

## FEATURES

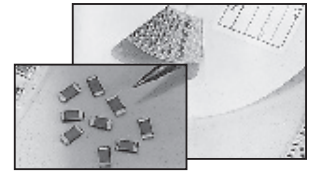
- X7R, X6S, X5R AND Y5V DIELECTRICS
- HIGH CAPACITANCE DENSITY
- ULTRA LOW ESR & ESL
- EXCELLENT MECHANICAL STRENGTH
- NICKEL BARRIER TERMINATIONS
- RoHS COMPLIANT
- SAC SOLDER COMPATIBLE\*

*Expanded Value Range  
Up to 220µF*

**RoHS  
Compliant**

Includes all homogeneous materials

\*See Part Number System for Details



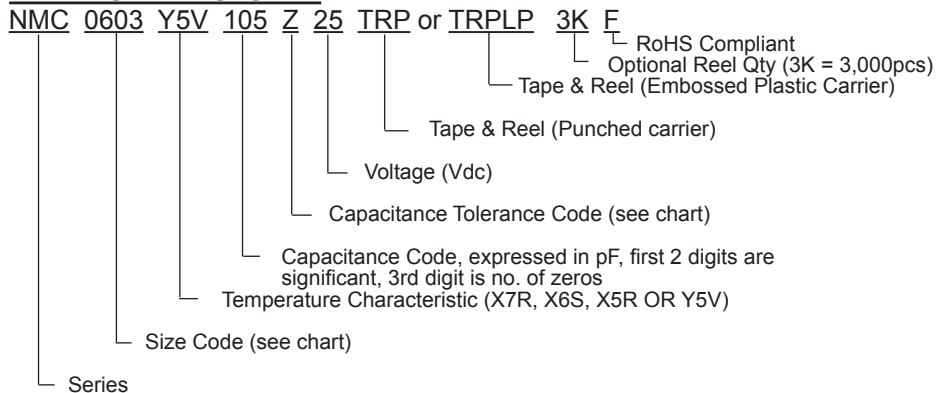
| Temperature Coefficient         | X7R   | X6S               | X5R   | Y5V               |
|---------------------------------|---|-------------------|---|-------------------|
| Capacitance Range               | 1.0µF ~ 47µF  | 1.0µF ~ 100µF     | 1.0µF ~ 220µF                                   | 1.0µF ~ 100µF     |
| Capacitance Tolerance           | 10% (K) & 20% (M)   | 10% (K) & 20% (M) | 10% (K) & 20% (M)                               | +80%/-20% (Z)     |
| Operating Temperature Range     | -55°C ~ +125°C  | -55°C ~ +105°C    | -55°C ~ +85°C                                   | -30°C ~ +85°C     |
| Temperature Characteristics     | ±15% Δ Cap.   | ±22% Δ Cap.       | ±15% Δ Cap.                                     | +22%, -82% Δ Cap. |
| Rated Voltages                  | 4Vdc, 6.3Vdc, 16Vdc, 25Vdc, 35Vdc, 50Vdc & 100Vdc                               |                   |   |                   |
| Dissipation Factor              | See Part Number and Specifications Tables                                       |                   |   |                   |
| Insulation Resistance           |   |                   |   |                   |
| Dielectric Withstanding Voltage | 250% of Rated Voltage for 1 ~ 5 sec., 50mA max.                                 |                   | 150% of Rated Voltage for 1 ~ 5 sec., 50mA max. |                   |
| Test Conditions (EIA-198-2E)    | C ≤ 10µF 1KHz, 1.0V ±0.2Vrms (ALC on)<br>C > 10µF 120Hz, 0.5V ±0.2Vrms (ALC on) |                   | 1KHz, 1.0V ±0.1Vrms (ALC on)                    |                   |

\*Reflow soldering is recommended. Contact NIC regarding the use of other soldering methods.

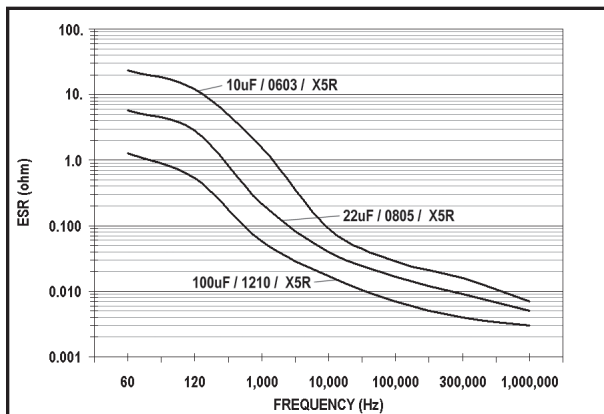
Capacitance value stability over applied VDC is not assured for class II MLCC (X7R, X5R & Y5V) and it is suggested to consider to use NPO MLCCs Ceramic Capacitors, Film Capacitors or Electrolytic Capacitors for applications where stability in capacitance value, over applied VDC, is performance requirement.

For additional information go to: <http://www.niccomp.com/help/VoltageCoefficientofCapacitors-032012-R1.pdf>.

