

Base Material Line Up



Synamic6GX Line up

1. Thin Core (Synamic6GX)

| Thickness | | Ply-up | RC (%) | Dk | | | | | Df | | | | |
|-----------|-------|--------|--------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|
| mil | mm | | | 1 GHz | 3 GHz | 5 GHz | 10 GHz | 15 GHz | 1GHz | 3 GHz | 5 GHz | 10 GHz | 15 GHz |
| 2 | 0.051 | 1x1067 | 67 | 3.54 | 3.54 | 3.54 | 3.54 | 3.53 | 0.0032 | 0.0037 | 0.0042 | 0.0047 | 0.0049 |
| 2.5 | 0.064 | 1x1067 | 73 | 3.43 | 3.43 | 3.43 | 3.43 | 3.42 | 0.0029 | 0.0034 | 0.0039 | 0.0044 | 0.0046 |
| 3 | 0.076 | 1x1035 | 77 | 3.36 | 3.36 | 3.36 | 3.36 | 3.35 | 0.0028 | 0.0033 | 0.0038 | 0.0043 | 0.0045 |
| 3 | 0.076 | 1x1067 | 77 | 3.36 | 3.36 | 3.36 | 3.36 | 3.35 | 0.0028 | 0.0033 | 0.0038 | 0.0043 | 0.0045 |
| 3 | 0.076 | 1x1078 | 66 | 3.56 | 3.56 | 3.56 | 3.56 | 3.55 | 0.0032 | 0.0037 | 0.0042 | 0.0047 | 0.0049 |
| 3.5 | 0.089 | 1X1086 | 67 | 3.54 | 3.54 | 3.54 | 3.54 | 3.53 | 0.0032 | 0.0037 | 0.0042 | 0.0047 | 0.0049 |
| 3.5 | 0.089 | 1x3313 | 53 | 3.80 | 3.80 | 3.80 | 3.80 | 3.79 | 0.0036 | 0.0041 | 0.0046 | 0.0051 | 0.0053 |
| 4 | 0.102 | 1x1067 | 83 | 3.25 | 3.25 | 3.25 | 3.25 | 3.24 | 0.0026 | 0.0031 | 0.0036 | 0.0041 | 0.0043 |
| 4 | 0.102 | 2x1067 | 67 | 3.54 | 3.54 | 3.54 | 3.54 | 3.53 | 0.0032 | 0.0037 | 0.0042 | 0.0047 | 0.0049 |
| 4 | 0.102 | 1x3313 | 58 | 3.71 | 3.71 | 3.71 | 3.71 | 3.70 | 0.0035 | 0.0040 | 0.0045 | 0.0050 | 0.0052 |
| 4 | 0.102 | 1x1086 | 71 | 3.47 | 3.47 | 3.47 | 3.47 | 3.46 | 0.0030 | 0.0035 | 0.0040 | 0.0045 | 0.0047 |
| 4.5 | 0.114 | 1x2116 | 53 | 3.80 | 3.80 | 3.80 | 3.80 | 3.79 | 0.0036 | 0.0041 | 0.0046 | 0.0051 | 0.0053 |
| 5 | 0.127 | 1x2116 | 57 | 3.73 | 3.73 | 3.73 | 3.73 | 3.72 | 0.0035 | 0.0040 | 0.0045 | 0.0050 | 0.0052 |
| 5 | 0.127 | 2x1067 | 73 | 3.43 | 3.43 | 3.43 | 3.43 | 3.42 | 0.0029 | 0.0034 | 0.0039 | 0.0044 | 0.0046 |
| 5 | 0.127 | 2x1078 | 62 | 3.64 | 3.64 | 3.64 | 3.64 | 3.63 | 0.0033 | 0.0038 | 0.0043 | 0.0048 | 0.0050 |
| 6 | 0.152 | 2x1080 | 66 | 3.56 | 3.56 | 3.56 | 3.56 | 3.55 | 0.0032 | 0.0037 | 0.0042 | 0.0047 | 0.0049 |
| 6 | 0.152 | 2x1078 | 66 | 3.56 | 3.56 | 3.56 | 3.56 | 3.55 | 0.0032 | 0.0037 | 0.0042 | 0.0047 | 0.0049 |
| 8 | 0.203 | 2X3313 | 58 | 3.71 | 3.71 | 3.71 | 3.71 | 3.70 | 0.0035 | 0.0040 | 0.0045 | 0.0050 | 0.0052 |
| 9 | 0.229 | 2X2116 | 53 | 3.80 | 3.80 | 3.80 | 3.80 | 3.79 | 0.0036 | 0.0041 | 0.0046 | 0.0051 | 0.0053 |
| 10 | 0.254 | 2x2116 | 57 | 3.73 | 3.73 | 3.73 | 3.73 | 3.72 | 0.0035 | 0.0040 | 0.0045 | 0.0050 | 0.0052 |
| 12 | 0.305 | 3x2116 | 49 | 3.88 | 3.88 | 3.88 | 3.88 | 3.87 | 0.0038 | 0.0043 | 0.0048 | 0.0053 | 0.0055 |

