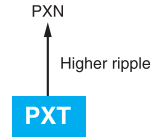


# NPCAP™-PXT Series

- Super low ESR, impedance and high heat resistance have been obtained by using conductive polymer as electrolyte.
- High moisture resistance, Bias Humidity: 1,000 hours at 85°C, 85%RH
- Rated voltage range: 2.5 to 16V<sub>dc</sub>, Capacitance range: 100 to 820μF
- Case size range : φ 5×5.8L to φ 6.3×7.7L
- Suitable for DC-DC converters, voltage regulators and decoupling applications used on computer motherboards etc.
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- RoHS2 Compliant
- Halogen Free



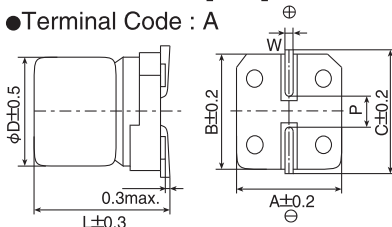
## ◆ SPECIFICATIONS

| Items   | Characteristics  |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
|---|--|----------------------------------|-----------------------|--------------------|--------------------------------------|--------------|---------------------------------------|----------------------------------|---------------------------------------|-----------------|---|----|----|
| <b>Category</b>   |  |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| <b>Temperature Range</b>                                      | -55 to +105°C  |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| <b>Rated Voltage Range</b>                                    | 2.5 to 16V <sub>dc</sub>   |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| <b>Capacitance Tolerance</b>                                  | ±20% (M) (at 20°C, 120Hz)  |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| <b>Leakage Current</b><br>*Note                               | Shall not exceed values shown in STANDARD RATINGS. (at 20°C after 2 minutes)   |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| <b>Dissipation Factor (tan δ)</b>                             | 0.12 max. (at 20°C, 120Hz)   |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| <b>Low Temperature Characteristics (Max. Impedance Ratio)</b> | Z(-25°C)/Z(+20°C) ≤ 1.15<br>Z(-55°C)/Z(+20°C) ≤ 1.25 (at 100kHz)   |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| <b>Endurance</b>  | The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 15,000 hours at 105°C.   |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
|   | <table border="1"> <tr><td>Appearance</td><td>No significant damage</td></tr> <tr><td>Capacitance change</td><td>≤ ±20% of the initial value</td></tr> <tr><td>D.F. (tan δ)</td><td>≤ 150% of the initial specified value</td></tr> <tr><td>ESR</td><td>≤ 150% of the initial specified value</td></tr> <tr><td>Leakage current</td><td>≤ The initial specified value</td></tr> </table>             | Appearance                       | No significant damage | Capacitance change | ≤ ±20% of the initial value          | D.F. (tan δ) | ≤ 150% of the initial specified value | ESR                              | ≤ 150% of the initial specified value | Leakage current | ≤ The initial specified value                     |    |    |
| Appearance  | No significant damage  |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| Capacitance change  | ≤ ±20% of the initial value  |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| D.F. (tan δ)  | ≤ 150% of the initial specified value  |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| ESR   | ≤ 150% of the initial specified value  |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| Leakage current   | ≤ The initial specified value  |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| <b>Bias Humidity</b>  | The following specifications shall be satisfied when the capacitors are restored to 20°C after subjecting them to the DC rated voltage at 85°C 85% RH for 1,000 hours.   |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
|   | <table border="1"> <tr><td>Appearance</td><td>No significant damage</td></tr> <tr><td>Capacitance change</td><td>≤ ±30% of the initial value</td></tr> <tr><td>D.F. (tan δ)</td><td>≤ 200% of the initial specified value</td></tr> <tr><td>ESR</td><td>≤ 200% of the initial specified value</td></tr> <tr><td>Leakage current</td><td>≤ The initial specified value</td></tr> </table>             | Appearance                       | No significant damage | Capacitance change | ≤ ±30% of the initial value          | D.F. (tan δ) | ≤ 200% of the initial specified value | ESR                              | ≤ 200% of the initial specified value | Leakage current | ≤ The initial specified value                     |    |    |
| Appearance  | No significant damage  |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| Capacitance change  | ≤ ±30% of the initial value  |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| D.F. (tan δ)  | ≤ 200% of the initial specified value  |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| ESR   | ≤ 200% of the initial specified value  |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| Leakage current   | ≤ The initial specified value  |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| <b>Surge Voltage</b>  | The capacitors shall be subjected to 1,000 cycles each consisting of charge with the surge voltage specified at 105°C for 30 seconds through a protective resistor(R=1kΩ) and discharge for 5 minutes 30 seconds.  |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
