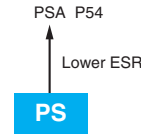


NPCAP™-PS Series

- Super low ESR, high temperature resistance
- Large capacitance & Improved high ripple current capability
- Rated voltage range : 2.5 to 35V<sub>dc</sub>
- Endurance : 15,000 hours at 105°C
- Suitable for DC-DC converters, voltage regulators and decoupling applications  
For computer motherboards
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- RoHS Compliant
- Halogen Free



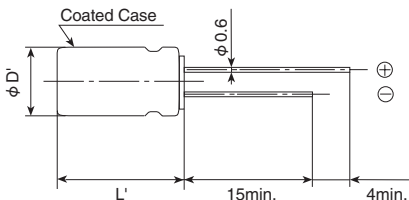
◆ SPECIFICATIONS

Items	Characteristics										
<b>Category</b>											
<b>Temperature Range</b>	-55 to +105°C										
<b>Rated Voltage Range</b>	2.5 to 35V <sub>dc</sub>										
<b>Capacitance Tolerance</b>	±20% (M) (at 20°C, 120Hz)										
<b>Surge Voltage</b>	Rated voltage × 1.15 (at 105°C)										
<b>Leakage Current</b> <small>*Note</small>	I=0.2CV (Rated voltage 2.5 to 25V <sub>dc</sub> ) / I=0.5CV (Rated voltage 35V <sub>dc</sub> ) 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>	0.12 max. (at 20°C, 120Hz)										
<b>Low Temperature Characteristics (Max. Impedance Ratio)</b>	Z(-25°C)/Z(+20°C) ≤ 1.15 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
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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. <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
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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. <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>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	HB5	JC5
φ D	8	10
φ d	0.6	
F	3.5	5.0
φ D'	φ D+0.5max	
L'	L+1.5max.	

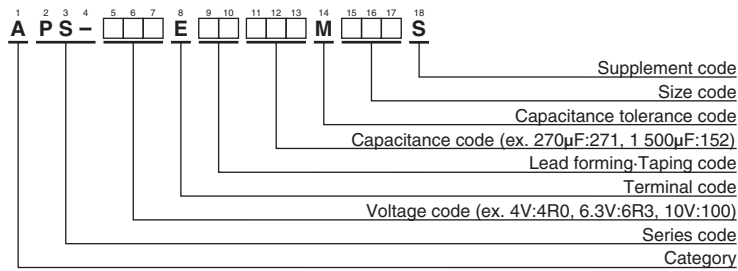
◆ MARKING

EX) 4V820μF



NPCAP™-PS Series

◆PART NUMBERING SYSTEM



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 (mA rms/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
	1,500	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
	1,000	10 × 12.5	8	5,500	APS-4R0E□□102MJC5S
	1,200	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
	1,000	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.

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