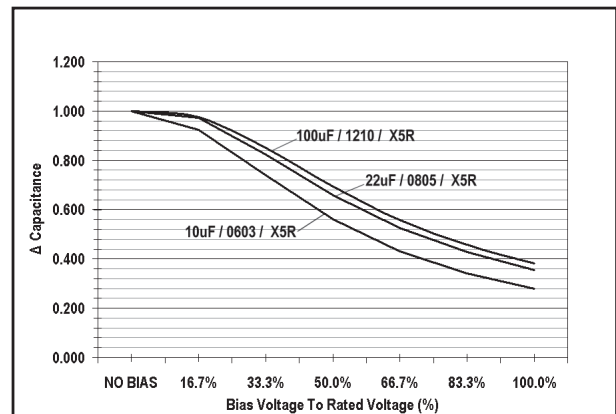
## PART NUMBER SYSTEM



Typical ESR versus Frequency



Typical Capacitance versus Bias Voltage



## X7R PART NUMBERS AND SPECIFICATIONS

| Part Number             | Case Size | Voltage (Vdc) | Cap.  | Cap. Tol. | DF (%) | IR (MΩ) | DWV (Vdc) | Max. T (mm) |       |
|-------------------------|-----------|---------------|-------|-----------|--------|---------|-----------|-------------|-------|
| NMC0402X7R105K6.3TRPF   | 0402      | 6.3           | 1.0μF | ±10%      | 12.5   | 100.0   | 15.75     | 0.6         |       |
| NMC0603X7R105K6.3TRPF   | 0603      | 6.3           | 1.0μF | ±10%      | 10     | 50.0    | 15.75     | 1.0         |       |
| NMC0603X7R225K6.3TRPF   |           |               | 2.2μF | ±10%      | 10     | 22.7    | 15.75     | 1.0         |       |
| NMC0603X7R475K6.3TRPF   |           |               | 4.7μF | ±10%      | 10     | 21.2    | 15.75     | 1.0         |       |
| NMC0603X7R106M6.3TRPF   |           |               | 10μF  | ±20%      | 10     | 10      | 15.75     | 1.0         |       |
| NMC0603X7R105K10TRPF    |           | 10            | 1.0μF | ±10%      | 10     | 50.0    | 25        | 1.0         |       |
| NMC0603X7R225K10TRPF    |           |               | 2.2μF | ±10%      | 15     | 22.7    | 25        | 1.0         |       |
| NMC0603X7R105K16TRPF    |           |               | 1.0μF | ±10%      | 10     | 50.0    | 40        | 1.0         |       |
| NMC0603X7R105K25TRPF    |           |               | 1.0μF | ±10%      | 10     | 50.0    | 62.5      | 1.0         |       |
| NMC0603X7R105K50TRPF    |           |               | 1.0μF | ±10%      | 10     | 50.0    | 125       | 1.0         |       |
| NMC0805X7R225K6.3TRPLPF |           |               | 0805  | 6.3       | 2.2μF  | ±10%    | 10        | 22.7        | 15.75 |
| NMC0805X7R335K6.3TRPLPF | 3.3μF     | ±10%          |       |           | 10     | 30.3    | 15.75     | 2.2         |       |
| NMC0805X7R475K6.3TRPLPF | 4.7μF     | ±10%          |       |           | 10     | 10.6    | 15.75     | 2.2         |       |
| NMC0805X7R106K6.3TRPLPF | 10μF      | ±10%          |       |           | 15     | 5.0     | 15.75     | 2.2         |       |
| NMC0805X7R105K10TRPLPF  | 10        | 1.0μF         |       | ±10%      | 5.0    | 50.0    | 25        | 1.35        |       |
| NMC0805X7R155K10TRPLPF  |           | 1.5μF         |       | ±10%      | 5.0    | 66.6    | 25        | 1.45        |       |
| NMC0805X7R225K10TRPLPF  |           | 2.2μF         |       | ±10%      | 10     | 22.7    | 25        | 2.2         |       |
| NMC0805X7R475K10TRPLPF  |           | 4.7μF         |       | ±10%      | 10     | 10.6    | 25        | 1.45        |       |
| NMC0805X7R106K10TRPLPF  |           | 10μF          |       | ±10%      | 15     | 5.0     | 25        | 1.45        |       |
| NMC0805X7R105K16TRPLPF  |           | 16            |       | 1.0μF     | ±10%   | 5.0     | 50.0      | 40          | 1.35  |
| NMC0805X7R225K16TRPLPF  | 2.2μF     |               |       | ±10%      | 10     | 22.7    | 40        | 2.2         |       |
| NMC0805X7R335K16TRPLPF  | 3.3μF     |               |       | ±10%      | 10     | 30.3    | 40        | 2.2         |       |
| NMC0805X7R475K16TRPLPF  | 4.7μF     |               |       | ±10%      | 10     | 10.6    | 40        | 2.2         |       |
| NMC0805X7R106K16TRPLPF  | 10μF      |               |       | ±10%      | 10     | 5.0     | 40        | 1.45        |       |
| NMC0805X7R105K25TRPLPF  | 25        |               |       | 1.0μF     | ±10%   | 5.0     | 50.0      | 62.5        | 1.35  |
| NMC0805X7R225K25TRPLPF  |           | 2.2μF         |       | ±10%      | 10     | 22.7    | 62.5      | 2.2         |       |
| NMC0805X7R335K25TRPLPF  |           | 3.3μF         |       | ±10%      | 10     | 30.3    | 62.5      | 2.2         |       |
| NMC0805X7R475K25TRPLPF  |           | 4.7μF         |       | ±10%      | 10     | 21.2    | 62.5      | 1.4         |       |
| NMC0805X7R105K50TRPLPF  |           | 50            |       | 1.0μF     | ±10%   | 10      | 50.0      | 125         | 1.45  |
| NMC0805X7R225K50TRPLPF  |           |               |       | 2.2μF     | ±10%   | 10      | 22.7      | 125         | 1.45  |
| NMC0805X7R105K100TRPLPF | 100       | 1.0μF         |       | ±10%      | 5.0    | 500     | 200       | 1.45        |       |
| NMC1206X7R106K6.3TRPLPF | 1206      | 6.3           |       | 10μF      | ±10%   | 10      | 5.0       | 15.75       | 1.9   |
| NMC1206X7R226K6.3TRPLPF |           |               |       | 22μF      | ±10%   | 10      | 2.3       | 15.75       | 1.9   |
| NMC1206X7R105K10TRPLPF  |           | 10            |       | 1.0μF     | ±10%   | 10      | 50.0      | 25          | 1.9   |
| NMC1206X7R225K10TRPLPF  |           |               |       | 2.2μF     | ±10%   | 10      | 22.7      | 25          | 1.9   |
| NMC1206X7R335K10TRPLPF  |           |               |       | 3.3μF     | ±10%   | 5.0     | 30.3      | 25          | 1.9   |
| NMC1206X7R475K10TRPLPF  |           |               |       | 4.7μF     | ±10%   | 10      | 10.6      | 25          | 1.9   |
| NMC1206X7R106K10TRPLPF  |           |               |       | 10μF      | ±10%   | 10      | 5.0       | 25          | 1.9   |
| NMC1206X7R226K10TRPLPF  |           |               |       | 22μF      | ±10%   | 10      | 2.3       | 25          | 1.9   |
| NMC1206X7R105K16TRPLPF  |           | 16            |       | 1.0μF     | ±10%   | 5.0     | 50.0      | 40          | 1.9   |
| NMC1206X7R225K16TRPLPF  |           |               | 2.2μF | ±10%      | 10     | 22.7    | 40        | 1.9         |       |
| NMC1206X7R335K16TRPLPF  |           |               | 3.3μF | ±10%      | 5.0    | 30.3    | 40        | 1.9         |       |
| NMC1206X7R475K16TRPLPF  |           |               | 4.7μF | ±10%      | 10     | 10.6    | 40        | 1.9         |       |
| NMC1206X7R685K16TRPLPF  |           |               | 6.8μF | ±10%      | 5.0    | 14      | 40        | 1.9         |       |
| NMC1206X7R106K16TRPLPF  |           |               | 10μF  | ±10%      | 10     | 5.0     | 40        | 2.2         |       |
| NMC1206X7R105K25TRPLPF  |           | 25            | 1.0μF | ±10%      | 3.5    | 50.0    | 62.5      | 1.9         |       |
| NMC1206X7R225K25TRPLPF  |           |               | 2.2μF | ±10%      | 5.0    | 2.7     | 62.5      | 1.9         |       |
| NMC1206X7R335K25TRPLPF  |           |               | 3.3μF | ±10%      | 3.5    | 30.3    | 62.5      | 1.9         |       |

X7R Continue on next page



## X7R PART NUMBERS AND SPECIFICATIONS

| Part Number                    | Case Size | Voltage (Vdc) | Cap.         | Cap. Tol.   | DF (%)     | IR (MΩ)     | DWV (Vdc)  | Max. T (mm) |     |
|--------------------------------|-----------|---------------|--------------|-------------|------------|-------------|------------|-------------|-----|
| NMC1206X7R475K25TRPLPF         | 1206      | 25            | 4.7μF        | ±10%        | 10         | 10.6        | 62.5       | 1.9         |     |
| NMC1206X7R106K25TRPLPF         |           |               | 10μF         | ±10%        | 10         | 5.0         | 62.5       | 1.9         |     |
| NMC1206X7R105K50TRPLPF         |           | 50            | 1.0μF        | ±10%        | 3.5        | 50.0        | 125        | 1.9         |     |
| NMC1206X7R225K50TRPLPF         |           |               | 2.2μF        | ±10%        | 10         | 22.7        | 125        | 1.9         |     |
| NMC1206X7R475K50TRPLPF         |           |               | 4.7μF        | ±10%        | 10         | 10.6        | 125        | 1.9         |     |
| NMC1206X7R105K100TRPLPF        |           | 100           | 1.0μF        | ±10%        | 10         | 50.0        | 250        | 1.9         |     |
| <b>NMC1206X7R225M100TRPLPF</b> |           |               | <b>2.2μF</b> | <b>±20%</b> | <b>10</b>  | <b>45.4</b> | <b>200</b> | <b>1.8</b>  |     |
| NMC1210X7R476K6.3TRPLPF        | 1210      | 6.3           | 47μF         | ±10%        | 10         | 1.1         | 15.75      | 2.7         |     |
| NMC1210X7R105K10TRPLPF         |           | 10            | 1.0μF        | ±10%        | 5.0        | 100.0       | 25         | 2.2         |     |
| NMC1210X7R475K10TRPLPF         |           |               | 4.7μF        | ±10%        | 10         | 21.2        | 25         | 2.2         |     |
| NMC1210X7R106K10TRPLPF         |           |               | 10μF         | ±10%        | 10         | 5.0         | 25         | 2.8         |     |
| NMC1210X7R476K10TRPLPF         |           |               | 47μF         | ±10%        | 10         | 2.1         | 25         | 2.7         |     |
| NMC1210X7R105K16TRPLPF         |           | 16            | 1.0μF        | ±10%        | 3.5        | 100.0       | 40         | 2.2         |     |
| NMC1210X7R335K16TRPLPF         |           |               | 3.3μF        | ±10%        | 3.5        | 30.3        | 40         | 2.2         |     |
| NMC1210X7R475K16TRPLPF         |           |               | 4.7μF        | ±10%        | 3.5        | 21.2        | 40         | 2.2         |     |
| NMC1210X7R106K16TRPLPF         |           |               | 10μF         | ±10%        | 10         | 5.0         | 40         | 2.8         |     |
| <b>NMC1210X7R226K16TRPLPF</b>  |           | <b>22μF</b>   | <b>±10%</b>  | <b>10</b>   | <b>4.5</b> | <b>40</b>   | <b>2.7</b> |             |     |
| NMC1210X7R105K25TRPLPF         |           | 25            | 1.0μF        | ±10%        | 3.5        | 100.0       | 62.5       | 2.2         |     |
| NMC1210X7R225K25TRPLPF         |           |               | 2.2μF        | ±10%        | 3.5        | 45.4        | 62.5       | 2.2         |     |
| NMC1210X7R335K25TRPLPF         |           |               | 3.3μF        | ±10%        | 3.5        | 30.3        | 62.5       | 2.2         |     |
| NMC1210X7R475K25TRPLPF         |           |               | 4.7μF        | ±10%        | 10         | 10.6        | 62.5       | 2.2         |     |
| NMC1210X7R106K25TRPLPF         |           |               | 10μF         | ±10%        | 10         | 5.0         | 62.5       | 2.8         |     |
| NMC1210X7R226K25TRPLPF         |           |               | 22μF         | ±10%        | 10         | 4.5         | 62.5       | 2.7         |     |
| NMC1210X7R106K35TRPLPF         |           |               | 35           | 10μF        | ±10%       | 10          | 10.0       | 87.5        | 2.8 |
| NMC1210X7R105K50TRPLPF         |           | 50            | 1.0μF        | ±10%        | 3.5        | 100.0       | 125        | 2.2         |     |
| NMC1210X7R225K50TRPLPF         |           |               | 2.2μF        | ±10%        | 5.0        | 45.5        | 125        | 2.8         |     |
| NMC1210X7R475K50TRPLPF         |           |               | 4.7μF        | ±10%        | 10         | 10.6        | 125        | 2.2         |     |
| NMC1210X7R106K50TRPLPF         |           |               | 10μF         | ±10%        | 10         | 5.0         | 125        | 2.8         |     |
| NMC1210X7R105K100TRPLPF        |           | 100           | 1.0μF        | ±10%        | 10         | 50.0        | 250        | 2.8         |     |
| NMC1210X7R225K100TRPLPF        |           |               | 2.2μF        | ±10%        | 10         | 22.7        | 250        | 2.2         |     |
| <b>NMC1210X7R475K100TRPLPF</b> |           |               | <b>4.7μF</b> | <b>±10%</b> | <b>5.0</b> | <b>21.2</b> | <b>250</b> | <b>2.8</b>  |     |
| NMC1812X7R105K10TRPLPF         |           | 1812          | 10           | 1.0μF       | ±10%       | 5.0         | 100.0      | 25          | 1.8 |
| NMC1812X7R105K16TRPLPF         |           |               | 16           | 1.0μF       | ±10%       | 3.5         | 100.0      | 40          | 1.8 |
| NMC1812X7R105K25TRPLPF         |           |               | 25           | 1.0μF       | ±10%       | 3.5         | 100.0      | 62.5        | 1.8 |
| NMC1812X7R106K25TRPLPF         |           |               |              | 10μF        | ±10%       | 3.5         | 50.0       | 62.5        | 2.8 |
| NMC1812X7R105K50TRPLPF         |           |               | 50           | 1.0μF       | ±10%       | 2.5         | 100.0      | 125         | 2.8 |
| NMC1812X7R475K50TRPLPF         |           |               |              | 4.7μF       | ±10%       | 10          | 21.2       | 125         | 2.2 |
| NMC1812X7R106K50TRPLPF         | 10μF      |               |              | ±10%        | 10         | 10.0        | 125        | 2.2         |     |
| NMC1812X7R105K100TRPLPF        | 100       |               | 1.0μF        | ±10%        | 2.5        | 100.0       | 250        | 2.8         |     |
| NMC1812X7R225K100TRPLPF        |           |               | 2.2μF        | ±10%        | 5.0        | 45.5        | 250        | 2.8         |     |
| NMC2220X7R475K50TRPLPF         | 2220      |               | 50           | 4.7μF       | ±10%       | 10          | 21.2       | 125         | 2.2 |
| NMC2220X7R106K50TRPLPF         |           | 10μF          |              | ±10%        | 10         | 10.0        | 125        | 3.0         |     |
| NMC2220X7R475K100TRPLPF        |           | 100           | 4.7μF        | ±10%        | 2.5        | 21.2        | 250        | 2.2         |     |
| NMC2220X7R106K100TRPLPF        |           |               | 10μF         | ±10%        | 2.5        | 10.0        | 250        | 3.0         |     |
| NMC2225X7R105K25TRPLPF         | 2225      | 25            | 1.0μF        | ±10%        | 2.5        | 100.0       | 62.5       | 2.2         |     |
| NMC2225X7R155K25TRPLPF         |           |               | 1.5μF        | ±10%        | 2.5        | 66.6        | 62.5       | 2.2         |     |
| NMC2225X7R225K25TRPLPF         |           |               | 2.2μF        | ±10%        | 2.5        | 45.4        | 62.5       | 2.2         |     |
| NMC2225X7R105K50TRPLPF         |           | 50            | 1.0μF        | ±10%        | 2.5        | 100.0       | 125        | 2.2         |     |
| NMC2225X7R105K100TRPLPF        |           |               | 100          | 1.0μF       | ±10%       | 2.5         | 100.0      | 250         | 2.2 |
| NMC2225X7R105K100TRPLPF        |           |               |              | 1.0μF       | ±10%       | 2.5         | 100.0      | 250         | 2.2 |



