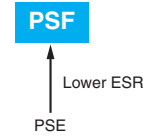


NPCAP™-PSF Series

- Super low ESR, high ripple current capability
- ESR 5mΩmax. (2 to 4V<sub>dc</sub>)
- Longer life (20,000 hours at 105°C)
- Rated voltage range : 2 to 16V<sub>dc</sub>
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- RoHS2 Compliant
- Halogen Free



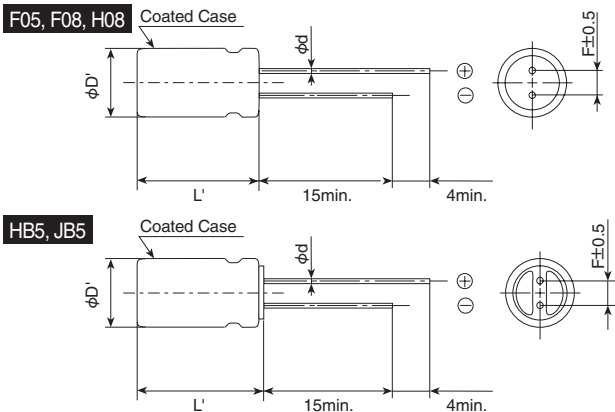
◆ SPECIFICATIONS

Items	Characteristics																						
Category																							
Temperature Range	-55 to +105°C																						
Rated Voltage Range	2 to 16V <sub>dc</sub>																						
Capacitance Tolerance	±20%(M) (at 20°C, 120Hz)																						
Leakage Current *Note	Shall not exceed values shown in STANDARD RATINGS. (at 20°C after 2 minutes)																						
Dissipation Factor (tan δ)	0.10 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 20,000 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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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. (tan δ)</td><td>≤ The initial specified value</td></tr> <tr><td>ESR</td><td>2 to 6.3V<sub>dc</sub> : ≤ The initial specified value 16V<sub>dc</sub> : ≤ 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)	≤ The initial specified value	ESR	2 to 6.3V <sub>dc</sub> : ≤ The initial specified value 16V <sub>dc</sub> : ≤ 150% of the initial specified value	Leakage current	≤ The initial specified value												
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ESR	2 to 6.3V <sub>dc</sub> : ≤ The initial specified value 16V <sub>dc</sub> : ≤ 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>Rated voltage (V<sub>dc</sub>)</td><td>2.0</td><td>2.5</td><td>4.0</td><td>6.3</td><td>16</td></tr> <tr><td>Surge voltage (V<sub>dc</sub>)</td><td>2.3</td><td>2.9</td><td>4.6</td><td>7.2</td><td>18</td></tr> </table> <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>≤ The initial specified value</td></tr> <tr><td>ESR</td><td>2 to 6.3V<sub>dc</sub> : ≤ The initial specified value 16V<sub>dc</sub> : ≤ 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> )	2.0	2.5	4.0	6.3	16	Surge voltage (V <sub>dc</sub> )	2.3	2.9	4.6	7.2	18	Appearance	No significant damage	Capacitance change	≤ ±20% of the initial value	D.F. (tan δ)	≤ The initial specified value	ESR	2 to 6.3V <sub>dc</sub> : ≤ The initial specified value 16V <sub>dc</sub> : ≤ 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)	≤ The initial specified value																						
ESR	2 to 6.3V <sub>dc</sub> : ≤ The initial specified value 16V <sub>dc</sub> : ≤ 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	F05	F08	H08	HB5	JB5
φD	6.3		8.0		10.0
φd	0.45		0.6		
F	2.5		3.5		5.0
Note 1 : L+1.2 max for 3V, 4.5V, 820μF					
L'	L+1.0max. (Note1)		L+1.5max.		

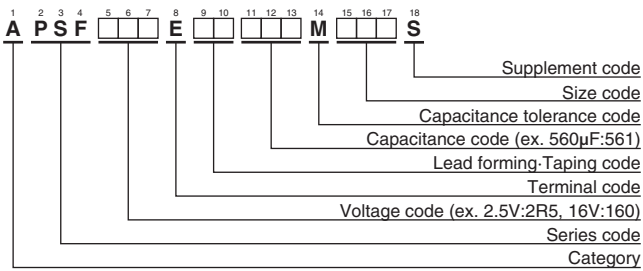
◆ MARKING

EX) 2.5V560μF



NPCAP™-PSF Series

◆PART NUMBERING SYSTEM



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

◆STANDARD RATINGS

WV (V <sub>dc</sub> )	Cap (μF)	Case size φD×L(mm)	Leakage current (μA max./after 2min.)	ESR (mΩ max./20°C, 100k to 300kHz)	Rated ripple current (mArms/105°C, 100kHz)	Part No.
2	1,000	6.3×8	500	5	5,900	APSF2R0E□□102MF08S
2.5	330	6.3×8	500	5	5,900	APSF2R5E□□331MF08S
	470	6.3×8	500	5	5,900	APSF2R5E□□471MF08S
	560	6.3×8	500	5	5,900	APSF2R5E□□561MF08S
	820	6.3×8	500	5	5,900	APSF2R5E□□821MF08S
	1,200	6.3×8	1,200	5	5,900	APSF2R5E□□122MF08S
	1,600	8×8	800	5	6,100	APSF2R5E□□162MH08S
4	470	6.3×8	500	5	5,900	APSF4R0E□□471MF08S
	560	6.3×8	500	5	5,900	APSF4R0E□□561MF08S
6.3	820	6.3×8	1,030	8	4,700	APSF6R3E□□821MF08S
16	100	6.3×5	500	24	2,490	APSF160E□□101MF05S
	270	8×8	864	10	5,000	APSF160E□□271MH08S
	270	8×11.5	864	11	5,080	APSF160E□□271MHB5S
	330	8×8	1,050	13	4,700	APSF160E□□331MH08S
	470	8×11.5	1,500	11	5,400	APSF160E□□471MHB5S
	470	10×11.5	1,500	10	6,100	APSF160E□□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