

**NPCAP™-PXE Series**

- Super low ESR, impedance and high heat resistance have been obtained by using conductive polymer as electrolyte. (ESR and rated ripple current values are improved from PXC series.)
- Rated voltage range : 2.5 to 16V<sub>dc</sub>, Capacitance range : 33 to 1,200μF
- Case size range : φ5×5.8L to φ10×7.7L
- Suitable for DC-DC converters, voltage regulators and decoupling applications used to computer motherboards etc.

**Feature!**

**Pb Free Type**



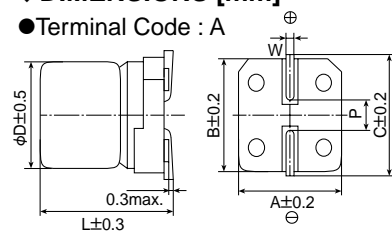
**◆SPECIFICATIONS**

Items	Characteristics										
Category											
Temperature Range	-55 to +105°C										
Rated Voltage Range	2.5 to 16V <sub>dc</sub>										
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)										
Surge Voltage	Rated voltage×1.15V (at 105°C)										
Leakage Current	I=0.2CV (max.) I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V <sub>dc</sub> ) (at 20°C after 2 minutes)										
Dissipation Factor (tanδ)	0.12 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 2000 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>DF (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 value	DF (tanδ)	≤150% of the initial specified value	ESR	≤150% of the initial specified value	Leakage current	≤The initial specified value
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Capacitance change	≤±20% of the initial value										
DF (tanδ)	≤150% of the initial specified value										
ESR	≤150% of the initial specified value										
Leakage current	≤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 500 hours.										
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DF (tanδ)	≤150% of the initial specified value										
ESR	≤150% of the initial specified value										
Leakage current	≤The initial specified value										
Surge Voltage	The capacitors shall be subjected to 1000 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.										
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Capacitance change	≤±20% of the initial value										
DF (tanδ)	≤150% of the initial specified value										
ESR	≤150% of the initial specified value										
Leakage current	≤The initial specified value										
Failure Rate	1% per 1000 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



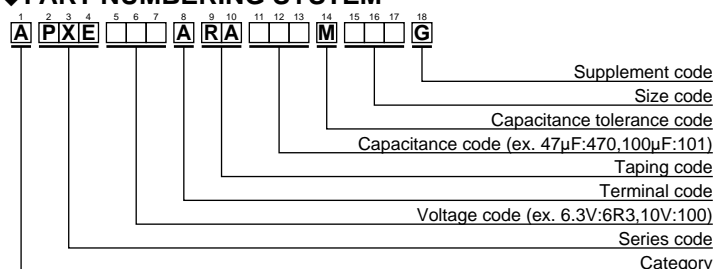
Size Code	φD	L	A	B	C	W	P
E61	5	5.8	5.3	5.3	5.9	0.5 to 0.8	1.4
F61	6.3	5.8	6.6	6.6	7.2	0.5 to 0.8	1.9
F80	6.3	7.7	6.6	6.6	7.2	0.5 to 0.8	1.9
H70	8	6.7	8.3	8.3	9.0	0.7 to 1.1	3.1
H80	8	7.7	8.3	8.3	9.0	0.7 to 1.1	3.1
J80	10	7.7	10.3	10.3	11.0	0.7 to 1.1	4.5

**◆MARKING**

EX) 2.5V390μF



**◆PART NUMBERING SYSTEM**



Specifications in this bulletin are subject to change without notice. Please ask us for technical specifications before purchase and use.

