

NPCAP™-PXA Series

- Super low ESR, impedance and high heat resistance have been obtained by using conductive polymer as electrolyte
- Rated voltage range : 2.5 to 25V_{dc}, case size range : $\phi 4 \times 5.2L$ to $\phi 10 \times 12.2L$
- Suitable for DC-DC converters, voltage regulators and decoupling applications used on computer motherboards etc.
- RoHS Compliant
- Halogen Free

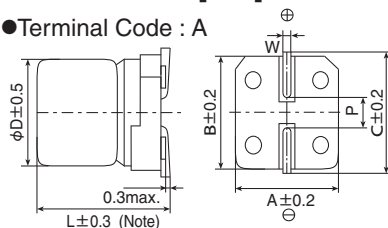
◆ SPECIFICATIONS

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 × 1.15 (Rated voltage 2.5 to 20V _{dc} , 25V _{dc}) / Rated voltage × 1.00 (Rated voltage 23V _{dc}) (at 105°C)										
Leakage Current	Shall not exceed values shown in STANDARD RATINGS. (at 20°C after 2 minutes)										
Dissipation Factor (tanδ)	0.12 max. (at 20°C, 120Hz)										
Low Temperature Characteristics (Max. Impedance Ratio)	$Z(-25^{\circ}\text{C})/Z(+20^{\circ}\text{C}) \leq 1.15$ $Z(-55^{\circ}\text{C})/Z(+20^{\circ}\text{C}) \leq 1.25$ (at 100kHz)										
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 2,000 hours (F46 : 1,000 hours) at 105°C. <table border="1"> <tr> <td>Appearance</td><td>No significant damage</td></tr> <tr> <td>Capacitance change</td><td>$\leq \pm 20\%$ of the initial value</td></tr> <tr> <td>DF (tanδ)</td><td>$\leq 150\%$ of the initial specified value</td></tr> <tr> <td>ESR</td><td>$\leq 150\%$ of the initial specified value</td></tr> <tr> <td>Leakage current</td><td>$\leq$ The initial specified value</td></tr> </table>	Appearance	No significant damage	Capacitance change	$\leq \pm 20\%$ of the initial value	DF (tanδ)	$\leq 150\%$ of the initial specified value	ESR	$\leq 150\%$ of the initial specified value	Leakage current	$\leq$ The initial specified value
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ESR	$\leq 150\%$ of the initial specified value										
Leakage current	$\leq$ The initial specified value										
Bias Humidity	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 : 500 hours). <table border="1"> <tr> <td>Appearance</td><td>No significant damage</td></tr> <tr> <td>Capacitance change</td><td>$\leq \pm 20\%$ of the initial value</td></tr> <tr> <td>DF (tanδ)</td><td>$\leq 150\%$ of the initial specified value</td></tr> <tr> <td>ESR</td><td>$\leq 150\%$ of the initial specified value</td></tr> <tr> <td>Leakage current</td><td>$\leq$ The initial specified value</td></tr> </table>	Appearance	No significant damage	Capacitance change	$\leq \pm 20\%$ of the initial value	DF (tanδ)	$\leq 150\%$ of the initial specified value	ESR	$\leq 150\%$ of the initial specified value	Leakage current	$\leq$ The initial specified value
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ESR	$\leq 150\%$ of the initial specified value										
Leakage current	$\leq$ The initial specified value										
Surge Voltage	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>Appearance</td><td>No significant damage</td></tr> <tr> <td>Capacitance change</td><td>$\leq \pm 20\%$ of the initial value</td></tr> <tr> <td>DF (tanδ)</td><td>$\leq 150\%$ of the initial specified value</td></tr> <tr> <td>ESR</td><td>$\leq 150\%$ of the initial specified value</td></tr> <tr> <td>Leakage current</td><td>$\leq$ The initial specified value</td></tr> </table>	Appearance	No significant damage	Capacitance change	$\leq \pm 20\%$ of the initial value	DF (tanδ)	$\leq 150\%$ of the initial specified value	ESR	$\leq 150\%$ of the initial specified value	Leakage current	$\leq$ The initial specified value
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Leakage current	$\leq$ 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 : A



