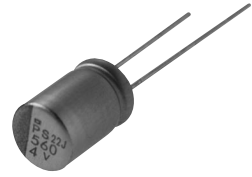


NPCAP™-PS Series

- Super low ESR, high temperature resistance
- Large capacitance & Improved high ripple current capability
- Rated voltage range : 2.5 to 35V_{dc}
- Endurance : 2,000 hours at 105°C
- Suitable for DC-DC converters, voltage regulators and decoupling applications
For computer motherboards
- RoHS Compliant



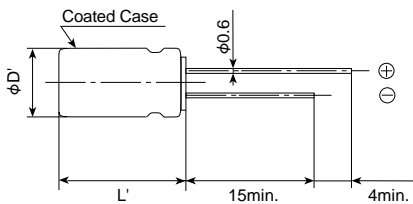
◆ SPECIFICATIONS

| Items | Characteristics | | | | | | | | | | |
|---|---|------------|-----------------------|--------------------|----------------------------|-------------|--------------------------------------|-----|--------------------------------------|-----------------|------------------------------|
| Category Temperature Range | -55 to +105°C | | | | | | | | | | |
| Rated Voltage Range | 2.5 to 35V _{dc} | | | | | | | | | | |
| Capacitance Tolerance | ±20% (M) (at 20°C, 120Hz) | | | | | | | | | | |
| Surge Voltage | Rated voltage×1.15 (at 105°C) | | | | | | | | | | |
| Leakage Current *Note | I=0.2CV (Rated voltage 2.5 to 25V _{dc}) / I=0.5CV (Rated voltage 35V _{dc}) Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V _{dc}) (at 20°C after 2 minutes) | | | | | | | | | | |
| Dissipation Factor (tanδ) | 0.12 max. (at 20°C, 120Hz) | | | | | | | | | | |
| Low Temperature Characteristics (Max. Impedance Ratio) | Z(-25°C)/Z(+20°C)≤1.15 Z(-55°C)/Z(+20°C)≤1.25 (at 100kHz) | | | | | | | | | | |
| Endurance | The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 2,000 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. (tanδ)</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. (tanδ) | ≤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. (tanδ) | ≤150% of the initial specified value | | | | | | | | | | |
| ESR | ≤150% of the initial specified value | | | | | | | | | | |
| Leakage current | ≤The initial specified value | | | | | | | | | | |
| Bias Humidity Test | 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. | | | | | | | | | | |
| | <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. (tanδ)</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. (tanδ) | ≤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. (tanδ) | ≤150% of the initial specified value | | | | | | | | | | |
| ESR | ≤150% of the initial specified value | | | | | | | | | | |
| Leakage current | ≤The initial specified value | | | | | | | | | | |
| Surge Voltage Test | 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>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. (tanδ)</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. (tanδ) | ≤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. (tanδ) | ≤150% of the initial specified value | | | | | | | | | | |
| ESR | ≤150% of the initial specified value | | | | | | | | | | |
| Leakage current | ≤The initial specified value | | | | | | | | | | |
| Failure Rate | 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 | HB5 | JC5 |
|-----------|------------|-----|
| φD | 8 | 10 |
| φd | | 0.6 |
| F | 3.5 | 5.0 |
| φD' | φD+0.5max. | |
| L' | L+1.5max. | |

◆ MARKING

EX) 4V820μF



◆PART NUMBERING SYSTEM



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

◆STANDARD RATINGS

| WV(Vdc) | Cap(µF) | Case size φD×L(mm) | ESR (mΩmax/20°C, 100k to 300kHz) | Rated ripple current (mArms/105°C, 100kHz) | Part No. |
|---------|---------|-----------------------|-------------------------------------|---|--------------------|
| 2.5 | 680 | 8×11.5 | 10 | 5,230 | APS-2R5E□□681MHB5S |
| | 820 | 8×11.5 | 10 | 5,230 | APS-2R5E□□821MHB5S |
| | 1500 | 10×12.5 | 8 | 5,500 | APS-2R5E□□152MJC5S |
| 4 | 560 | 8×11.5 | 10 | 5,230 | APS-4R0E□□561MHB5S |
| | 820 | 10×12.5 | 8 | 5,500 | APS-4R0E□□821MJC5S |
| | 1000 | 10×12.5 | 8 | 5,500 | APS-4R0E□□102MJC5S |
| | 1200 | 10×12.5 | 8 | 5,500 | APS-4R0E□□122MJC5S |
| 6.3 | 390 | 8×11.5 | 12 | 4,770 | APS-6R3E□□391MHB5S |
| | 470 | 8×11.5 | 12 | 4,770 | APS-6R3E□□471MHB5S |
| | 680 | 10×12.5 | 10 | 5,500 | APS-6R3E□□681MJC5S |
| | 820 | 10×12.5 | 10 | 5,500 | APS-6R3E□□821MJC5S |
| | 1000 | 10×12.5 | 10 | 5,500 | APS-6R3E□□102MJC5S |
| 10 | 270 | 8×11.5 | 14 | 4,420 | APS-100E□□271MHB5S |
| | 330 | 8×11.5 | 14 | 4,420 | APS-100E□□331MHB5S |
| | 470 | 10×12.5 | 12 | 5,300 | APS-100E□□471MJC5S |
| | 560 | 10×12.5 | 12 | 5,300 | APS-100E□□561MJC5S |
| 16 | 100 | 8×11.5 | 16 | 4,360 | APS-160E□□101MHB5S |
| | 180 | 8×11.5 | 16 | 4,360 | APS-160E□□181MHB5S |
| | 270 | 10×12.5 | 14 | 5,050 | APS-160E□□271MJC5S |
| | 330 | 10×12.5 | 14 | 5,050 | APS-160E□□331MJC5S |
| 20 | 100 | 8×11.5 | 24 | 3,320 | APS-200E□□101MHB5S |
| | 150 | 10×12.5 | 20 | 4,320 | APS-200E□□151MJC5S |
| 25 | 68 | 8×11.5 | 24 | 3,320 | APS-250E□□680MHB5S |
| | 100 | 10×12.5 | 20 | 4,320 | APS-250E□□101MJC5S |
| 35 | 18 | 8×11.5 | 34 | 2,830 | APS-350E□□180MHB5S |
| | 33 | 10×12.5 | 30 | 3,270 | APS-350E□□330MJC5S |

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