

# NPCAP™-PXF Series

- Super low ESR, impedance and high heat resistance have been obtained by using conductive polymer as electrolyte.
- Rated voltage range : 2 to 10V<sub>dc</sub>, Capacitance range : 120 to 680μF
- Case size range : φ 5x3.9L to φ 8x6.7L
- Suitable for DC-DC converters, voltage regulators and decoupling applications used on computer motherboards etc.
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- RoHS2 Compliant
- Halogen Free

PXF

Lower ESR  
PXE



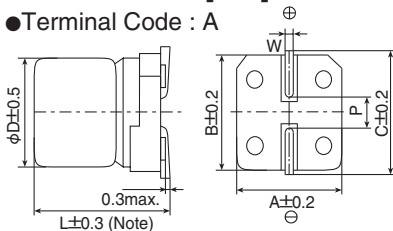
## SPECIFICATIONS

Items	Characteristics												
<b>Category</b>	-55 to +105°C												
<b>Temperature Range</b>													
<b>Rated Voltage Range</b>	2 to 10V <sub>dc</sub>												
<b>Capacitance Tolerance</b>	±20% (M) (at 20°C, 120Hz)												
<b>Leakage Current</b> <small>*Note</small>	Shall not exceed values shown in STANDARD RATINGS. (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 (E40, F46 : 3,000 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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<b>Bias Humidity</b>	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjecting them to the DC rated voltage at 60°C, 90 to 95% RH for 1,000 hours (E40, F46 : 500 hours).												
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<b>Surge Voltage</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>Rated voltage (V<sub>dc</sub>)</td> <td>2.0</td> <td>2.5</td> <td>4.0</td> <td>6.3</td> <td>10</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>12</td> </tr> </table>	Rated voltage (V <sub>dc</sub> )	2.0	2.5	4.0	6.3	10	Surge voltage (V <sub>dc</sub> )	2.3	2.9	4.6	7.2	12
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<b>Soldering Heat</b>	The following specifications shall be satisfied when the solder temperature is reduced back to 20°C after soldering has been performed under the recommended soldering conditions.												
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Leakage current	≤ The initial specified value (Voltage treatment)												

\*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 : A



Note : L<sup>+0.1</sup><sub>-0.2</sub> for E40 and F46

Size Code	φD	L	A	B	C	W	P
E40	5	3.9	5.3	5.3	5.9	0.5 to 0.8	1.4
E61	5	5.8	5.3	5.3	5.9	0.5 to 0.8	1.4
F46	6.3	4.5	6.6	6.6	7.2	0.5 to 0.8	1.9
F61	6.3	5.8	6.6	6.6	7.2	0.5 to 0.8	1.9
F80	6.3	7.7	6.6	6.6	7.2	0.5 to 0.8	1.9
H70	8	6.7	8.3	8.3	9.0	0.7 to 1.1	3.1

