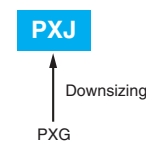


NPCAP™-PXJ Series

- Super low ESR, impedance and high heat resistance have been obtained by using conductive polymer as electrolyte.
- Rated voltage range : 2.5 to 25V<sub>dc</sub>, Capacitance range : 56 to 1,200μF
- Case size range : φ 6.3×5.8L to φ 8×6.7L
- 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



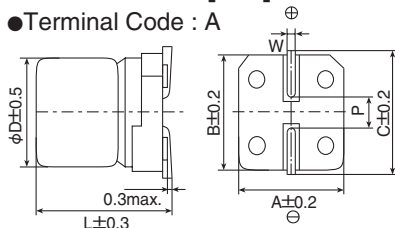
◆ SPECIFICATIONS

| Items   | Characteristics   |                                  |                       |                    |                                      |              |                                       |     |                                       |                 |   |    |    |    |    |
|---|---|----------------------------------|-----------------------|--------------------|--------------------------------------|--------------|---------------------------------------|-----|---------------------------------------|-----------------|---|----|----|----|----|
| <b>Category</b>   |   |                                  |                       |                    |                                      |              |                                       |     |                                       |                 |   |    |    |    |    |
| <b>Temperature Range</b>                                      | -55 to +105°C   |                                  |                       |                    |                                      |              |                                       |     |                                       |                 |   |    |    |    |    |
| <b>Rated Voltage Range</b>                                    | 2.5 to 25V <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 60°C, 90 to 95% RH for 1,000 hours.   |                                  |                       |                    |                                      |              |                                       |     |                                       |                 |   |    |    |    |    |
|   | <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>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>6.3</td> <td>10</td> <td>16</td> <td>20</td> <td>25</td> </tr> <tr> <td>Surge voltage (V<sub>dc</sub>)</td> <td>2.9</td> <td>7.2</td> <td>12</td> <td>18</td> <td>23</td> <td>29</td> </tr> </table>   | Rated voltage (V <sub>dc</sub> ) | 2.5                   | 6.3                | 10                                   | 16           | 20                                    | 25  | Surge voltage (V <sub>dc</sub> )      | 2.9             | 7.2   | 12 | 18 | 23 | 29 |
| Rated voltage (V <sub>dc</sub> )                              | 2.5   | 6.3                              | 10                    | 16                 | 20                                   | 25           |                                       |     |                                       |                 |   |    |    |    |    |
| Surge voltage (V <sub>dc</sub> )                              | 2.9   | 7.2                              | 12                    | 18                 | 23                                   | 29           |                                       |     |                                       |                 |   |    |    |    |    |
|   | <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   |
|-----------|-----|-----|-----|-----|-----|------------|-----|
| 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 |
| FA0       | 6.3 | 9.7 | 6.6 | 6.6 | 7.2 | 0.5 to 0.8 | 1.9 |
| H70       | 8   | 6.7 | 8.3 | 8.3 | 9.0 | 0.7 to 1.1 | 3.1 |

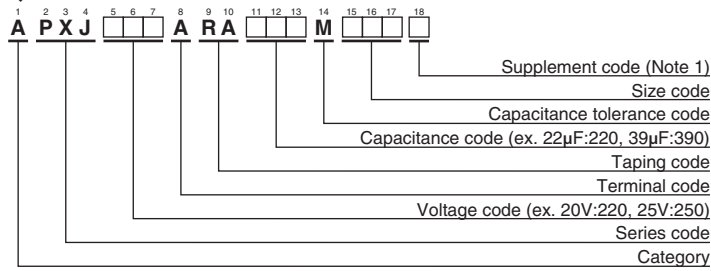
◆ MARKING

EX) 2.5V820μF



NPCAP™-PXJ Series

◆PART NUMBERING SYSTEM



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

(Note1) :PXJ series, 16V270  $\mu$ F (Rated ripple current 5,080mArms) have supplement code "J". Terminal and terminal plating are the same as all other in PXJ series.

◆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 (μArms/105°C, 100kHz) | Part No.           |
|-----------------------|----------|-----------|---------------------------------------|------------------------------------|--|--------------------|
| 2.5                   | 820      | F61       | 1,020                                 | 10                                 | 4,900                                      | APXJ2R5ARA821MF61G |
|                       | 820      | F80       | 1,020                                 | 7                                  | 5,000                                      | APXJ2R5ARA821MF80G |
|                       | 820      | FA0       | 1,020                                 | 10                                 | 4,300                                      | APXJ2R5ARA821MFA0G |
|                       | 1,000    | FA0       | 1,250                                 | 10                                 | 4,300                                      | APXJ2R5ARA102MFA0G |
|                       | 1,200    | FA0       | 1,500                                 | 10                                 | 4,300                                      | APXJ2R5ARA122MFA0G |
|                       | 1,200    | H70       | 1,500                                 | 10                                 | 4,500                                      | APXJ2R5ARA122MH70G |
| 6.3                   | 390      | F61       | 1,220                                 | 10                                 | 4,900                                      | APXJ6R3ARA391MF61G |
|                       | 560      | F80       | 1,760                                 | 8                                  | 5,000                                      | APXJ6R3ARA561MF80G |
|                       | 560      | FA0       | 1,760                                 | 10                                 | 4,300                                      | APXJ6R3ARA561MFA0G |
|                       | 680      | H70       | 2,140                                 | 10                                 | 4,500                                      | APXJ6R3ARA681MH70G |
| 10                    | 270      | F61       | 1,350                                 | 15                                 | 4,000                                      | APXJ100ARA271MF61G |
|                       | 390      | F80       | 1,950                                 | 13                                 | 4,460                                      | APXJ100ARA391MF80G |
|                       | 390      | FA0       | 1,950                                 | 13                                 | 4,000                                      | APXJ100ARA391MFA0G |
|                       | 470      | H70       | 2,350                                 | 15                                 | 4,000                                      | APXJ100ARA471MH70G |
| 16                    | 220      | F61       | 704                                   | 20                                 | 3,500                                      | APXJ160ARA221MF61G |
|                       | 270      | F80       | 864                                   | 10                                 | 5,080                                      | APXJ160ARA271MF80J |
|                       | 270      | F80       | 864                                   | 13                                 | 4,460                                      | APXJ160ARA271MF80G |
|                       | 270      | FA0       | 864                                   | 16                                 | 3,500                                      | APXJ160ARA271MFA0G |
|                       | 390      | H70       | 1,240                                 | 25                                 | 3,600                                      | APXJ160ARA391MH70G |
| 20                    | 150      | F61       | 600                                   | 23                                 | 3,300                                      | APXJ200ARA151MF61G |
|                       | 150      | F80       | 600                                   | 18                                 | 3,790                                      | APXJ200ARA151MF80G |
|                       | 150      | FA0       | 600                                   | 18                                 | 3,200                                      | APXJ200ARA151MFA0G |
|                       | 220      | H70       | 880                                   | 28                                 | 3,300                                      | APXJ200ARA221MH70G |
| 25                    | 56       | F61       | 280                                   | 28                                 | 3,000                                      | APXJ250ARA560MF61G |
|                       | 82       | F80       | 410                                   | 28                                 | 3,040                                      | APXJ250ARA820MF80G |
|                       | 82       | FA0       | 410                                   | 28                                 | 3,000                                      | APXJ250ARA820MFA0G |
|                       | 120      | H70       | 600                                   | 38                                 | 3,200                                      | APXJ250ARA121MH70G |

◆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         |