## X6S PART NUMBERS AND SPECIFICATIONS

| Part Number                           | Case Size | Voltage (Vdc) | Cap.  | Cap. Tol. | DF (%) | IR (MΩ) | DWV (Vdc) | Max. T (mm) |      |
|---------------------------------------|-----------|---------------|-------|-----------|--------|---------|-----------|-------------|------|
| NMC0201X6S105M4TRPF                   | 0201      | 4             | 1.0μF | 20%       | 15     | 50.00   | 10        | 0.35        |      |
| NMC0402X6S105K6.3TRPF                 | 0402      | 6.3           | 1.0μF | 10%       | 15     | 50.00   | 15.75     | 0.55        |      |
| NMC0402X6S225K6.3TRPF                 |           |               | 2.2μF | 10%       | 20     | 22.73   | 15.75     | 0.55        |      |
| <a href="#">NMC0402X6S106M6.3TRPF</a> |           |               | 10μF  | 20%       | 5.0    | 5.00    | 15.75     | 0.70        |      |
| NMC0402X6S105K10TRPF                  |           | 10            | 1.0μF | 10%       | 15     | 50.00   | 25        | 0.70        |      |
| NMC0402X6S225K10TRPF                  |           |               | 2.2μF | 10%       | 15     | 22.73   | 25        | 0.70        |      |
| NMC0402X6S105K16TRPF                  |           | 16            | 1.0μF | 10%       | 10     | 50.00   | 40        | 0.70        |      |
| NMC0402X6S225K16TRPF                  |           |               | 2.2μF | 10%       | 10     | 22.73   | 40        | 0.70        |      |
| NMC0402X6S105K25TRPF                  |           | 25            | 1.0μF | 10%       | 12.5   | 50.00   | 62.5      | 0.70        |      |
| NMC0603X6S226M4TRPF                   |           | 0603          | 4     | 22μF      | 20%    | 15      | 2.27      | 10          | 1.00 |
| NMC0603X6S475K6.3TRPF                 | 6.3       |               | 4.7μF | 10%       | 10     | 10.64   | 15.75     | 0.95        |      |
| NMC0603X6S106M6.3TRPF                 |           |               | 10μF  | 20%       | 15     | 5.00    | 15.75     | 1.00        |      |
| NMC0603X6S226M6.3TRPF                 |           |               | 22μF  | 20%       | 15     | 2.27    | 15.75     | 1.00        |      |
| NMC0603X6S106M10TRPF                  | 10        |               | 10μF  | 20%       | 10     | 5.00    | 25        | 1.00        |      |
| NMC0603X6S475K16TRPF                  | 16        |               | 4.7μF | 10%       | 10     | 10.64   | 40        | 1.00        |      |
| NMC0603X6S106M16TRPF                  |           |               | 10μF  | 20%       | 10     | 5.00    | 40        | 1.00        |      |
| NMC0603X6S225K25TRPF                  | 25        |               | 2.2μF | 10%       | 10     | 22.73   | 62.5      | 1.00        |      |
| NMC0603X6S475K25TRPF                  |           |               | 4.7μF | 10%       | 10     | 10.64   | 62.5      | 1.00        |      |
| NMC0805X6S106K4TRPLPF                 | 0805      | 4             | 10μF  | 10%       | 15     | 5.00    | 10        | 1.45        |      |
| NMC0805X6S476M4TRPLPF                 |           |               | 47μF  | 20%       | 15     | 1.06    | 10        | 1.45        |      |
| NMC0805X6S106K6.3TRPLPF               |           | 6.3           | 10μF  | 10%       | 15     | 5.00    | 15.75     | 1.45        |      |
| NMC0805X6S226M6.3TRPLPF               |           |               | 22μF  | 20%       | 15     | 2.27    | 15.75     | 1.45        |      |
| NMC0805X6S106K10TRPLPF                |           | 10            | 10μF  | 10%       | 10     | 5.00    | 25        | 1.45        |      |
| NMC0805X6S226M10TRPLPF                |           |               | 22μF  | 20%       | 10     | 2.27    | 25        | 1.45        |      |
| NMC0805X6S225K16TRPLPF                |           | 16            | 2.2μF | 10%       | 10     | 22.7    | 40        | 1.45        |      |
| NMC0805X6S106K16TRPLPF                |           |               | 10μF  | 10%       | 10     | 5.00    | 40        | 1.45        |      |
| NMC0805X6S226M16TRPLPF                |           |               | 22μF  | 20%       | 10     | 2.27    | 40        | 1.45        |      |
| NMC0805X6S475K25TRPLPF                |           | 25            | 4.7μF | 10%       | 10     | 10.64   | 62.5      | 1.45        |      |
| NMC0805X6S106K25TRPLPF                |           |               | 10μF  | 10%       | 10     | 5.00    | 62.5      | 1.45        |      |
| NMC0805X6S475K50TRPLPF                |           | 50            | 4.7μF | 10%       | 10     | 10.64   | 125       | 1.45        |      |
| NMC1206X6S476K6.3TRPLPF               |           | 1206          | 6.3   | 47μF      | 10%    | 15      | 1.06      | 15.75       | 1.90 |
| NMC1206X6S226K10TRPLPF                |           |               | 10    | 22μF      | 10%    | 10      | 2.27      | 25          | 1.90 |
| NMC1206X6S226M16TRPLPF                | 16        |               | 22μF  | 20%       | 10     | 2.27    | 40        | 1.90        |      |
| NMC1206X6S106K25TRPLPF                | 25        |               | 10μF  | 10%       | 10     | 5.00    | 40        | 1.80        |      |
| NMC1210X6S476K6.3TRPLPF               | 1210      | 6.3           | 47μF  | 10%       | 10     | 1.06    | 15.75     | 2.80        |      |
| NMC1210X6S107M6.3TRPLPF               |           |               | 100μF | 20%       | 15     | 0.50    | 15.75     | 2.80        |      |
| NMC1210X6S476K10TRPLPF                |           | 10            | 47μF  | 10%       | 10     | 1.06    | 25        | 2.80        |      |
| NMC1210X6S476K16TRPLPF                |           | 16            | 47μF  | 10%       | 10     | 1.06    | 40        | 2.80        |      |
| NMC1210X6S226K25TRPLPF                |           | 25            | 22μF  | 10%       | 10     | 2.27    | 62.5      | 2.80        |      |

