

Upgrade!
NPCAP™-PSA Series

- Super low ESR, high temperature resistance and high ripple current capability
- Rated voltage range : 2.5 to 16V_{dc}
- 2,000 hours at 105°C
- Suitable for DC-DC converters, voltage regulators and decoupling applications for computer motherboards
- RoHS Compliant



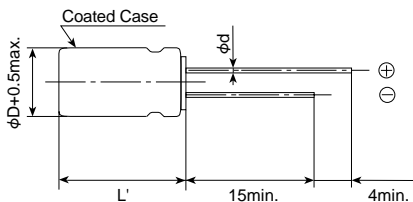
◆ SPECIFICATIONS

Items	Characteristics										
Category											
Temperature Range	-55 to +105°C										
Rated Voltage Range	2.5 to 16V _{dc}										
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)										
Surge Voltage	Rated voltage(V)×1.15 (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)	0.08 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 2,000 hours at 105°C. <table border="1" style="width: 100%; border-collapse: collapse;"> <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										
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" style="width: 100%; border-collapse: collapse;"> <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 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" style="width: 100%; border-collapse: collapse;"> <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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D.F. (tanδ)	≤ 150% of the initial specified value										
ESR	≤ 150% of the initial specified value										
Leakage current	≤ The initial specified value										
Failure Rate	1% 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



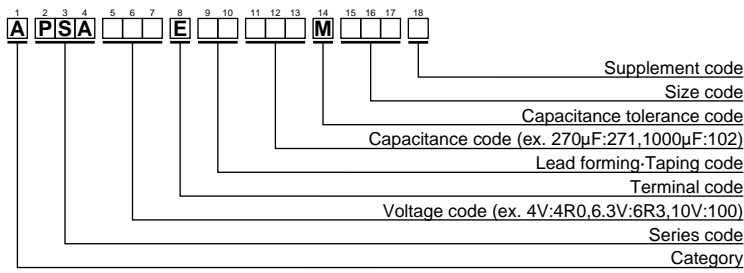
φD	6.3	8	10
φd	0.5	0.8	
L'	L+0.3max	L+1.5max	
F	2.5	3.5	5

◆ MARKING

EX) 4V560μF



◆PART NUMBERING SYSTEM



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

◆STANDARD RATINGS

WV(Vdc)	Cap(μ F)	Case size ϕ D \times L(mm)	ESR (m Ω max/20°C, 100k to 300kHz)	Rated ripple current (mArms/105°C, 100kHz)	Part No.
2.5	390	6.3 \times 10.5	20	3,160	APSA2R5E□□391MFA5G
	680	8 \times 11.5	7	5,580	APSA2R5E□□681MHB5S
	820	8 \times 11.5	7	5,580	APSA2R5E□□821MHB5S
	1,000	10 \times 11.5	6	5,860	APSA2R5E□□102MJB5S
4	270	6.3 \times 10.5	20	3,160	APSA4R0E□□271MFA5G
	390	6.3 \times 10.5	24	3,300	APSA4R0E□□391MFA5G
	560	8 \times 11.5	7	5,580	APSA4R0E□□561MHB5S
	820	10 \times 11.5	6	5,860	APSA4R0E□□821MJB5S
6.3	220	6.3 \times 10.5	20	3,160	APSA6R3E□□221MFA5G
	330	6.3 \times 10.5	28	3,190	APSA6R3E□□331MFA5G
	390	8 \times 11.5	8	5,080	APSA6R3E□□391MHB5S
	680	10 \times 11.5	7	5,860	APSA6R3E□□681MJB5S
10	47	6.3 \times 10.5	25	2,820	APSA100E□□470MFA5G
	68	6.3 \times 10.5	25	2,820	APSA100E□□680MFA5G
	100	6.3 \times 10.5	25	2,820	APSA100E□□101MFA5G
	150	6.3 \times 10.5	25	2,820	APSA100E□□151MFA5G
	270	8 \times 11.5	9	4,710	APSA100E□□271MHB5S
16	470	10 \times 11.5	8	5,650	APSA100E□□471MJB5S
	100	6.3 \times 10.5	25	2,820	APSA160E□□101MFA5G

□□ : Lead forming code and taping code