



# N4000-13 SI<sup>®</sup> / N4000-13EP SI<sup>®</sup> – Dielectric Properties Table

**LAMINATE:**

| Thickness | & |  | Tol.   | Construction |      |   |   |      |  | RC% | 2GHz Dk | 2 GHz Df | 10 GHz Dk | 10 GHz Df |
|-----------|---|--|--------|--------------|------|---|---|------|--|-----|---------|----------|-----------|-----------|
| 0.0020    | ± |  | 0.0005 | 1            | 106  |   |   |      |  | 69% | 3.04    | 0.0082   | 3.02      | 0.0086    |
| 0.0020    | ± |  | 0.0005 | 1            | 1035 |   |   |      |  | 67% | 3.07    | 0.0081   | 3.04      | 0.0085    |
| 0.0025    | ± |  | 0.0005 | 1            | 1078 |   |   |      |  | 58% | 3.19    | 0.0077   | 3.16      | 0.0080    |
| 0.0025    | ± |  | 0.0005 | 1            | 1080 |   |   |      |  | 58% | 3.19    | 0.0077   | 3.16      | 0.0080    |
| 0.0030    | ± |  | 0.0005 | 1            | 1080 |   |   |      |  | 64% | 3.11    | 0.0079   | 3.08      | 0.0083    |
| 0.0040    | ± |  | 0.0005 | 2            | 106  |   |   |      |  | 68% | 3.05    | 0.0082   | 3.02      | 0.0085    |
| 0.0050    | ± |  | 0.0007 | 1            | 2116 |   |   |      |  | 56% | 3.21    | 0.0076   | 3.18      | 0.0079    |
| 0.0050    | ± |  | 0.0007 | 2            | 1080 |   |   |      |  | 58% | 3.19    | 0.0077   | 3.16      | 0.0080    |
| 0.0050    | ± |  | 0.0007 | 2            | 1078 |   |   |      |  | 58% | 3.19    | 0.0077   | 3.16      | 0.0080    |
| 0.0060    | ± |  | 0.0007 | 2            | 1078 |   |   |      |  | 64% | 3.11    | 0.0079   | 3.08      | 0.0083    |
| 0.0060    | ± |  | 0.0007 | 2            | 1080 |   |   |      |  | 64% | 3.11    | 0.0079   | 3.08      | 0.0083    |
| 0.0070    | ± |  | 0.001  | 2            | 1080 | + | 1 | 106  |  | 61% | 3.15    | 0.0078   | 3.12      | 0.0081    |
| 0.0080    | ± |  | 0.001  | 2            | 2116 |   |   |      |  | 45% | 3.38    | 0.0069   | 3.35      | 0.0072    |
| 0.0080    | ± |  | 0.001  | 2            | 106  | + | 1 | 2116 |  | 61% | 3.14    | 0.0078   | 3.12      | 0.0081    |
| 0.0090    | ± |  | 0.001  | 1            | 2116 | + | 1 | 2116 |  | 51% | 3.28    | 0.0073   | 3.25      | 0.0076    |
| 0.0100    | ± |  | 0.001  | 2            | 2116 |   |   |      |  | 56% | 3.21    | 0.0076   | 3.18      | 0.0079    |
| 0.0120    | ± |  | 0.0015 | 3            | 2116 |   |   |      |  | 45% | 3.38    | 0.0069   | 3.35      | 0.0072    |
| 0.0140    | ± |  | 0.0015 | 2            | 2116 | + | 1 | 2116 |  | 53% | 3.25    | 0.0074   | 3.23      | 0.0077    |
| 0.0150    | ± |  | 0.0015 | 3            | 2116 |   |   |      |  | 56% | 3.21    | 0.0076   | 3.18      | 0.0079    |
| 0.0160    | ± |  | 0.0015 | 4            | 2116 |   |   |      |  | 45% | 3.38    | 0.0069   | 3.35      | 0.0072    |
| 0.0180    | ± |  | 0.0015 | 2            | 2116 | + | 2 | 2116 |  | 51% | 3.28    | 0.0073   | 3.25      | 0.0076    |
| 0.0200    | ± |  | 0.002  | 5            | 2116 |   |   |      |  | 45% | 3.38    | 0.0069   | 3.35      | 0.0072    |
| 0.0310    | ± |  | 0.003  | 6            | 2116 |   |   |      |  | 56% | 3.21    | 0.0076   | 3.18      | 0.0079    |



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## PREPREG

| Glass | RC% | 2 GHz Dk | 2GHz Df | 10GHz Dk | 10GHz Df | Thickness (inches) |
|-------|-----|----------|---------|----------|----------|--------------------|
| 106   | 75  | 2.98     | 0.0084  | 2.95     | 0.0088   | 0.0025             |
| 1035  | 75  | 2.98     | 0.0084  | 2.95     | 0.0088   | 0.0030             |
| 1078  | 65  | 3.09     | 0.0080  | 3.06     | 0.0084   | 0.0032             |
| 1080  | 65  | 3.09     | 0.0080  | 3.06     | 0.0084   | 0.0032             |
| 2013  | 57  | 3.19     | 0.0076  | 3.17     | 0.0079   | 0.0043             |
| 2116  | 55  | 3.22     | 0.0075  | 3.19     | 0.0078   | 0.0052             |

The following laminate and prepreg items are a representative of available materials. These items and their associated values may not be regularly available and additional lead times or minimum order quantities could apply. Please contact our office or your local technical representative for assistance with choosing the best material for your design and application.

For More Information:

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