Denotes New Value



## X5R PART NUMBERS AND SPECIFICATIONS

| Part Number             | Case Size | Voltage (Vdc) | Cap.  | Cap. Tol. | DF (%) | IR (MΩ) | DWV (Vdc) | Max. T (mm) |      |
|-------------------------|-----------|---------------|-------|-----------|--------|---------|-----------|-------------|------|
| NMC0201X5R105M4TRPF     | 0201      | 4             | 1.0μF | ±20%      | 12.5   | 50.0    | 10        | 0.35        |      |
| NMC0201X5R105K6.3TRPF   |           | 6.3           | 1.0μF | ±10%      | 10     | 50.0    | 15.75     | 0.33        |      |
| NMC0201X5R225M6.3TRPF   |           |               | 2.2μF | ±20%      | 12.5   | 4.54    | 15.75     | 0.39        |      |
| NMC0201X5R105M10TRPF    |           | 10            | 1.0μF | ±20%      | 12.5   | 10.0    | 25        | 0.35        |      |
| NMC0201X5R225M10TRPF    |           |               | 2.2μF | ±20%      | 15.0   | 4.5     | 25        | 0.39        |      |
| NMC0201X5R105M16TRPF    |           |               | 16    | 1.0μF     | ±20%   | 12.5    | 10        | 40          | 0.39 |
| NMC0402X5R225K4TRPF     | 0402      | 4             | 2.2μF | ±10%      | 10     | 22.7    | 10        | 0.60        |      |
| NMC0402X5R475K4TRPF     |           |               | 4.7μF | ±10%      | 15     | 10.6    | 10        | 0.60        |      |
| NMC0402X5R105K6.3TRPF   |           | 6.3           | 1.0μF | ±10%      | 12.5   | 50.0    | 15.75     | 0.60        |      |
| NMC0402X5R225K6.3TRPF   |           |               | 2.2μF | ±10%      | 10     | 22.7    | 15.75     | 0.60        |      |
| NMC0402X5R475K6.3TRPF** |           |               | 4.7μF | ±10%      | 12.5   | 10.6    | 15.75     | 0.65        |      |
| NMC0402X5R106K6.3TRPF   |           |               | 10μF  | ±10%      | 15     | 5.0     | 15.75     | 0.60        |      |
| NMC0402X5R106M6.3TRPF   |           | 10            | 10μF  | ±20%      | 15     | 5.0     | 15.75     | 0.60        |      |
| NMC0402X5R105K10TRPF    |           |               |       | 1.0μF     | ±10%   | 15      | 50.0      | 25          | 0.60 |
| NMC0402X5R225K10TRPF    |           |               |       | 2.2μF     | ±10%   | 15      | 22.7      | 25          | 0.60 |
| NMC0402X5R475K10TRPF    |           |               | 4.7μF | ±10%      | 15     | 21.0    | 25        | 0.70        |      |
| NMC0402X5R106M10TRPF    |           |               | 10μF  | ±20%      | 12.5   | 5.0     | 25        | 0.70        |      |
| NMC0402X5R105K16TRPF    |           |               | 16    | 1.0μF     | ±10%   | 12.5    | 50.0      | 40          | 0.60 |
| NMC0402X5R475M16TRPF    |           | 4.7μF         |       | ±20%      | 12.5   | 10.6    | 40        | 0.70        |      |
| NMC0402X5R105K25TRPF    |           | 25            | 1.0μF | ±10%      | 10     | 100.0   | 62.5      | 0.60        |      |
| NMC0402X5R225M25TRPF    |           |               | 2.2μF | ±20%      | 10     | 45.4    | 62.5      | 0.70        |      |
| NMC0402X5R105K50TRPF    |           |               | 50    | 1.0μF     | ±10%   | 10      | 100       | 125         | 0.70 |
| NMC0603X5R106K4TRPF     |           | 0603          | 4     | 10μF      | ±10%   | 10      | 5.0       | 10          | 1.0  |
| NMC0603X5R226K4TRPF*    |           |               |       | 22μF      | ±10%   | 12.5    | 2.3       | 10          | 1.0  |
| NMC0603X5R476M4TRPF     |           |               |       | 47μF      | ±20%   | 12.5    | 10.4      | 10          | 1.1  |
| NMC0603X5R105K6.3TRPF   |           |               | 6.3   | 1.0μF     | ±10%   | 10      | 50.0      | 15.75       | 1.0  |
| NMC0603X5R225K6.3TRPF   | 2.2μF     |               |       | ±10%      | 10     | 22.7    | 15.75     | 1.0         |      |
| NMC0603X5R226M6.3TRPF   | 22μF      |               |       | ±20%      | 12.5   | 2.3     | 15.75     | 1.0         |      |
| NMC0603X5R335K6.3TRPF   | 3.3μF     |               |       | ±10%      | 10     | 30.3    | 15.75     | 1.0         |      |
| NMC0603X5R475K6.3TRPF   | 4.7μF     |               |       | ±10%      | 10     | 10.6    | 15.75     | 1.0         |      |
| NMC0603X5R106K6.3TRPF   | 10μF      |               |       | ±10%      | 10     | 5.0     | 15.75     | 1.0         |      |
| NMC0603X5R226M6.3TRPF   | 22μF      |               |       | ±20%      | 15     | 4.54    | 15.75     | 1.0         |      |
| NMC0603X5R476M6.3TRPF   | 47μF      |               |       | ±20%      | 15     | 2.12    | 15.75     | 1.0         |      |
| NMC0603X5R105K10TRPF    | 10        |               | 1.0μF | ±10%      | 10     | 50.0    | 25        | 1.0         |      |
| NMC0603X5R225K10TRPF    |           |               | 2.2μF | ±10%      | 10     | 22.7    | 25        | 1.0         |      |
| NMC0603X5R475K10TRPF    |           |               | 4.7μF | ±10%      | 10     | 10.6    | 25        | 1.0         |      |
| NMC0603X5R106K10TRPF    |           |               | 10μF  | ±10%      | 10     | 5.0     | 25        | 1.0         |      |
| NMC0603X5R226M10TRPF    |           |               | 22μF  | ±20%      | 20     | 4.5     | 25        | 1.0         |      |
| NMC0603X5R105K16TRPF    | 16        |               | 1.0μF | ±10%      | 10     | 50.0    | 40        | 1.0         |      |
| NMC0603X5R225K16TRPF    |           |               | 2.2μF | ±10%      | 10     | 22.7    | 40        | 1.0         |      |
| NMC0603X5R475K16TRPF    |           |               | 4.7μF | ±10%      | 10     | 10.6    | 40        | 1.0         |      |
| NMC0603X5R106M16TRPF    |           |               | 10μF  | ±20%      | 10     | 10.0    | 40        | 1.0         |      |
| NMC0603X5R105K25TRPF    | 25        |               | 1.0μF | ±10%      | 10     | 50.0    | 62.5      | 1.0         |      |
| NMC0603X5R106M25TRPF    |           |               | 10μF  | ±20%      | 10     | 10.0    | 62.5      | 1.0         |      |
| NMC0603X5R105K35TRPF    | 35        |               | 1.0μF | ±10%      | 10     | 50.0    | 87.5      | 1.0         |      |
| NMC0603X5R225K35TRPF    |           |               | 2.2μF | ±10%      | 10     | 10.0    | 87.5      | 1.0         |      |
| NMC0603X5R105K50TRPF    | 50        |               | 1.0μF | ±10%      | 10     | 50.0    | 125       | 1.0         |      |

\*Length (L) dimension tolerance for these values is ±0.40mm (see dimensions table on page 10)

\*\*Length (L) and width (W) tolerance for this value is ±0.15 (see dimensions table on page 10)



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## X5R PART NUMBERS AND SPECIFICATIONS