|   | <table border="1"> <tr><td>Rated voltage (V<sub>dc</sub>)</td><td>2.5</td><td>4.0</td><td>6.3</td><td>10</td><td>16</td></tr> <tr><td>Surge voltage (V<sub>dc</sub>)</td><td>2.9</td><td>4.6</td><td>7.2</td><td>12</td><td>18</td></tr> </table>  | Rated voltage (V <sub>dc</sub> ) | 2.5                   | 4.0                | 6.3                                  | 10           | 16                                    | Surge voltage (V <sub>dc</sub> ) | 2.9                                   | 4.6             | 7.2   | 12 | 18 |
| Rated voltage (V <sub>dc</sub> )                              | 2.5  | 4.0                              | 6.3                   | 10                 | 16                                   |              |                                       |                                  |                                       |                 |   |    |    |
| Surge voltage (V <sub>dc</sub> )                              | 2.9  | 4.6                              | 7.2                   | 12                 | 18                                   |              |                                       |                                  |                                       |                 |   |    |    |
|   | <table border="1"> <tr><td>Appearance</td><td>No significant damage</td></tr> <tr><td>Capacitance change</td><td>≤ ±20% of the initial value</td></tr> <tr><td>D.F. (tan δ)</td><td>≤ 150% of the initial specified value</td></tr> <tr><td>ESR</td><td>≤ 150% of the initial specified value</td></tr> <tr><td>Leakage current</td><td>≤ The initial specified value</td></tr> </table>             | Appearance                       | No significant damage | Capacitance change | ≤ ±20% of the initial value          | D.F. (tan δ) | ≤ 150% of the initial specified value | ESR                              | ≤ 150% of the initial specified value | Leakage current | ≤ The initial specified value                     |    |    |
| Appearance  | No significant damage  |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| Capacitance change  | ≤ ±20% of the initial value  |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| D.F. (tan δ)  | ≤ 150% of the initial specified value  |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| ESR   | ≤ 150% of the initial specified value  |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| Leakage current   | ≤ The initial specified value  |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| <b>Soldering Heat</b>   | The following specifications shall be satisfied when the solder temperature is reduced back to 20°C to measure dip resistance after soldering has been performed under the recommended soldering conditions.   |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
|   | <table border="1"> <tr><td>Appearance</td><td>No significant damage</td></tr> <tr><td>Capacitance value</td><td>Within the specified tolerance range</td></tr> <tr><td>D.F. (tan δ)</td><td>≤ The initial specified value</td></tr> <tr><td>ESR</td><td>≤ The initial specified value</td></tr> <tr><td>Leakage current</td><td>≤ The initial specified value (Voltage treatment)</td></tr> </table> | Appearance                       | No significant damage | Capacitance value  | Within the specified tolerance range | D.F. (tan δ) | ≤ The initial specified value         | ESR                              | ≤ The initial specified value         | Leakage current | ≤ The initial specified value (Voltage treatment) |    |    |
| Appearance  | No significant damage  |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| Capacitance value   | Within the specified tolerance range   |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| D.F. (tan δ)  | ≤ The initial specified value  |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| ESR   | ≤ The initial specified value  |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| Leakage current   | ≤ The initial specified value (Voltage treatment)  |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |
| <b>Failure Rate</b>   | 0.5% per 1,000 hours maximum (Confidence level 60% at 105°C)   |                                  |                       |                    |                                      |              |                                       |                                  |                                       |                 |   |    |    |

\*Note : If any doubt arises, measure the leakage current after the following voltage treatment.  
Voltage treatment : DC rated voltage is applied to the capacitors for 120 minutes at 105°C.

