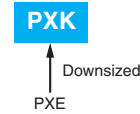


NPCAP™-PXX Series

- Super low ESR, impedance and high heat resistance have been obtained by using conductive polymer as electrolyte.
- Rated voltage range : 2.5 to 16V<sub>dc</sub>, Capacitance range : 100 to 560μF
- Suitable for DC-DC converters, voltage regulators and decoupling applications used to computer motherboards etc.
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- RoHS2 Compliant
- Halogen Free



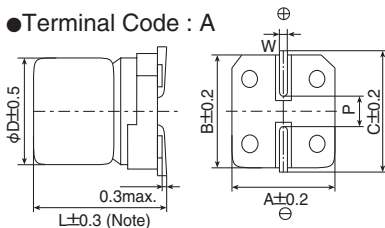
◆ SPECIFICATIONS

Items	Characteristics										
<b>Category</b>	-55 to +105°C										
<b>Temperature Range</b>	-55 to +105°C										
<b>Rated Voltage Range</b>	2.5 to 16V <sub>dc</sub>										
<b>Capacitance Tolerance</b>	±20% (M) (at 20°C, 120Hz)										
<b>Leakage Current</b> *Note	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 (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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Leakage current	≤ The initial specified value										
<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 (F46 : 500hours).										
	<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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Leakage current	≤ The initial specified value										
<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>2.5</td><td>4.0</td><td>6.3</td><td>16</td></tr> <tr><td>Surge voltage (V<sub>dc</sub>)</td><td>2.9</td><td>4.6</td><td>7.2</td><td>18</td></tr> </table>	Rated voltage (V <sub>dc</sub> )	2.5	4.0	6.3	16	Surge voltage (V <sub>dc</sub> )	2.9	4.6	7.2	18
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Leakage current	≤ The initial specified value										
<b>Soldering Heat</b>	The following specifications shall be satisfied when the solder temperature is reduced back to 20°C to measure dip resistance after soldering has been performed under the recommended soldering conditions.										
	<table border="1"> <tr><td>Appearance</td><td>No significant damage</td></tr> <tr><td>Capacitance value</td><td>Within the specified tolerance range</td></tr> <tr><td>D.F. (tan δ)</td><td>≤ The initial specified value</td></tr> <tr><td>ESR</td><td>≤ The initial specified value</td></tr> <tr><td>Leakage current</td><td>≤ The initial specified value (Voltage treatment)</td></tr> </table>	Appearance	No significant damage	Capacitance value	Within the specified tolerance range	D.F. (tan δ)	≤ The initial specified value	ESR	≤ The initial specified value	Leakage current	≤ The initial specified value (Voltage treatment)
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Capacitance value	Within the specified tolerance range										
D.F. (tan δ)	≤ The initial specified value										
ESR	≤ The initial specified value										
Leakage current	≤ The initial specified value (Voltage treatment)										
<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 following voltage treatment.  
Voltage treatment : DC rated voltage are applied to the capacitors for 120 minutes at 105°C.

◆ DIMENSIONS [mm]

● Terminal Code : A

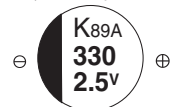


Note : L+0.1/-0.2 for F46

Size Code	φD	L	A	B	C	W	P
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

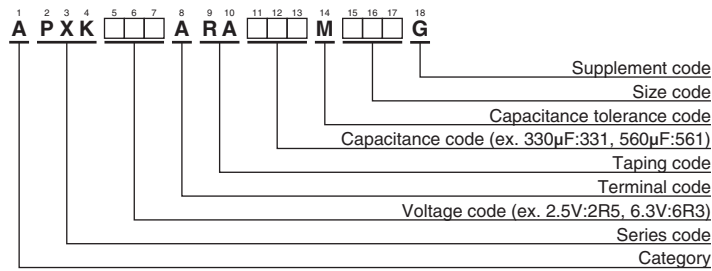
◆ MARKING

EX) 2.5V330μF



NPCAP™-PXX Series

◆PART NUMBERING SYSTEM



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

◆STANDARD RATINGS

WV (V <sub>dc</sub> )	Cap (μF)	Size code	Leakage current (μA max./after 2min.)	ESR (mΩ max./20°C, 100k to 300kHz)	Rated ripple current (mA <sub>rms</sub> /105°C, 100kHz)	Part No.
2.5	220	F46	300	19	2,780	APXK2R5ARA221MF46G
	330	E61	412	16	3,500	APXK2R5ARA331ME61G
	330	F46	700	16	3,500	APXK2R5ARA331MF46G
	560	F61	700	16	3,500	APXK2R5ARA561MF61G
4	180	F46	360	19	2,780	APXK4R0ARA181MF46G
	220	E61	440	17	3,390	APXK4R0ARA221ME61G
	390	F61	780	17	3,390	APXK4R0ARA391MF61G
6.3	150	F46	472	19	2,780	APXK6R3ARA151MF46G
	180	E61	567	17	3,390	APXK6R3ARA181ME61G
	220	F46	700	18	3,200	APXK6R3ARA221MF46G
	330	F61	1,040	17	3,390	APXK6R3ARA331MF61G
16	100	F61	320	24	2,490	APXK160ARA101MF61G

◆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