| Part Number             | Case Size | Voltage (Vdc) | Cap.  | Cap. Tol. | DF (%) | IR (MΩ) | DWV (Vdc) | Max. T (mm) |      |
|-------------------------|-----------|---------------|-------|-----------|--------|---------|-----------|-------------|------|
| NMC0603X5R225K50TRPF    | 0603      | 50            | 2.2μF | ±10%      | 10     | 45.4    | 125       | 1.0         |      |
| NMC0805X5R476K4TRPLPF   | 0805      | 4             | 47μF  | K         | 10     | 1.1     | 10        | 1.45        |      |
| NMC0805X5R107M4TRPLPF   |           |               | 100μF | M         | 15     | 0.5     | 10        | 1.45        |      |
| NMC0805X5R105K6.3TRPLPF |           | 6.3           | 1.0μF | K         | 10     | 100.0   | 15.75     | 1.45        |      |
| NMC0805X5R225K6.3TRPLPF |           |               | 2.2μF | K         | 10     | 45.4    | 15.75     | 1.45        |      |
| NMC0805X5R335K6.3TRPLPF |           |               | 3.3μF | K         | 10     | 30.3    | 15.75     | 1.45        |      |
| NMC0805X5R475K6.3TRPLPF |           |               | 4.7μF | K         | 10     | 10.6    | 15.75     | 1.45        |      |
| NMC0805X5R106K6.3TRPLPF |           |               | 10μF  | K         | 10     | 5.0     | 15.75     | 1.45        |      |
| NMC0805X5R226K6.3TRPLPF |           |               | 22μF  | K         | 15     | 2.3     | 15.75     | 1.45        |      |
| NMC0805X5R476K6.3TRPLPF |           |               | 47μF  | K         | 10     | 1.1     | 15.75     | 1.45        |      |
| NMC0805X5R107M6.3TRPLPF |           |               | 100μF | M         | 15     | 1.0     | 15.75     | 1.45        |      |
| NMC0805X5R105K10TRPLPF  |           | 10            | 1.0μF | K         | 7.5    | 100.0   | 25        | 1.45        |      |
| NMC0805X5R155K10TRPLPF  |           |               | 1.5μF | K         | 5      | 66.7    | 25        | 1.45        |      |
| NMC0805X5R225K10TRPLPF  |           | 0805          | 10    | 2.2μF     | K      | 10      | 45.4      | 25          | 1.45 |
| NMC0805X5R335K10TRPLPF  |           |               |       | 3.3μF     | K      | 10      | 30.3      | 25          | 1.45 |
| NMC0805X5R475K10TRPLPF  | 4.7μF     |               |       | K         | 10     | 21.2    | 25        | 1.45        |      |
| NMC0805X5R106K10TRPF    | 10μF      |               |       | K         | 10     | 10.0    | 25        | 1.0         |      |
| NMC0805X5R106K10TRPLPF  | 10μF      |               |       | K         | 10     | 5.0     | 25        | 1.45        |      |
| NMC0805X5R226K10TRPLPF  | 22μF      |               |       | K         | 15     | 2.3     | 25        | 1.45        |      |
| NMC0805X5R476M10TRPLPF  | 47μF      |               |       | M         | 10     | 2.12    | 25        | 1.45        |      |
| NMC0805X5R105K16TRPLPF  | 16        |               |       | 1.0μF     | K      | 10      | 50.0      | 40          | 1.45 |
| NMC0805X5R225K16TRPLPF  |           |               | 2.2μF | K         | 5      | 22.7    | 40        | 1.45        |      |
| NMC0805X5R475K16TRPLPF  |           |               | 4.7μF | K         | 10     | 10.6    | 40        | 1.45        |      |
| NMC0805X5R106K16TRPLPF  |           |               | 10μF  | K         | 10     | 5.0     | 40        | 1.45        |      |
| NMC0805X5R226K16TRPLPF  |           |               | 22μF  | K         | 10     | 4.5     | 40        | 1.45        |      |
| NMC0805X5R105K25TRPLPF  |           |               | 25    | 1.0μF     | K      | 10      | 50.0      | 62.5        | 1.45 |
| NMC0805X5R225K25TRPLPF  | 2.2μF     |               |       | K         | 10     | 22.7    | 62.5      | 1.45        |      |
| NMC0805X5R475K25TRPLPF  | 4.7μF     | K             |       | 10        | 10.6   | 62.5    | 1.45      |             |      |
| NMC0805X5R106K25TRPLPF  | 10μF      | K             |       | 10        | 5.0    | 62.5    | 1.45      |             |      |
| NMC0805X5R226M25TRPLPF  | 22μF      | M             |       | 10        | 4.54   | 62.5    | 1.45      |             |      |
| NMC0805X5R226M35TRPLPF  | 35        | 22μF          |       | M         | 10     | 22.7    | 87.5      | 1.45        |      |
| NMC0805X5R106K50TRPLPF  | 50        | 10μF          | K     | 10        | 10.0   | 125     | 1.45      |             |      |
| NMC1206X5R476K4TRPLPF   | 1206      | 4             | 47μF  | K         | 15     | 1.1     | 10        | 1.9         |      |
| NMC1206X5R107K4TRPLPF   |           |               | 100μF | K         | 15     | 0.5     | 10        | 1.9         |      |
| NMC1206X5R227M4TRPLPF   |           |               | 220μF | M         | 15     | 0.45    | 10        | 1.9         |      |
| NMC1206X5R475K6.3TRPLPF |           | 6.3           | 4.7μF | K         | 10     | 10.6    | 15.75     | 1.9         |      |
| NMC1206X5R685K6.3TRPLPF |           |               | 6.8μF | K         | 10     | 14.7    | 15.75     | 1.9         |      |
| NMC1206X5R106K6.3TRPLPF |           |               | 10μF  | K         | 10     | 5.0     | 15.75     | 1.9         |      |
| NMC1206X5R226K6.3TRPLPF |           |               | 22μF  | K         | 10     | 2.3     | 15.75     | 1.9         |      |
| NMC1206X5R476K6.3TRPLPF |           |               | 47μF  | K         | 10     | 1.1     | 15.75     | 1.9         |      |
| NMC1206X5R107M6.3TRPLPF |           |               | 100μF | M         | 10     | 0.5     | 15.75     | 1.8         |      |
| NMC1206X5R225K10TRPLPF  |           |               | 10    | 2.2μF     | K      | 7.5     | 22.7      | 25          | 1.9  |
| NMC1206X5R335K10TRPLPF  |           |               |       | 3.3μF     | K      | 7.5     | 30.3      | 25          | 1.9  |
| NMC1206X5R475K10TRPLPF  |           | 4.7μF         |       | K         | 7.5    | 10.6    | 25        | 1.9         |      |
| NMC1206X5R106K10TRPLPF  |           | 10μF          |       | K         | 10     | 5.0     | 25        | 1.9         |      |
| NMC1206X5R226K10TRPLPF  |           | 22μF          |       | K         | 10     | 2.3     | 25        | 1.9         |      |
| NMC1206X5R476K10TRPLPF  |           | 47μF          |       | K         | 10     | 1.1     | 25        | 1.9         |      |
| NMC1206X5R107M10TRPLPF  |           | 100μF         |       | M         | 10     | 1.0     | 25        | 1.0         |      |



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## X5R PART NUMBERS AND SPECIFICATIONS

| Part Number                    | Case Size    | Voltage (Vdc) | Cap.         | Cap. Tol.    | DF (%)    | IR (MΩ)     | DWV (Vdc)    | Max. T (mm) |            |
|--------------------------------|--------------|---------------|--------------|--------------|-----------|-------------|--------------|-------------|------------|
| NMC1206X5R225K16TRPLPF         | 1206         | 16            | 2.2μF        | K            | 5         | 22.7        | 40           | 1.9         |            |
| NMC1206X5R335K16TRPLPF         |              |               | 3.3μF        | K            | 5         | 30.3        | 40           | 1.9         |            |
| NMC1206X5R475K16TRPLPF         |              |               | 4.7μF        | K            | 5         | 10.6        | 40           | 1.9         |            |
| NMC1206X5R106K16TRPLPF         |              |               | 10μF         | K            | 10        | 5.0         | 40           | 1.9         |            |
| NMC1206X5R226K16TRPLPF         |              |               | 22μF         | K            | 10        | 2.3         | 40           | 1.9         |            |
| NMC1206X5R476M16TRPLPF         |              |               | 47μF         | M            | 10        | 2.0         | 40           | 1.8         |            |
| NMC1206X5R105K25TRPLPF         |              |               | 25           | 1.0μF        | K         | 3.5         | 100.0        | 62.5        | 1.9        |
| NMC1206X5R225K25TRPLPF         |              | 2.2μF         |              | K            | 5         | 22.7        | 62.5         | 1.9         |            |
| NMC1206X5R335K25TRPLPF         |              | 3.3μF         |              | K            | 3.5       | 30.3        | 62.5         | 1.9         |            |
| NMC1206X5R475K25TRPLPF         |              | 4.7μF         |              | K            | 5         | 10.6        | 62.5         | 1.9         |            |
| NMC1206X5R106K25TRPLPF         |              | 10μF          |              | K            | 10        | 5.0         | 62.5         | 1.9         |            |
| NMC1206X5R226K25TRPLPF         |              | 22μF          |              | K            | 10        | 2.3         | 62.5         | 1.9         |            |
| <b>NMC1206X5R476M25TRPLPF</b>  |              | <b>47μF</b>   |              | <b>M</b>     | <b>10</b> | <b>10.6</b> | <b>62.5</b>  | <b>1.8</b>  |            |
| NMC1206X5R105M35TRPLPF         |              | 35            |              | 1.0μF        | M         | 3.5         | 100.0        | 87.5        | 1.9        |
| NMC1206X5R156M35TRPLPF         |              |               |              | 15μF         | M         | 10          | 33           | 87.5        | 1.8        |
| NMC1206X5R226M35TRPLPF         |              |               |              | 22μF         | M         | 10          | 22.7         | 87.5        | 1.8        |
| NMC1206X5R106K50TRPLPF         |              | 50            | 10μF         | K            | 12.5      | 10          | 125          | 1.8         |            |
| <b>NMC1210X5R227M4TRPLPF</b>   |              | 1210          | <b>4</b>     | <b>220μF</b> | <b>M</b>  | <b>15</b>   | <b>0.45</b>  | <b>10</b>   | <b>2.8</b> |
| NMC1210X5R106K6.3TRPLPF        |              |               | 6.3          | 10μF         | K         | 10          | 10.0         | 15.75       | 2.2        |
| NMC1210X5R226K6.3TRPLPF        |              |               |              | 22μF         | K         | 10          | 2.3          | 15.75       | 2.2        |
| NMC1210X5R476K6.3TRPLPF        | 47μF         |               |              | K            | 10        | 1.1         | 15.75        | 2.8         |            |
| NMC1210X5R107M6.3TRPLPF        | 100μF        |               |              | M            | 15        | 0.5         | 15.75        | 2.8         |            |
| <b>NMC1210X5R227K6.3TRPLPF</b> | <b>220μF</b> |               |              | <b>K</b>     | <b>15</b> | <b>0.45</b> | <b>15.75</b> | <b>2.8</b>  |            |
| NMC1210X5R475K10TRPLPF         | 10           |               |              | 4.7μF        | K         | 5           | 21.2         | 25          | 2.2        |
| NMC1210X5R106K10TRPLPF         |              |               | 10μF         | K            | 5         | 10.0        | 25           | 2.8         |            |
| NMC1210X5R226K10TRPLPF         |              |               | 22μF         | K            | 10        | 2.3         | 25           | 2.8         |            |
| NMC1210X5R476K10TRPLPF         |              |               | 47μF         | K            | 10        | 1.1         | 25           | 2.8         |            |
| NMC1210X5R107M10TRPLPF         |              |               | 100μF        | M            | 10        | 1.0         | 25           | 2.8         |            |
| NMC1210X5R475K16TRPLPF         | 16           |               | 4.7μF        | K            | 5         | 10.6        | 40           | 2.2         |            |
| NMC1210X5R106K16TRPLPF         |              |               | 10μF         | K            | 5         | 5.0         | 40           | 2.2         |            |
| NMC1210X5R226K16TRPLPF         |              |               | 22μF         | K            | 10        | 2.3         | 40           | 2.8         |            |
| NMC1210X5R476K16TRPLPF         |              |               | 47μF         | K            | 10        | 1.1         | 40           | 2.8         |            |
| <b>NMC1210X5R107M16TRPLPF</b>  |              |               | <b>100μF</b> | <b>M</b>     | <b>10</b> | <b>0.50</b> | <b>40</b>    | <b>2.8</b>  |            |
| NMC1210X5R475K25TRPLPF         |              |               | 25           | 4.7μF        | K         | 10          | 10.6         | 62.5        | 2.2        |
| NMC1210X5R106K25TRPLPF         | 10μF         |               |              | K            | 10        | 5.0         | 62.5         | 2.2         |            |
| NMC1210X5R226K25TRPLPF         | 22μF         |               |              | K            | 10        | 4.5         | 62.5         | 2.7         |            |
| <b>NMC1210X5R476M25TRPLPF</b>  | <b>47μF</b>  |               |              | <b>M</b>     | <b>10</b> | <b>2.12</b> | <b>62.5</b>  | <b>2.8</b>  |            |
| NMC1210X5R106K35TRPLPF         | 35           |               | 10μF         | K            | 10        | 10.0        | 87.5         | 2.2         |            |
| NMC1210X5R225K35TRPLPF         |              |               | 2.2μF        | K            | 3.5       | 45.4        | 87.5         | 2.2         |            |
| NMC1210X5R105K50TRPLPF         | 50           |               | 1.0μF        | K            | 10        | 100.0       | 125          | 1.45        |            |
| NMC1210X5R106K50TRPLPF         |              |               | 10μF         | K            | 10        | 10.0        | 125          | 2.2         |            |
| NMC1210X5R106M50TRPLPF         |              |               | 10μF         | M            | 10        | 5.0         | 125          | 2.7         |            |
| NMC1812X5R107M6.3TRPLPF        | 1812         |               | 6.3          | 100μF        | M         | 10          | 1.0          | 15.75       | 3.1        |
| NMC2220X5R106K50TRPLPF         | 2220         |               | 50           | 10μF         | K         | 2.5         | 10.0         | 125         | 3.0        |
| NMC2220X5R106M50TRPLPF         |              |               | 50           | 10μF         | M         | 2.5         | 10.0         | 125         | 3.0        |



