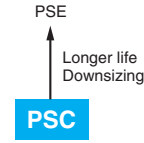


NPCAP™-PSC Series

- Super low ESR, high ripple current capability
- Rated voltage range : 2.5 to 16V<sub>dc</sub>
- Nominal capacitance range : 270 to 2,700μF
- Endurance : 15,000 hours at 105°C
- Suitable for DC-DC converters, voltage regulators and decoupling applications for computer motherboards
- Added 2.5V 820μF (ESR 5mΩ max.)
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- RoHS2 Compliant
- Halogen Free



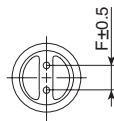
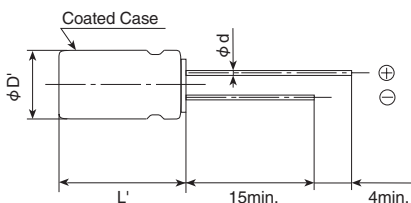
◆ SPECIFICATIONS

| Items  | Characteristics  |                                  |                       |                    |                             |              |                                       |                                  |                                       |                 |                               |    |    |            |                       |                    |                             |              |                                       |     |                                       |                 |                               |
|--|--|----------------------------------|-----------------------|--------------------|-----------------------------|--------------|---------------------------------------|----------------------------------|---------------------------------------|-----------------|-------------------------------|----|----|------------|-----------------------|--------------------|-----------------------------|--------------|---------------------------------------|-----|---------------------------------------|-----------------|-------------------------------|
| <b>Category 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                              | I=0.2CV or 500μA, whichever is greater.<br>Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V <sub>dc</sub> ) (at 20°C after 2 minutes)  |                                  |                       |                    |                             |              |                                       |                                  |                                       |                 |                               |    |    |            |                       |                    |                             |              |                                       |     |                                       |                 |                               |
| <b>Dissipation Factor (tan δ)</b>                            | 0.10 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.<br><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 Test</b>                                    | The following specifications shall be satisfied when the capacitors are restored to 20°C after subjecting them to DC voltage at 60°C, 90 to 95% RH for 1,000 hours.<br><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 Test</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.<br><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><br><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> | 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 | 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 |
| 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                          |              |                                       |                                  |                                       |                 |                               |    |    |            |                       |                    |                             |              |                                       |     |                                       |                 |                               |
| 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>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 : E



| Size code | H08         | HB5        | JB5        | JC5  |
|-----------|-------------|------------|------------|------|
| φ D       | 8.0         | 8.0        | 10.0       | 10.0 |
| φ d       | 0.6         | 0.8(Note1) | 0.8(Note1) | 0.6  |
| F         | 3.5         | 3.5        | 5.0        | 5.0  |
| φ D'      | φ D+0.5max. |            |            |      |
| L'        | L+1.0max.   |            | L+1.5max.  |      |

Note 1 : 0.6 for rated volt 16V.

◆ MARKING

EX) 2.5V820μF



NPCAP™-PSC Series

◆PART NUMBERING SYSTEM



(Note2) PSC series, 2.5V820μF(ESR 5mΩ max.) has supplement code "J".  
Can case, terminal and terminal plating are the same as all others in PSC series.

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

◆STANDARD RATINGS

| WV (V <sub>dc</sub> ) | Cap (μF) | Case size φ D×L(mm) | ESR (mΩ max./20°C, 100k to 300kHz) | Rated ripple current (mArms/105°C, 100kHz) | Part No.           |
|-----------------------|----------|---------------------|------------------------------------|--|--------------------|
| 2.5                   | 560      | 8×8                 | 7                                  | 6,100                                      | APSC2R5E□□561MH08S |
|                       | 820      | 8×8                 | 5                                  | 6,100                                      | APSC2R5E□□821MH08J |
|                       | 820      | 8×8                 | 7                                  | 6,100                                      | APSC2R5E□□821MH08S |
|                       | 1,000    | 8×8                 | 7                                  | 6,100                                      | APSC2R5E□□102MH08S |
|                       | 1,000    | 8×11.5              | 7                                  | 6,100                                      | APSC2R5E□□102MHB5S |
|                       | 1,500    | 8×11.5              | 7                                  | 6,100                                      | APSC2R5E□□152MHB5S |
| 4                     | 2,700    | 10×11.5             | 8                                  | 5,560                                      | APSC2R5E□□272MJB5S |
|                       | 560      | 8×8                 | 7                                  | 6,100                                      | APSC4R0E□□561MH08S |
|                       | 680      | 8×11.5              | 7                                  | 6,100                                      | APSC4R0E□□681MHB5S |
| 6.3                   | 1,000    | 10×11.5             | 6                                  | 6,640                                      | APSC4R0E□□102MJB5S |
|                       | 470      | 8×8                 | 8                                  | 5,700                                      | APSC6R3E□□471MH08S |
|                       | 560      | 8×8                 | 8                                  | 5,700                                      | APSC6R3E□□561MH08S |
|                       | 820      | 10×11.5             | 7                                  | 6,640                                      | APSC6R3E□□821MJB5S |
| 10                    | 1,500    | 10×11.5             | 10                                 | 5,560                                      | APSC6R3E□□152MJB5S |
|                       | 390      | 8×11.5              | 9                                  | 5,650                                      | APSC100E□□391MHB5S |
| 16                    | 680      | 10×11.5             | 7                                  | 6,100                                      | APSC100E□□681MJB5S |
|                       | 270      | 8×11.5              | 11                                 | 5,080                                      | APSC160E□□271MHB5S |
|                       | 330      | 10×11.5             | 10                                 | 6,100                                      | APSC160E□□331MJB5S |
|                       | 330      | 10×12.5             | 10                                 | 6,100                                      | APSC160E□□331MJC5S |
|                       | 470      | 10×11.5             | 10                                 | 6,100                                      | APSC160E□□471MJB5S |

□□ : Enter the appropriate lead forming or taping code.

◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

| Frequency(Hz)    | 120  | 1k   | 10k  | 50k  | 100k to 500k |
|------------------|------|------|------|------|--------------|
| Radial lead type | 0.10 | 0.35 | 0.60 | 0.80 | 1.00         |