## ◆ DIMENSIONS [mm]

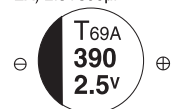
- Terminal Code : A



| Size Code | φD  | L   | A   | B   | C   | W          | P   |
|-----------|-----|-----|-----|-----|-----|------------|-----|
| E61       | 5   | 5.8 | 5.3 | 5.3 | 5.9 | 0.5 to 0.8 | 1.4 |
| F61       | 6.3 | 5.8 | 6.6 | 6.6 | 7.2 | 0.5 to 0.8 | 1.9 |
| F80       | 6.3 | 7.7 | 6.6 | 6.6 | 7.2 | 0.5 to 0.8 | 1.9 |

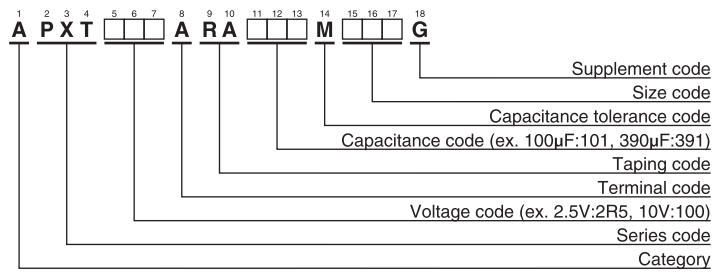
## ◆ MARKING

EX) 2.5V390μF



NPCAP™-PXT Series

◆PART NUMBERING SYSTEM



Please refer to "Product code guide (conductive polymer type)"

◆STANDARD RATINGS

| WV (V <sub>dc</sub> ) | Cap (μF) | Size code | Leakage current (μA max./after 2min.) | ESR (mΩ max./20°C, 100k to 300kHz) | Rated ripple current (mA <sub>rms</sub> /105°C, 100kHz) | Part No.           |
|-----------------------|----------|-----------|---------------------------------------|------------------------------------|---|--------------------|
| 2.5                   | 330      | E61       | 700                                   | 26                                 | 2,350   | APXT2R5ARA331ME61G |
|                       | 390      | E61       | 700                                   | 26                                 | 2,350   | APXT2R5ARA391ME61G |
|                       | 390      | F61       | 700                                   | 26                                 | 2,600   | APXT2R5ARA391MF61G |
|                       | 560      | F61       | 700                                   | 26                                 | 2,600   | APXT2R5ARA561MF61G |
|                       | 820      | F80       | 1,020                                 | 22                                 | 2,850   | APXT2R5ARA821MF80G |
| 4                     | 270      | E61       | 700                                   | 26                                 | 2,350   | APXT4R0ARA271ME61G |
|                       | 330      | F61       | 700                                   | 26                                 | 2,600   | APXT4R0ARA331MF61G |
|                       | 390      | F61       | 780                                   | 26                                 | 2,600   | APXT4R0ARA391MF61G |
|                       | 680      | F80       | 1,360                                 | 22                                 | 2,850   | APXT4R0ARA681MF80G |
| 6.3                   | 150      | E61       | 700                                   | 26                                 | 2,350   | APXT6R3ARA151ME61G |
|                       | 220      | E61       | 700                                   | 26                                 | 2,350   | APXT6R3ARA221ME61G |
|                       | 220      | F61       | 700                                   | 26                                 | 2,600   | APXT6R3ARA221MF61G |
|                       | 330      | F61       | 1,030                                 | 26                                 | 2,600   | APXT6R3ARA331MF61G |
|                       | 560      | F80       | 1,760                                 | 22                                 | 2,850   | APXT6R3ARA561MF80G |
| 10                    | 120      | E61       | 700                                   | 45                                 | 2,000   | APXT100ARA121ME61G |
|                       | 220      | F61       | 1,100                                 | 40                                 | 2,200   | APXT100ARA221MF61G |
|                       | 390      | F80       | 1,950                                 | 22                                 | 2,850   | APXT100ARA391MF80G |
| 16                    | 100      | E61       | 800                                   | 45                                 | 2,000   | APXT160ARA101ME61G |
|                       | 180      | F61       | 1,440                                 | 40                                 | 2,200   | APXT160ARA181MF61G |
|                       | 270      | F80       | 2,160                                 | 22                                 | 2,850   | APXT160ARA271MF80G |



◆RATED RIPPLE CURRENT MULTIPLIERS

● Frequency Multipliers

| Frequency(Hz) | 120  | 1k   | 10k  | 50k  | 100k to 500k |
|---------------|------|------|------|------|--------------|
| SMD type      | 0.05 | 0.30 | 0.55 | 0.70 | 1.00         |

## Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

-  [View APXT2R5ARA331ME61G on WIN SOURCE](#)
-  [United Chemi-Con Information](#)

## Optimize Your Supply Chain with WIN SOURCE Solutions

-  Global Sourcing Solution
-  Obsolete Management
-  Cost Control Management
-  Shortage Management
-  Alternative Solution
-  Excess Inventory Management