## Y5V PART NUMBERS AND SPECIFICATIONS

| Part Number             | Case Size | Voltage (Vdc) | Cap.  | Cap. Tol. | DF (%) | IR (MΩ) | DWV (Vdc) | Max. T (mm) |      |
|-------------------------|-----------|---------------|-------|-----------|--------|---------|-----------|-------------|------|
| NMC0402Y5V105Z6.3TRPF   | 0402      | 6.3           | 1.0μF | Z         | 20     | 50.0    | 9.45      | 0.6         |      |
| NMC0402Y5V105Z10TRPF    |           | 10            | 1.0μF | Z         | 12.5   | 50.0    | 15        | 0.6         |      |
| NMC0603Y5V225Z6.3TRPF   | 0603      | 6.3           | 2.2μF | Z         | 20     | 22.7    | 9.45      | 1.0         |      |
| NMC0603Y5V105Z10TRPF    |           | 10            | 1.0μF | Z         | 16     | 50.0    | 15        | 1.0         |      |
| NMC0603Y5V225Z10TRPF    |           |               | 2.2μF | Z         | 16     | 22.7    | 15        | 1.0         |      |
| NMC0603Y5V105Z16TRPF    |           | 16            | 1.0μF | Z         | 16     | 50.0    | 24        | 1.0         |      |
| NMC0603Y5V225Z16TRPF    |           |               | 2.2μF | Z         | 16     | 22.7    | 24        | 1.0         |      |
| NMC0603Y5V105Z25TRPF    |           | 25            | 1.0μF | Z         | 16     | 50.0    | 37.5      | 1.0         |      |
| NMC0805Y5V475Z6.3TRPLPF |           | 0805          | 6.3   | 4.7μF     | Z      | 16      | 10.6      | 9.45        | 1.45 |
| NMC0805Y5V106Z6.3TRPLPF | 10μF      |               |       | Z         | 20     | 5.0     | 9.45      | 1.45        |      |
| NMC0805Y5V226Z6.3TRPLPF | 22μF      |               |       | Z         | 20     | 2.3     | 9.45      | 1.45        |      |
| NMC0805Y5V105Z10TRPLPF  | 10        |               | 1.0μF | Z         | 12.5   | 100.0   | 15        | 1.45        |      |
| NMC0805Y5V155Z10TRPLPF  |           |               | 1.5μF | Z         | 12.5   | 66.6    | 15        | 1.45        |      |
| NMC0805Y5V225Z10TRPLPF  |           |               | 2.2μF | Z         | 12.5   | 45.4    | 15        | 1.45        |      |
| NMC0805Y5V335Z10TRPLPF  |           |               | 3.3μF | Z         | 12.5   | 30.3    | 15        | 1.45        |      |
| NMC0805Y5V475Z10TRPLPF  |           |               | 4.7μF | Z         | 12.5   | 10.6    | 15        | 1.45        |      |
| NMC0805Y5V685Z10TRPLPF  |           |               | 6.8μF | Z         | 16     | 14.7    | 15        | 1.45        |      |
| NMC0805Y5V106Z10TRPLPF  |           |               | 10μF  | Z         | 30     | 5.0     | 15        | 1.45        |      |
| NMC0805Y5V155Z16TRPLPF  | 16        |               | 1.5μF | Z         | 9      | 66.6    | 24        | 1.45        |      |
| NMC0805Y5V225Z16TRPLPF  |           |               | 2.2μF | Z         | 12.5   | 22.7    | 24        | 1.45        |      |
| NMC0805Y5V335Z16TRPLPF  |           |               | 3.3μF | Z         | 12.5   | 15.2    | 24        | 1.45        |      |
| NMC0805Y5V475Z16TRPLPF  |           |               | 4.7μF | Z         | 9      | 10.6    | 24        | 1.45        |      |
| NMC0805Y5V105Z25TRPLPF  | 25        |               | 1.0μF | Z         | 9      | 50.0    | 37.5      | 1.45        |      |
| NMC0805Y5V225Z25TRPLPF  |           |               | 2.2μF | Z         | 9      | 22.7    | 37.5      | 1.45        |      |
| NMC0805Y5V105Z50TRPLPF  | 50        |               | 1.0μF | Z         | 9      | 50.0    | 75        | 1.45        |      |
| NMC1206Y5V226Z6.3TRPLPF | 1206      |               | 6.3   | 22μF      | Z      | 20      | 2.3       | 9.45        | 1.9  |
| NMC1206Y5V105Z10TRPLPF  |           |               | 10    | 1.0μF     | Z      | 12.5    | 100.0     | 15          | 1.9  |
| NMC1206Y5V155Z10TRPLPF  |           |               |       | 1.5μF     | Z      | 12.5    | 66.6      | 15          | 1.9  |
| NMC1206Y5V225Z10TRPLPF  |           |               |       | 2.2μF     | Z      | 12.5    | 45.4      | 15          | 1.9  |
| NMC1206Y5V335Z10TRPLPF  |           |               |       | 3.3μF     | Z      | 12.5    | 30.3      | 15          | 1.9  |
| NMC1206Y5V475Z10TRPLPF  |           |               |       | 4.7μF     | Z      | 12.5    | 21.2      | 15          | 1.9  |
| NMC1206Y5V685Z10TRPLPF  |           |               |       | 6.8μF     | Z      | 16      | 14.7      | 15          | 1.9  |
| NMC1206Y5V106Z10TRPLPF  |           |               |       | 10μF      | Z      | 16      | 5.0       | 15          | 1.9  |
| NMC1206Y5V226Z10TRPLPF  |           |               |       | 22μF      | Z      | 20      | 2.3       | 15          | 1.9  |
| NMC1206Y5V105Z16TRPLPF  |           |               |       | 16        | 1.0μF  | Z       | 12.5      | 50.0        | 24   |
| NMC1206Y5V155Z16TRPLPF  |           | 1.5μF         | Z     |           | 12.5   | 66.6    | 24        | 1.9         |      |
| NMC1206Y5V225Z16TRPLPF  |           | 2.2μF         | Z     |           | 12.5   | 22.7    | 24        | 1.9         |      |
| NMC1206Y5V335Z16TRPLPF  |           | 3.3μF         | Z     |           | 12.5   | 30.3    | 24        | 1.9         |      |
| NMC1206Y5V475Z16TRPLPF  |           | 4.7μF         | Z     |           | 12.5   | 10.6    | 24        | 1.9         |      |
| NMC1206Y5V685Z16TRPLPF  |           | 6.8μF         | Z     |           | 12.5   | 14.7    | 24        | 1.9         |      |
| NMC1206Y5V106Z16TRPLPF  |           | 10μF          | Z     |           | 12.5   | 10.0    | 24        | 1.9         |      |
| NMC1206Y5V105Z25TRPLPF  |           | 25            | 1.0μF | Z         | 7      | 100.0   | 37.5      | 1.9         |      |
| NMC1206Y5V155Z25TRPLPF  |           |               | 1.5μF | Z         | 9      | 66.6    | 37.5      | 1.9         |      |
| NMC1206Y5V225Z25TRPLPF  |           |               | 2.2μF | Z         | 9      | 22.7    | 37.5      | 1.9         |      |
| NMC1206Y5V335Z25TRPLPF  |           |               | 3.3μF | Z         | 9      | 30.3    | 37.5      | 1.9         |      |
| NMC1206Y5V475Z25TRPLPF  |           |               | 4.7μF | Z         | 9      | 10.6    | 37.5      | 1.9         |      |
| NMC1206Y5V106Z25TRPLPF  |           |               | 10μF  | Z         | 9      | 10.0    | 37.5      | 1.9         |      |