## MARKING

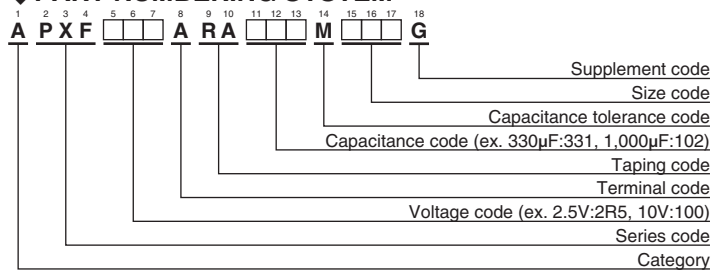
EX) 2.5V390μF





## NPCAP™-PXF Series

### ◆PART NUMBERING SYSTEM



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

### ◆STANDARD RATINGS

WV (V <sub>dc</sub> )	Cap ( $\mu$ F)	Size code	Leakage current ( $\mu$ A max./after 2min.)	ESR (m $\Omega$ max./20°C, 100k to 300kHz)	Rated ripple current (mArms/105°C, 100kHz)	Part No.
2	680	F61	700	12	3,500	APXF2R0ARA681MF61G
2.5	220	E40	700	12	3,300	APXF2R5ARA221ME40G
	330	E61	700	10	3,900	APXF2R5ARA331ME61G
	330	F46	700	12	3,500	APXF2R5ARA331MF46G
	390	E61	700	10	3,900	APXF2R5ARA391ME61G
	390	F61	292	10	3,900	APXF2R5ARA391MF61G
	470	F80	352	9	4,200	APXF2R5ARA471MF80G
	560	F61	700	10	3,900	APXF2R5ARA561MF61G
	560	F80	420	9	4,200	APXF2R5ARA561MF80G
	560	H70	420	10	4,500	APXF2R5ARA561MH70G
4	680	H70	510	10	4,500	APXF2R5ARA681MH70G
	330	F61	396	10	3,900	APXF4R0ARA331MF61G
	390	F80	468	9	4,200	APXF4R0ARA391MF80G
	470	H70	564	10	4,500	APXF4R0ARA471MH70G
6.3	560	H70	672	10	4,500	APXF4R0ARA561MH70G
	150	E40	700	20	2,700	APXF6R3ARA151ME40G
	150	E61	700	12	3,500	APXF6R3ARA151ME61G
	220	E61	700	12	3,500	APXF6R3ARA221ME61G
	220	F61	415	10	3,900	APXF6R3ARA221MF61G
	270	F80	510	9	4,200	APXF6R3ARA271MF80G
	330	F61	700	10	3,900	APXF6R3ARA331MF61G
	330	F80	623	9	4,200	APXF6R3ARA331MF80G
10	330	H70	623	10	4,500	APXF6R3ARA331MH70G
	390	H70	737	10	4,500	APXF6R3ARA391MH70G
	120	E61	240	22	2,600	APXF100ARA121ME61G
	270	F61	540	20	2,800	APXF100ARA271MF61G

### ◆RATED RIPPLE CURRENT MULTIPLIERS

● Frequency Multipliers

Frequency (Hz)	120	1k	10k	50k	100k to 500k
SMD type	0.05	0.30	0.55	0.70	1.00



- Always read "Notes on Use" before using the product in order to enable you to use the product correctly and prevent any faults and accidents from occurring.
- Request the Product Specification on the product of NIPPON CHEMI-CON CORPORATION to refer to it as well as this brochure prior to the order of the products. Some specific notes on use of the ordered product may be described in the specifications.
- The products listed in this catalog are designed and manufactured for general electronics equipment use and are not intended for use in applications that can adversely affect human life; where the malfunction of equipment may cause damage to life or property. In addition, our products are not intended to be used in specific applications that may cause a major social impact. Please consult with us in advance of usage of our products in the following listed applications. ① Aerospace equipment ② Power generation equipment such as thermal power, nuclear power etc. ③ Medical equipment ④ Transport equipment (automobiles, trains, ships, etc.) ⑤ Transportation control equipment ⑥ Disaster prevention / crime prevention equipment ⑦ Highly publicized information processing equipment ⑧ Submarine equipment ⑨ Other applications that are not considered general-purpose applications.
- The circuits described as examples in this catalog and the "delivery specifications" are featured in order to show the operations and usage of our products, however, this fact does not guarantee that the circuits are available to function in your equipment systems. We are not in any case responsible for any failures or damage caused by the use of information contained herein. You should examine our products, of which the characteristics are described in the "delivery specifications" and other documents, and determine whether or not our products suit your requirements according to the specifications of your equipment systems. Therefore, you bear final responsibility regarding the use of our products.  
Please make sure that you take appropriate safety measures such as use of redundant design and malfunction prevention measures in order to prevent fatal accidents and/or fires in the event any of our products malfunction.
- We strongly recommend our customers to purchase Nippon Chemi-Con products only through our official sales channels. We assume no responsibility for any defects or damages caused by using products purchased from outside our official sales channel or of counterfeit goods. In addition, we will ask the customer to pay the investigation cost for products purchased outside our official sales channel.
- We reserve the right to discontinue production and delivery of products. We do not guarantee that all the products included in this catalog will be available in the future.  
The aforementioned does not apply in the case of individual agreements deviating from the foregoing for customer-specific products
- We continually strive to improve the quality and reliability of our products, but in any case that our product does not meet our published specifications, please stop using it promptly and contact us immediately. As for compensation for non-conforming goods delivered by Chemi-Con, we will limit it only to goods found in non-compliance of our published specifications. This may be accomplished by a no cost replacement of non-conforming individual products, a credit of the piece price paid per each individual non-conforming product, or in other ways deemed necessary.  
In addition, we have an established system with enhanced traceability, therefore we will limit the applicable lot items for any potential compensation.

[Part Numbering System](#)

[Part Numbering System \(Appendix\)](#)

[Standardization](#)

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[Environmental Measures](#)

[Technical Note](#)

[Precautions and Guidelines](#)

[Recommended Soldering Conditions](#)

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