Note : L+0.1/-0.2 for F46
L±0.5 for HC0 and JC0

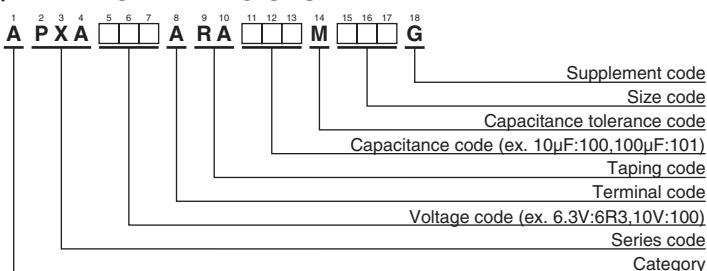
Size code	φD	L	A	B	C	W	P
D55	4	5.2	4.3	4.3	5.1	0.5 to 0.8	1.0
E60	5	5.7	5.3	5.3	5.9	0.5 to 0.8	1.4
F46	6.3	4.5	6.6	6.6	7.2	0.5 to 0.8	1.9
F55	6.3	5.2	6.6	6.6	7.2	0.5 to 0.8	1.9
F60	6.3	5.7	6.6	6.6	7.2	0.5 to 0.8	1.9
H70	8	6.7	8.3	8.3	9.0	0.7 to 1.1	3.1
HC0	8	12.0	8.3	8.3	9.0	0.7 to 1.1	3.1
J80	10	7.7	10.3	10.3	11.0	0.7 to 1.1	4.5
JC0	10	12.2	10.3	10.3	11.0	0.7 to 1.1	4.5

