.0029 | 0.0032 | 0.0035 |
| 12.0 | 0.306 | 3x3313 | 56 | 3.65 | 3.65 | 3.64 | 3.64 | 3.63 | 0.0023 | 0.0026 | 0.0029 | 0.0032 | 0.0035 |
| 16.0 | 0.406 | 4x2116 | 47 | 3.76 | 3.76 | 3.75 | 3.75 | 3.74 | 0.0026 | 0.0030 | 0.0033 | 0.0036 | 0.0040 |
| 20.0 | 0.508 | 5x2116 | 47 | 3.76 | 3.76 | 3.75 | 3.75 | 3.74 | 0.0026 | 0.0030 | 0.0033 | 0.0036 | 0.0040 |
| 25.0 | 0.635 | 5x2116 | 55 | 3.67 | 3.67 | 3.66 | 3.66 | 3.65 | 0.0023 | 0.0026 | 0.0029 | 0.0032 | 0.0035 |
| 28.0 | 0.711 | 7x2116 | 47 | 3.76 | 3.76 | 3.75 | 3.75 | 3.74 | 0.0026 | 0.0030 | 0.0033 | 0.0036 | 0.0040 |
| 30.0 | 0.762 | 6x2116 | 55 | 3.67 | 3.67 | 3.66 | 3.66 | 3.65 | 0.0023 | 0.0026 | 0.0029 | 0.0032 | 0.0035 |
| 36.0 | 0.914 | 9x2116 | 47 | 3.76 | 3.76 | 3.75 | 3.75 | 3.74 | 0.0026 | 0.0030 | 0.0033 | 0.0036 | 0.0040 |
| 40.0 | 1.016 | 10x2116 | 47 | 3.76 | 3.76 | 3.75 | 3.75 | 3.74 | 0.0026 | 0.0030 | 0.0033 | 0.0036 | 0.0040 |

2.Prepreg (Synamic8GB)

| Glass style (E-glass) | RC (%) | Thickness | | Typical Dk | | | | | Typical Df | | | | |
|--------------------------|--------|-----------|-------|------------|------|------|--------|-------|------------|--------|--------|--------|--------|
| | | mil | mm | 1 GHz | 3GHz | 5GHz | 10 GHz | 15GHz | 1 GHz | 3GHz | 5GHz | 10 GHz | 15GHz |
| 1037 | 69 | 1.7 | 0.043 | 3.33 | 3.33 | 3.32 | 3.32 | 3.31 | 0.0017 | 0.0020 | 0.0023 | 0.0026 | 0.0029 |
| 1037 | 72 | 1.9 | 0.048 | 3.20 | 3.20 | 3.19 | 3.19 | 3.18 | 0.0016 | 0.0019 | 0.0022 | 0.0025 | 0.0028 |
| 1035 | 69 | 2.3 | 0.057 | 3.33 | 3.33 | 3.32 | 3.32 | 3.31 | 0.0017 | 0.0020 | 0.0023 | 0.0026 | 0.0029 |
| 1035 | 72 | 2.5 | 0.064 | 3.23 | 3.23 | 3.22 | 3.22 | 3.21 | 0.0016 | 0.0019 | 0.0022 | 0.0025 | 0.0028 |
| 1035 | 74 | 2.7 | 0.068 | 3.17 | 3.17 | 3.16 | 3.16 | 3.15 | 0.0015 | 0.0018 | 0.0021 | 0.0024 | 0.0027 |
| 1078 | 64 | 3.0 | 0.076 | 3.44 | 3.44 | 3.43 | 3.43 | 3.42 | 0.0019 | 0.0022 | 0.0025 | 0.0028 | 0.0031 |
| 1078 | 67 | 3.3 | 0.084 | 3.34 | 3.34 | 3.33 | 3.33 | 3.32 | 0.0018 | 0.0021 | 0.0024 | 0.0027 | 0.0030 |
| 1078 | 69 | 3.5 | 0.089 | 3.29 | 3.29 | 3.28 | 3.28 | 3.27 | 0.0017 | 0.0020 | 0.0023 | 0.0026 | 0.0029 |
| 1078 | 72 | 4.0 | 0.102 | 3.20 | 3.20 | 3.19 | 3.19 | 3.18 | 0.0016 | 0.0019 | 0.0022 | 0.0025 | 0.0028 |
| 1078 | 74 | 4.3 | 0.109 | 3.17 | 3.17 | 3.16 | 3.16 | 3.15 | 0.0015 | 0.0018 | 0.0021 | 0.0024 | 0.0027 |
| 1078 | 75 | 4.5 | 0.114 | 3.13 | 3.13 | 3.12 | 3.12 | 3.11 | 0.0015 | 0.0018 | 0.0021 | 0.0024 | 0.0027 |
| 1080 | 69 | 3.5 | 0.089 | 3.29 | 3.29 | 3.28 | 3.28 | 3.27 | 0.0017 | 0.0020 | 0.0023 | 0.0026 | 0.0029 |

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| | | | | | | | | | | | | | |
|------|----|-----|-------|------|------|------|------|------|--------|--------|--------|--------|--------|
| 3313 | 56 | 4.0 | 0.102 | 3.65 | 3.65 | 3.64 | 3.64 | 3.63 | 0.0023 | 0.0026 | 0.0029 | 0.0032 | 0.0035 |
| 3313 | 58 | 4.2 | 0.107 | 3.60 | 3.60 | 3.59 | 3.59 | 3.58 | 0.0022 | 0.0025 | 0.0028 | 0.0031 | 0.0034 |
| 3313 | 60 | 4.5 | 0.114 | 3.54 | 3.54 | 3.53 | 3.53 | 3.52 | 0.0021 | 0.0024 | 0.0027 | 0.0030 | 0.0033 |
| 2116 | 55 | 5.0 | 0.127 | 3.67 | 3.67 | 3.66 | 3.66 | 3.65 | 0.0023 | 0.0026 | 0.0029 | 0.0032 | 0.0035 |
| 2116 | 57 | 5.3 | 0.134 | 3.62 | 3.62 | 3.61 | 3.61 | 3.60 | 0.0022 | 0.0025 | 0.0028 | 0.0031 | 0.0034 |
| 2116 | 59 | 5.5 | 0.139 | 3.57 | 3.57 | 3.56 | 3.56 | 3.55 | 0.0022 | 0.0025 | 0.0028 | 0.0031 | 0.0034 |

Remark:

- 1) Dk/Df measuring method: IPC TM-650 2.5.5.5;
- 2) The above data is for reference only. SYTECH reserves the right for any update.