Y5V Continue on next page





## Y5V PART NUMBERS AND SPECIFICATIONS

| Part Number             | Case Size | Voltage (Vdc) | Cap.  | Cap. Tol. | DF (%) | IR (MΩ) | DWV (Vdc) | Max. T (mm) |     |
|-------------------------|-----------|---------------|-------|-----------|--------|---------|-----------|-------------|-----|
| NMC1206Y5V475Z35TRPLPF  | 1206      | 35            | 4.7μF | Z         | 7      | 21.2    | 52.5      | 1.9         |     |
| NMC1206Y5V106Z35TRPLPF  |           |               | 10μF  | Z         | 9      | 10.0    | 52.5      | 1.9         |     |
| NMC1206Y5V105Z50TRPLPF  |           | 50            | 1.0μF | Z         | 7      | 100.0   | 75        | 1.9         |     |
| NMC1206Y5V225Z50TRPLPF  |           |               | 2.2μF | Z         | 9      | 45.4    | 75        | 1.9         |     |
| NMC1210Y5V226Z6.3TRPLPF | 1210      | 6.3           | 22μF  | Z         | 20     | 4.6     | 9.45      | 2.2         |     |
| NMC1210Y5V476Z6.3TRPLPF |           |               | 47μF  | Z         | 20     | 2.1     | 9.45      | 2.2         |     |
| NMC1210Y5V107Z6.3TRPLPF |           |               | 100μF | Z         | 20     | 1.0     | 9.45      | 2.8         |     |
| NMC1210Y5V105Z10TRPLPF  |           | 10            | 1.0μF | Z         | 12.5   | 100.0   | 15        | 2.2         |     |
| NMC1210Y5V155Z10TRPLPF  |           |               | 1.5μF | Z         | 12.5   | 66.6    | 15        | 2.2         |     |
| NMC1210Y5V225Z10TRPLPF  |           |               | 2.2μF | Z         | 12.5   | 45.4    | 15        | 2.2         |     |
| NMC1210Y5V335Z10TRPLPF  |           |               | 3.3μF | Z         | 12.5   | 30.3    | 15        | 2.2         |     |
| NMC1210Y5V475Z10TRPLPF  |           |               | 4.7μF | Z         | 12.5   | 21.2    | 15        | 2.2         |     |
| NMC1210Y5V685Z10TRPLPF  |           |               | 6.8μF | Z         | 12.5   | 14.7    | 15        | 2.2         |     |
| NMC1210Y5V106Z10TRPLPF  |           |               | 10μF  | Z         | 12.5   | 10.0    | 15        | 2.2         |     |
| NMC1210Y5V226Z10TRPLPF  |           |               | 22μF  | Z         | 16     | 4.6     | 15        | 2.2         |     |
| NMC1210Y5V476Z10TRPLPF  |           |               | 47μF  | Z         | 16     | 2.1     | 15        | 2.2         |     |
| NMC1210Y5V105Z16TRPLPF  |           |               | 16    | 1.0μF     | Z      | 12.5    | 100.0     | 24          | 2.2 |
| NMC1210Y5V155Z16TRPLPF  |           |               |       | 1.5μF     | Z      | 12.5    | 66.6      | 24          | 2.2 |
| NMC1210Y5V225Z16TRPLPF  |           |               |       | 2.2μF     | Z      | 12.5    | 45.4      | 24          | 2.2 |
| NMC1210Y5V335Z16TRPLPF  |           |               |       | 3.3μF     | Z      | 12.5    | 30.3      | 24          | 2.2 |
| NMC1210Y5V475Z16TRPLPF  |           |               |       | 4.7μF     | Z      | 12.5    | 21.2      | 24          | 2.2 |
| NMC1210Y5V685Z16TRPLPF  |           | 6.8μF         |       | Z         | 12.5   | 14.7    | 24        | 2.2         |     |
| NMC1210Y5V106Z16TRPLPF  |           | 10μF          |       | Z         | 12.5   | 10.0    | 24        | 2.2         |     |
| NMC1210Y5V226Z16TRPLPF  |           | 22μF          |       | Z         | 12.5   | 4.6     | 24        | 2.2         |     |
| NMC1210Y5V476Z16TRPLPF  |           | 47μF          |       | Z         | 16     | 2.1     | 24        | 2.2         |     |
| NMC1210Y5V105Z25TRPLPF  |           | 25            |       | 1.0μF     | Z      | 9       | 100.0     | 37.5        | 2.2 |
| NMC1210Y5V155Z25TRPLPF  |           |               |       | 1.5μF     | Z      | 9       | 66.6      | 37.5        | 2.2 |
| NMC1210Y5V225Z25TRPLPF  |           |               |       | 2.2μF     | Z      | 9       | 45.4      | 37.5        | 2.2 |
| NMC1210Y5V335Z25TRPLPF  |           |               |       | 3.3μF     | Z      | 9       | 30.3      | 37.5        | 2.2 |
| NMC1210Y5V475Z25TRPLPF  |           |               |       | 4.7μF     | Z      | 9       | 21.2      | 37.5        | 2.2 |
| NMC1210Y5V685Z25TRPLPF  |           |               | 6.8μF | Z         | 9      | 14.7    | 37.5      | 2.2         |     |
| NMC1210Y5V106Z25TRPLPF  |           |               | 10μF  | Z         | 9      | 10.0    | 37.5      | 2.2         |     |
| NMC1210Y5V106Z35TRPLPF  |           |               | 35    | 10μF      | Z      | 7       | 10.0      | 52.5        | 2.2 |
| NMC1210Y5V105Z50TRPLPF  |           | 50            | 1.0μF | Z         | 7      | 100.0   | 75        | 2.2         |     |
| NMC1210Y5V225Z50TRPLPF  |           |               | 2.2μF | Z         | 7      | 45.4    | 75        | 2.2         |     |
| NMC1210Y5V475Z50TRPLPF  |           |               | 4.7μF | Z         | 7      | 21.2    | 75        | 2.2         |     |
| NMC1210Y5V106Z50TRPLPF  |           |               | 10μF  | Z         | 5      | 10.0    | 75        | 2.2         |     |
| NMC1812Y5V105Z10TRPLPF  |           | 1812          | 10    | 1.0μF     | Z      | 12.5    | 100.0     | 15          | 2.8 |
| NMC1812Y5V155Z10TRPLPF  | 1.5μF     |               |       | Z         | 12.5   | 66.6    | 15        | 2.8         |     |
| NMC1812Y5V225Z10TRPLPF  | 2.2μF     |               |       | Z         | 12.5   | 45.4    | 15        | 2.8         |     |
| NMC1812Y5V335Z10TRPLPF  | 3.3μF     |               |       | Z         | 12.5   | 30.3    | 15        | 2.8         |     |
| NMC1812Y5V475Z10TRPLPF  | 4.7μF     |               |       | Z         | 12.5   | 21.2    | 15        | 2.8         |     |
| NMC1812Y5V685Z10TRPLPF  | 6.8μF     |               |       | Z         | 12.5   | 14.7    | 15        | 2.8         |     |
| NMC1812Y5V106Z10TRPLPF  | 10μF      |               |       | Z         | 12.5   | 10.0    | 15        | 2.8         |     |

Y5V Continue on next page

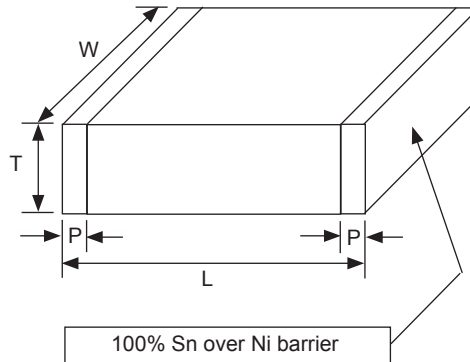


## Y5V PART NUMBERS AND SPECIFICATIONS

| Part Number            | Case Size |       | Voltage (Vdc) | Cap.  | Cap. Tol. | DF (%) | IR (MΩ) | DWV (Vdc) | Max. T (mm) |
|------------------------|-----------|-------|---------------|-------|-----------|--------|---------|-----------|-------------|
| NMC1812Y5V105Z16TRPLPF | 1812      | Y5V   | 16            | 1.0μF | Z         | 9      | 100.0   | 24        | 2.8         |
| NMC1812Y5V155Z16TRPLPF |           | Y5V   |               | 1.5μF | Z         | 9      | 66.6    | 24        | 2.8         |
| NMC1812Y5V225Z16TRPLPF |           | Y5V   |               | 2.2μF | Z         | 9      | 45.4    | 24        | 2.8         |
| NMC1812Y5V335Z16TRPLPF |           | Y5V   |               | 3.3μF | Z         | 9      | 30.3    | 24        | 2.8         |
| NMC1812Y5V475Z16TRPLPF |           | Y5V   |               | 4.7μF | Z         | 9      | 21.2    | 24        | 2.8         |
| NMC1812Y5V685Z16TRPLPF |           | Y5V   |               | 6.8μF | Z         | 9      | 14.7    | 24        | 2.8         |
| NMC1812Y5V106Z16TRPLPF |           | Y5V   |               | 10μF  | Z         | 9      | 10.0    | 24        | 2.8         |
| NMC1812Y5V476Z16TRPLPF |           | Y5V   |               | 47μF  | Z         | 12.5   | 2.1     | 24        | 2.8         |
| NMC1812Y5V105Z25TRPLPF |           | Y5V   | 25            | 1.0μF | Z         | 5      | 100.0   | 37.5      | 2.8         |
| NMC1812Y5V155Z25TRPLPF |           | Y5V   |               | 1.5μF | Z         | 5      | 66.6    | 37.5      | 2.8         |
| NMC1812Y5V225Z25TRPLPF |           | Y5V   |               | 2.2μF | Z         | 5      | 45.4    | 37.5      | 2.8         |
| NMC1812Y5V335Z25TRPLPF |           | Y5V   |               | 3.3μF | Z         | 5      | 30.3    | 37.5      | 2.8         |
| NMC1812Y5V475Z25TRPLPF |           | Y5V   |               | 4.7μF | Z         | 5      | 21.2    | 37.5      | 2.8         |
| NMC1812Y5V685Z25TRPLPF |           | Y5V   |               | 6.8μF | Z         | 5      | 14.7    | 37.5      | 2.8         |
| NMC1812Y5V106Z25TRPLPF |           | Y5V   |               | 10μF  | Z         | 5      | 10.0    | 37.5      | 2.8         |
| NMC1812Y5V105Z50TRPLPF |           | Y5V   |               | 50    | 1.0μF     | Z      | 5       | 100.0     | 75          |
| NMC1812Y5V155Z50TRPLPF |           | Y5V   | 1.5μF         |       | Z         | 5      | 66.6    | 75        | 2.8         |
| NMC1812Y5V225Z50TRPLPF |           | Y5V   | 2.2μF         |       | Z         | 5      | 45.4    | 75        | 2.8         |
| NMC1812Y5V335Z50TRPLPF |           | Y5V   | 3.3μF         |       | Z         | 5      | 30.3    | 75        | 2.8         |
| NMC1812Y5V475Z50TRPLPF |           | Y5V   | 4.7μF         |       | Z         | 5      | 21.2    | 75        | 2.8         |
| NMC1812Y5V685Z50TRPLPF | Y5V       | 6.8μF | Z             |       | 5         | 14.7   | 75      | 2.8       |             |
| NMC1812Y5V106Z50TRPLPF | Y5V       | 10μF  | Z             |       | 5         | 10.0   | 125     | 2.2       |             |