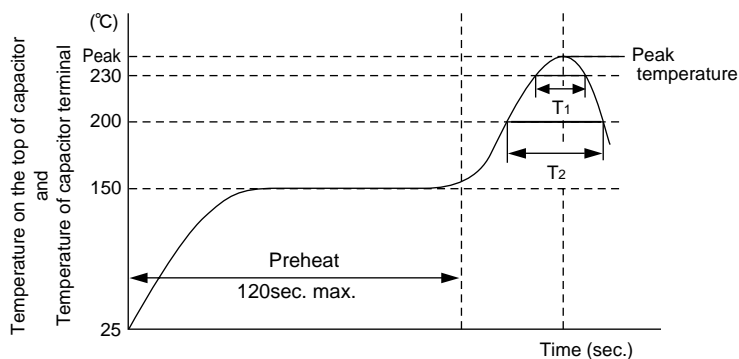
◆STANDARD RATINGS

WV (Vdc)	Cap (μF)	Size code	ESR (mΩmax/20°C, 100kHz)	Rated ripple current (mA rms/100k to 300kHz) -55 to +105°C	Part No.	WV (Vdc)	Cap (μF)	Size code	ESR (mΩmax/20°C, 100kHz)	Rated ripple current (mA rms/100k to 300kHz) -55 to +105°C	Part No.	
2.5	180	E61	21	2670	APXE2R5ARA181ME61G	6.3	330	H70	14	3950	APXE6R3ARA331MH70G	
	390	F61	15	3160	APXE2R5ARA391MF61G		390	H70	14	3950	APXE6R3ARA391MH70G	
	470	F80	13	3600	APXE2R5ARA471MF80G		470	H80	13	3950	APXE6R3ARA471MH80G	
	560	F80	13	3600	APXE2R5ARA561MF80G		820	J80	14	4300	APXE6R3ARA821MJ80G	
	560	H70	13	4100	APXE2R5ARA561MH70G		10	47	E61	28	2310	APXE100ARA470ME61G
	680	H70	13	4100	APXE2R5ARA681MH70G			56	E61	28	2310	APXE100ARA560ME61G
	820	H80	12	4260	APXE2R5ARA821MH80G			68	E61	28	2310	APXE100ARA680ME61G
	1000	H80	12	4260	APXE2R5ARA102MH80G			120	F61	25	2530	APXE100ARA121MF61G
	1200	J80	13	4450	APXE2R5ARA122MJ80G			150	F80	21	2880	APXE100ARA151MF80G
4	100	E61	22	2610	APXE4R0ARA101ME61G	220		H70	21	3220	APXE100ARA221MH70G	
	150	E61	22	2610	APXE4R0ARA151ME61G	270		H70	21	3220	APXE100ARA271MH70G	
	270	F61	15	3160	APXE4R0ARA271MF61G	330		H80	19	3390	APXE100ARA331MH80G	
	330	F61	15	3160	APXE4R0ARA331MF61G	470	J80	19	3800	APXE100ARA471MJ80G		
	390	F80	14	3470	APXE4R0ARA391MF80G	16	33	E61	35	2070	APXE160ARA330ME61G	
	470	H70	14	3950	APXE4R0ARA471MH70G		39	E61	35	2070	APXE160ARA390ME61G	
	560	H70	14	3950	APXE4R0ARA561MH70G		68	F61	28	2390	APXE160ARA680MF61G	
	680	H80	13	3950	APXE4R0ARA681MH80G		82	F80	24	2700	APXE160ARA820MF80G	
	1000	J80	14	4300	APXE4R0ARA102MJ80G		100	F80	24	2700	APXE160ARA101MF80G	
6.3	100	E61	24	2500	APXE6R3ARA101ME61G		100	H70	24	3010	APXE160ARA101MH70G	
	120	E61	24	2500	APXE6R3ARA121ME61G		120	H70	24	3010	APXE160ARA121MH70G	
	220	F61	15	3160	APXE6R3ARA221MF61G		150	H80	22	3150	APXE160ARA151MH80G	
	270	F80	14	3470	APXE6R3ARA271MF80G	220	J80	22	3450	APXE160ARA221MJ80G		
	330	F80	14	3470	APXE6R3ARA331MF80G							

◆Recommended Reflow Soldering Conditions

●Reflow Profile

Method : Air or Infrared Reflow

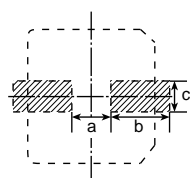


●Conditions

[The times of reflow soldering : once]  
 Peak temperature : 250°C max.  
 Max. period of time over 230°C(T1) : 40 sec.max.  
 Max. period of time over 200°C(T2) : 60 sec.max.  
 Preheat : 150°Cmax., 120 sec. max.

[The times of reflow soldering : twice]  
 Peak temperature : 250°C max.  
 Max. period of time over 230°C(T1) : 30 sec.max.  
 Max. period of time over 200°C(T2) : 50 sec.max.  
 Preheat : 150°Cmax., 120 sec. max.

◆Recommended Solder Land on PC Board



▨ Solder land on PC board

Size code	a	b	c
E61	1.4	3.0	1.6
F61, F80	1.9	3.5	1.6
H70, H80	3.1	4.2	2.2
J80	4.5	4.4	2.2

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