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| | | | | | | | | | | | | | |
|----|-------|---------|----|------|------|------|------|------|--------|--------|--------|--------|--------|
| 12 | 0.305 | 3x3313 | 58 | 3.71 | 3.71 | 3.71 | 3.71 | 3.70 | 0.0035 | 0.0040 | 0.0045 | 0.0050 | 0.0052 |
| 15 | 0.381 | 3x2116 | 57 | 3.73 | 3.73 | 3.73 | 3.73 | 3.72 | 0.0035 | 0.0040 | 0.0045 | 0.0050 | 0.0052 |
| 20 | 0.508 | 4x2116 | 57 | 3.73 | 3.73 | 3.73 | 3.73 | 3.72 | 0.0035 | 0.0040 | 0.0045 | 0.0050 | 0.0052 |
| 25 | 0.635 | 5x2116 | 57 | 3.73 | 3.73 | 3.73 | 3.73 | 3.72 | 0.0035 | 0.0040 | 0.0045 | 0.0050 | 0.0052 |
| 28 | 0.711 | 7x2116 | 49 | 3.88 | 3.88 | 3.88 | 3.88 | 3.87 | 0.0038 | 0.0043 | 0.0048 | 0.0053 | 0.0055 |
| 30 | 0.762 | 6x2116 | 57 | 3.73 | 3.73 | 3.73 | 3.73 | 3.72 | 0.0035 | 0.0040 | 0.0045 | 0.0050 | 0.0052 |
| 40 | 1.016 | 10x2116 | 49 | 3.88 | 3.88 | 3.88 | 3.88 | 3.87 | 0.0038 | 0.0043 | 0.0048 | 0.0053 | 0.0055 |