## CASE SIZE DIMENSIONS (mm)

| EIA Case Size         | 0201                                      | 0402        | 0603       | 0805        | 1206        | 1210        | 1812       | 2220      | 2225        |
|-----------------------|---|-------------|------------|-------------|-------------|-------------|------------|-----------|-------------|
| Length (L)            | 0.6 ± 0.03                                | 1.0 ± 0.05  | 1.6 ± 0.15 | 2.0 ± 0.2   | 3.2±0.2     | 3.2±0.2     | 4.5±0.4    | 5.7±0.4   | 5.7±0.4     |
| Width (W)             | 0.3 ± 0.03                                | 0.5 ± 0.05  | 0.8 ± 0.15 | 1.25 ± 0.2  | 1.6±0.2     | 2.5±0.2     | 3.2±0.3    | 5.0±0.4   | 6.35±0.25   |
| Thickness max. (T)    | See Part Number and Specifications Tables |             |            |             |             |             |            |           |             |
| Termination Width (P) | 0.10 ~ 0.20                               | 0.15 ~ 0.30 | 0.1 ~ 0.65 | 0.25 ~ 0.75 | 0.25 ~ 0.85 | 0.25 ~ 1.00 | 0.25 ~ 1.5 | 0.30 min. | 0.25 ~ 1.02 |



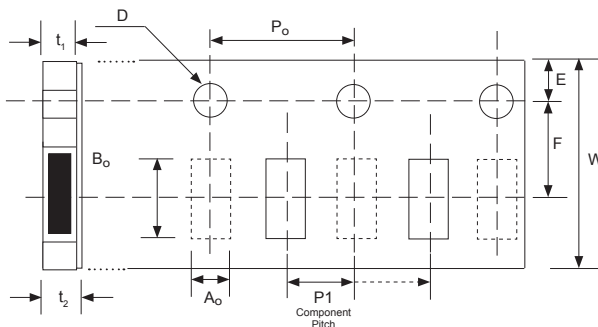
## CARRIER TAPE MATERIAL

Parts with a thickness of  $\geq 1\text{mm}$  will be taped on embossed plastic carrier. Parts with a thickness of less than  $1\text{mm}$  will be taped on paper carrier

## PUNCHED CARRIER TAPE DIMENSIONS (mm)

| Type  | $A_0$           | $B_0$           | W             | F              | E              | P1             | P0            | D0                   | T1 max. | T2 max. | Mounting Hole      |
|-------|-----------------|-----------------|---------------|----------------|----------------|----------------|---------------|----------------------|---------|---------|--------------------|
| 01005 | $0.25 \pm 0.04$ | $0.45 \pm 0.04$ | $8.0 \pm 0.3$ | $3.5 \pm 0.05$ | $1.75 \pm 0.1$ | $2.0 \pm 0.05$ | $4.0 \pm 0.1$ | $1.5$<br>$+0.1/-0.0$ | 0.27    | 0.36    | Angular Punch Hole |
| 0201  | $0.37 \pm 0.03$ | $0.67 \pm 0.05$ |               |                |                |                |               |                      | 0.45    | 0.80    |                    |
| 0402  | $0.65 \pm 0.05$ | $1.15 \pm 0.05$ |               |                |                | 1.1            |               |                      | 1.4     |         |                    |
| 0603  | $1.1 \pm 0.2$   | $1.9 \pm 0.2$   |               |                |                |                |               |                      |         |         |                    |
| 0805  | $1.65 \pm 0.2$  | $2.4 \pm 0.2$   |               |                |                |                |               |                      |         |         |                    |
| 1206  | $2.0 \pm 0.2$   | $3.6 \pm 0.2$   |               |                |                | $4.0 \pm 0.10$ |               |                      |         |         |                    |

## PUNCHED CARRIER TAPE



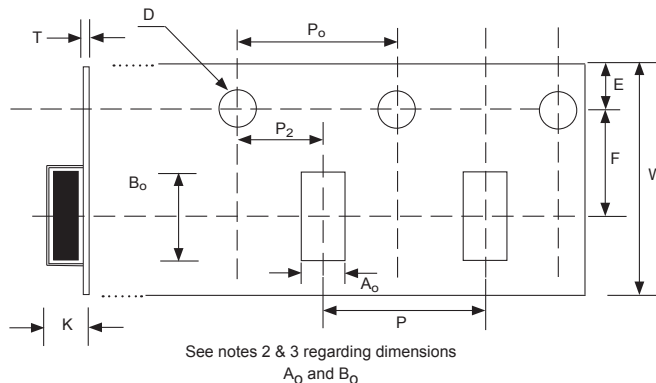
## EMBOSSED PLASTIC CARRIER TAPE DIMENSIONS (mm)

| Tape Size | W              | F              | E               | $P_0$         | $P_2$         | D                         | K max. | T max. | P             |
|-----------|----------------|----------------|-----------------|---------------|---------------|---------------------------|--------|--------|---------------|
| 8mm       | $8.0 \pm 0.2$  | $3.5 \pm 0.05$ | $1.75 \pm 0.10$ | $4.0 \pm 0.1$ | $2.0 \pm 0.5$ | $1.5$<br>$+0.1$<br>$-0.0$ | 4.5    | 0.31   | $4.0 \pm 0.1$ |
| 12mm      | $12.0 \pm 0.2$ | $5.5 \pm 0.05$ |                 |               |               |                           |        |        | $8.0 \pm 0.1$ |

### Notes:

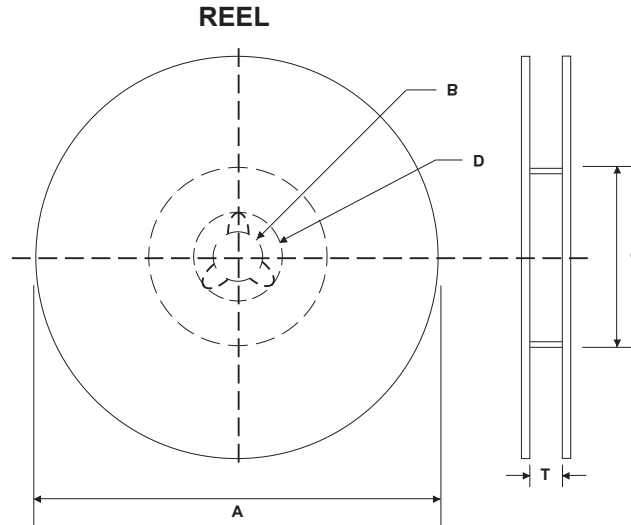
- Specifications are in compliance with EIA RS481-1-A  
"Taping of surface Mount Components for Automatic Placement"
- Dimensions  $A_0$  (max.) equals component width dimension plus  $0.5\text{mm}$
- Dimension  $B_0$  (max.) equals component length dimension plus  $0.5\text{mm}$

## EMBOSSED PLASTIC CARRIER TAPE



## REEL DIMENSIONS (mm)

| Reel Diameter (A) | B        | C         | D        | T max.                     |
|-------------------|----------|-----------|----------|----------------------------|
| 7" (178 ± 2.0)    | 13 ± 0.5 | 50 min.   | 21 ± 1.0 | 8.4 +1.0/-0                |
| 10" (250 ± 2.0)   |          | 100 ± 1.0 |          | (1812 case size and larger |
| 13" (330 ± 2.0)   |          | 100 ± 1.0 |          | 12.4 +2.0/-0)              |



## 7 INCH REEL QUANTITIES\*

| Size              | 0201   | 0402   | 0603  | 0805  | 1206  | 1210  | 1812  | 2220  | 2225  |
|-------------------|--------|--------|-------|-------|-------|-------|-------|-------|-------|
| Tape Size         | 8mm    | 8mm    | 8mm   | 8mm   | 8mm   | 8mm   | 12mm  | 12mm  | 12mm  |
| Min. Qty Per Reel | 20,000 | 10,000 | 4,000 | 4,000 | 4,000 | 1,000 | 500   | 700   | 400   |
| Max. Qty Per Reel | 20,000 | 10,000 | 4,000 | 5,000 | 5,000 | 5,000 | 2,000 | 1,000 | 1,000 |

\*Quantity dependent on chip thickness. Contact NIC for reel quantities on larger diameter reels.