◆ MARKING

EX) 16V39μF



◆ PART NUMBERING SYSTEM



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

◆STANDARD RATINGS

WV (Vdc)	Cap (μF)	Size code	Leakage current (μAmax/ after 2 min.)	ESR (mΩmax/ 20°C, 100k to 300kHz)	Rated ripple current (mA _{rms} /105°C, 100kHz)	Part No.
2.5	220	F55	110	25	2,500	APXA2R5ARA221MF55G
	220	F60	110	25	2,500	APXA2R5ARA221MF60G
	560	H70	280	23	3,100	APXA2R5ARA561MH70G
	680	HC0	340	12	4,770	APXA2R5ARA681MHC0G
	1,000	J80	500	19	4,240	APXA2R5ARA102MJ80G
4	1,500	JC0	750	10	5,500	APXA2R5ARA152MJC0G
	33	D55	66.0	200	740	APXA4R0ARA330MD55G
	100	F55	80.0	26	2,450	APXA4R0ARA101MF55G
	100	F60	80.0	26	2,450	APXA4R0ARA101MF60G
	120	F46	240	38	1,710	APXA4R0ARA121MF46G
	150	E60	120	30	1,490	APXA4R0ARA151ME60G
	150	F55	120	26	2,450	APXA4R0ARA151MF55G
	150	F60	120	26	2,450	APXA4R0ARA151MF60G
	220	H70	176	25	3,020	APXA4R0ARA221MH70G
	330	H70	264	25	3,020	APXA4R0ARA331MH70G
	470	J80	376	20	4,130	APXA4R0ARA471MJ80G
	560	HC0	448	12	4,770	APXA4R0ARA561MHC0G
	680	J80	544	20	4,130	APXA4R0ARA681MJ80G
	820	JC0	656	10	5,500	APXA4R0ARA821MJC0G
	1,200	JC0	960	10	5,500	APXA4R0ARA122MJC0G
6.3	22	D55	69.0	200	740	APXA6R3ARA220MD55G
	47	E60	59.2	35	1,380	APXA6R3ARA470ME60G
	68	F60	85.6	27	2,400	APXA6R3ARA680MF60G
	82	F46	267	40	1,670	APXA6R3ARA820MF46G
	82	F55	103	27	2,400	APXA6R3ARA820MF55G
	82	F60	103	27	2,400	APXA6R3ARA820MF60G
	100	E60	126	35	1,380	APXA6R3ARA101ME60G
	100	F46	315	40	1,670	APXA6R3ARA101MF46G
	100	F55	126	27	2,400	APXA6R3ARA101MF55G
	100	F60	126	27	2,400	APXA6R3ARA101MF60G
	120	F60	151	27	2,400	APXA6R3ARA121MF60G
	150	H70	189	25	3,020	APXA6R3ARA151MH70G
	220	H70	277	25	3,020	APXA6R3ARA221MH70G
	330	J80	416	20	4,130	APXA6R3ARA331MJ80G
	390	HC0	491	12	4,770	APXA6R3ARA391MHC0G
	470	HC0	592	12	4,770	APXA6R3ARA471MHC0G
	470	J80	592	20	4,130	APXA6R3ARA471MJ80G
	680	JC0	857	10	5,500	APXA6R3ARA681MJC0G
	820	JC0	1,030	10	5,500	APXA6R3ARA821MJC0G
WV (Vdc)	Cap (μF)	Size code	Leakage current (μAmax/ after 2 min.)	ESR (mΩmax/ 20°C, 100k to 300kHz)	Rated ripple current (mA _{rms} /105°C, 100kHz)	Part No.
10	4.7	D55	24.0	240	670	APXA100ARA4R7MD55G
	6.8	D55	34.0	240	670	APXA100ARA6R8MD55G
	10	D55	50.0	220	700	APXA100ARA100MD55G
	15	D55	75.0	200	740	APXA100ARA150MD55G
	33	E60	66.0	40	1,270	APXA100ARA330ME60G
	47	E60	94.0	40	1,270	APXA100ARA470ME60G
	47	F46	235	41	1,560	APXA100ARA470MF46G
	47	F60	94.0	31	2,250	APXA100ARA470MF60G
	56	F55	112	31	2,250	APXA100ARA560MF55G
	56	F60	112	31	2,250	APXA100ARA560MF60G
	120	H70	240	27	2,800	APXA100ARA121MH70G
	150	H70	300	27	2,800	APXA100ARA150MH70G
	270	HC0	540	14	4,420	APXA100ARA271MHC0G
	270	J80	540	24	3,770	APXA100ARA271MJ80G
	330	HC0	660	14	4,420	APXA100ARA331MHC0G
16	330	J80	660	24	3,770	APXA100ARA331MJ80G
	470	JC0	940	12	5,300	APXA100ARA471MJC0G
	560	JC0	1,120	12	5,300	APXA100ARA561MJC0G
	3.3	D55	26.0	260	660	APXA160ARA3R3MD55G
	22	E60	70.4	45	1,210	APXA160ARA220ME60G
	22	F46	176	45	1,490	APXA160ARA220MF46G
	33	F60	106	37	2,050	APXA160ARA330MF60G
	39	F55	125	37	2,050	APXA160ARA390MF55G
	39	F60	125	37	2,050	APXA160ARA390MF60G
	82	H70	262	30	2,700	APXA160ARA820MH70G
	150	J80	480	26	3,430	APXA160ARA151MJ80G
	180	HC0	576	16	4,360	APXA160ARA181MHC0G
	180	J80	576	26	3,430	APXA160ARA181MJ80G
	220	JC0	704	14	5,050	APXA160ARA221MJC0G
	330	JC0	1,050	14	5,050	APXA160ARA331MJC0G
20	15	F46	150	57	1,300	APXA200ARA150MF46G
	22	F55	88.0	50	1,650	APXA200ARA220MF55G
	22	F60	88.0	50	1,650	APXA200ARA220MF60G
	39	H70	156	45	2,000	APXA200ARA390MH70G
	47	H70	188	45	2,000	APXA200ARA470MH70G
	82	J80	328	40	2,500	APXA200ARA820MJ80G
	150	JC0	600	20	4,320	APXA200ARA151MJC0G
23	15	F46	172	57	1,300	APXA230ARA150MF46G
	10	F60	125	65	1,500	APXA250ARA100MF60G
25	22	H70	275	50	1,800	APXA250ARA220MH70G
	39	J80	488	45	2,100	APXA250ARA390MJ80G