

NPCAP™-PS Series

- Super low ESR, high temperature resistance
- Large capacitance & Improved high ripple current capability
- Rated voltage range : 2.5 to 25V_{dc}
- 2000 hours at 105°C
- Suitable for DC-DC converters, voltage regulators and decoupling applications
For computer motherboards
- Pb-free design



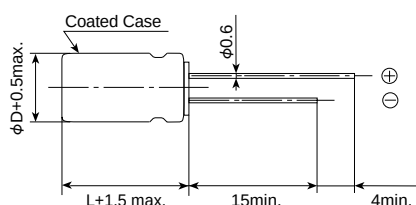
◆SPECIFICATIONS

Items	Characteristics										
Category											
Temperature Range	-55 to +105°C										
Rated Voltage Range	2.5 to 25V _{dc}										
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)										
Surge Voltage	Rated voltage×1.15V (at 105°C)										
Leakage Current	I=0.2CV (max.)										
*Note	Where, I : 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 at 100kHz to the 20°C value Z(-25°C)/Z(+20°C)≤1.15 Z(-55°C)/Z(+20°C)≤1.25										
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 2000 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 measured 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 measured value	D.F. (tanδ)	≤150% of the initial specified value	ESR	≤150% of the initial specified value	Leakage current	≤The initial specified value
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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 500 hours. <table border="1"> <tr> <td>Appearance</td><td>No significant damage</td></tr> <tr> <td>Capacitance change</td><td>≤±20% of the initial measured 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 measured value	D.F. (tanδ)	≤150% of the initial specified value	ESR	≤150% of the initial specified value	Leakage current	≤The initial specified value
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Surge Voltage Test	The capacitors shall be subjected to 1000 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 measured 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 measured value	D.F. (tanδ)	≤150% of the initial specified value	ESR	≤150% of the initial specified value	Leakage current	≤The initial specified value
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ESR	≤150% of the initial specified value										
Leakage current	≤The initial specified value										
Failure Rate	1% per 1000 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



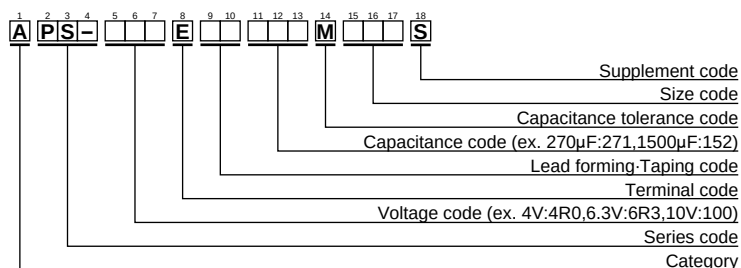
φD	8	10
L	11.5	12.5
F	3.5	5.0

◆MARKING

EX) 4V820μF



◆PART NUMBERING SYSTEM



Please refer to "A guide to global code (conductive polymer type)"

◆STANDARD RATINGS

WV(V _{dc})	Cap(μF)	Case size φD×L(mm)	ESR (mΩ _{max} /20°C, 100k to 300kHz)	Rated ripple current (mArms/105°C, 100kHz)	Part No.
2.5	680	8×11.5	10	5230	APS-2R5E□□681MHB5S
	1500	10×12.5	8	5500	APS-2R5E□□152MJC5S
4	560	8×11.5	10	5230	APS-4R0E□□561MHB5S
	820	10×12.5	8	5500	APS-4R0E□□821MJC5S
6.3	390	8×11.5	12	4770	APS-6R3E□□391MHB5S
	680	10×12.5	10	5500	APS-6R3E□□681MJC5S
10	270	8×11.5	14	4420	APS-100E□□271MHB5S
	470	10×12.5	12	5300	APS-100E□□471MJC5S
16	180	8×11.5	16	4360	APS-160E□□181MHB5S
	330	10×12.5	14	5050	APS-160E□□331MJC5S
20	100	8×11.5	24	3320	APS-200E□□101MHB5S
	150	10×12.5	20	4320	APS-200E□□151MJC5S
25	68	8×11.5	24	3320	APS-250E□□680MHB5S
	100	10×12.5	20	4320	APS-250E□□101MJC5S

□□ : Lead forming code and taping code