2. Prepreg (Synamic6GXB)

| Glass Type (E-glass) | RC (%) | Thickness | | Dk | | | | | Df | | | | |
|-------------------------|-----------|-----------|-------|------|------|-------|--------|--------|--------|--------|--------|--------|--------|
| | | mil | mm | 1GHz | 3GHz | 5 GHz | 10 GHz | 15 GHz | 1GHz | 3GHz | 5 GHz | 10 GHz | 15 GHz |
| 1067 | 67 | 2.0 | 0.051 | 3.54 | 3.54 | 3.54 | 3.54 | 3.53 | 0.0032 | 0.0037 | 0.0042 | 0.0047 | 0.0049 |
| 1067 | 71 | 2.3 | 0.058 | 3.47 | 3.47 | 3.47 | 3.47 | 3.46 | 0.0030 | 0.0035 | 0.0040 | 0.0045 | 0.0047 |
| 1067 | 73 | 2.5 | 0.064 | 3.43 | 3.43 | 3.43 | 3.43 | 3.42 | 0.0029 | 0.0034 | 0.0039 | 0.0044 | 0.0046 |
| 1067 | 76 | 2.8 | 0.071 | 3.38 | 3.38 | 3.38 | 3.38 | 3.37 | 0.0028 | 0.0033 | 0.0038 | 0.0043 | 0.0045 |
| 1078 | 64 | 2.8 | 0.071 | 3.60 | 3.60 | 3.60 | 3.60 | 3.59 | 0.0033 | 0.0038 | 0.0043 | 0.0048 | 0.0050 |
| 1078 | 66 | 3.0 | 0.076 | 3.56 | 3.56 | 3.56 | 3.56 | 3.55 | 0.0032 | 0.0037 | 0.0042 | 0.0047 | 0.0049 |
| 1078 | 68 | 3.2 | 0.081 | 3.53 | 3.53 | 3.53 | 3.53 | 3.52 | 0.0031 | 0.0036 | 0.0041 | 0.0046 | 0.0048 |
| 1078 | 70 | 3.5 | 0.089 | 3.49 | 3.49 | 3.49 | 3.49 | 3.48 | 0.0031 | 0.0036 | 0.0041 | 0.0046 | 0.0048 |
| 1078 | 73 | 3.8 | 0.097 | 3.43 | 3.43 | 3.43 | 3.43 | 3.42 | 0.0029 | 0.0034 | 0.0039 | 0.0044 | 0.0046 |
| 1080 | 63 | 2.8 | 0.071 | 3.62 | 3.62 | 3.62 | 3.62 | 3.61 | 0.0033 | 0.0038 | 0.0043 | 0.0048 | 0.0050 |
| 1080 | 66 | 3.0 | 0.076 | 3.56 | 3.56 | 3.56 | 3.56 | 3.55 | 0.0032 | 0.0037 | 0.0042 | 0.0047 | 0.0049 |
| 1080 | 68 | 3.2 | 0.081 | 3.53 | 3.53 | 3.53 | 3.53 | 3.52 | 0.0031 | 0.0036 | 0.0041 | 0.0046 | 0.0048 |

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|------|----|-----|-------|------|------|------|------|------|--------|--------|--------|--------|--------|
| 1080 | 70 | 3.5 | 0.089 | 3.49 | 3.49 | 3.49 | 3.49 | 3.48 | 0.0031 | 0.0036 | 0.0041 | 0.0046 | 0.0048 |
| 3313 | 58 | 4.0 | 0.102 | 3.71 | 3.71 | 3.71 | 3.71 | 3.70 | 0.0035 | 0.0040 | 0.0045 | 0.0050 | 0.0052 |
| 3313 | 61 | 4.5 | 0.114 | 3.66 | 3.66 | 3.66 | 3.66 | 3.65 | 0.0034 | 0.0039 | 0.0044 | 0.0049 | 0.0051 |
| 3313 | 63 | 4.7 | 0.119 | 3.62 | 3.62 | 3.62 | 3.62 | 3.61 | 0.0033 | 0.0038 | 0.0043 | 0.0048 | 0.0050 |
| 2116 | 57 | 5.0 | 0.127 | 3.73 | 3.73 | 3.73 | 3.73 | 3.72 | 0.0035 | 0.0040 | 0.0045 | 0.0050 | 0.0052 |
| 2116 | 60 | 5.5 | 0.140 | 3.67 | 3.67 | 3.67 | 3.67 | 3.66 | 0.0034 | 0.0039 | 0.0044 | 0.0049 | 0.0051 |

Remarks:

- 1) Dk/Df measuring method: IPC TM-650 2.5.5.5;
- 2) Copper Foil: HOZ, 1OZ with RTF3, 2OZ with RTF. Other types of copper foil can be option upon request.
- 3) The above data is for reference only, but not guarantee value. SYTECH reserves the right for any update.
- 4) Last update: November 29, 2023