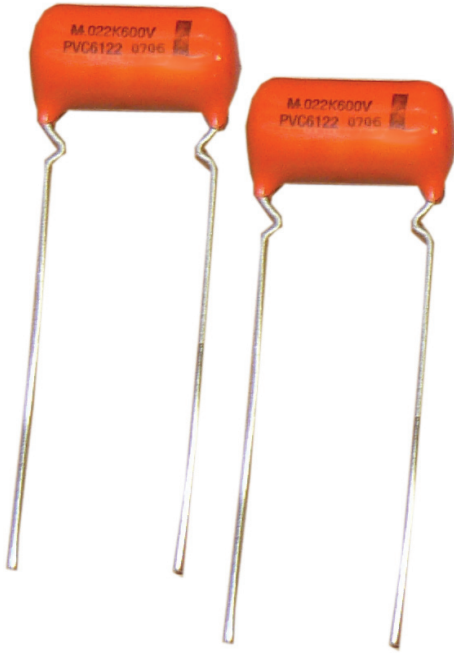


Type PVC Polyester and Polypropylene Film/Foil Capacitors

Polyester Film/Foil (100 V– 1000 V) and Polypropylene Film/Foil (1200 V - 2000 V)



The Type PVC is a sturdy film and extended foil construction ideal for bypass and coupling applications. Extended foil construction is as good as it gets for low DF and high current applications. The PVC is encapsulated in a rugged, flame retardant, epoxy coating with the leads crimped to provide secure seating on printed circuit boards.

Highlights

- ♦ RoHS Compliant
- ♦ Rugged epoxy case material meets UL94V0
- ♦ Film/foil polyester 100 – 1000 Vdc
- ♦ Film/foil polypropylene - 1200 Vdc to 2000 Vdc
- ♦ Non-inductively wound
- ♦ Non-polar
- ♦ Crimped leads for secure PC board insertion
- ♦ Lead material: tinned copper clad steel

Specifications

Capacitance Range: 0.001 μ F to 1.0 μ F

Capacitance Tolerance: $\pm 10\%$

Voltage Range: Polyester: 100 Vdc to 1000 Vdc (70 Vac – 200 Vac 50/60 Hz)

Polypropylene: 1200 Vdc to 2000 Vdc (475 Vac – 500 Vac 50/60 Hz)

Operating Temperature Range: Polyester: -55°C to $+125^{\circ}\text{C}$

Polypropylene: -55°C to $+105^{\circ}\text{C}$

(Full rated voltage up to 85°C . Derate linearly to 50% rated voltage at max temperature)

Insulation Resistance (IR): Polyester: 100,000 $\text{M}\Omega$ for $\leq 0.25 \mu\text{F}$, 25,000 $\text{M}\Omega \cdot \mu\text{F}$ for $\geq 0.25 \mu\text{F}$

Polypropylene: 400,000 $\text{M}\Omega$ for $\leq 0.50 \mu\text{F}$, 200,000 $\text{M}\Omega \cdot \mu\text{F}$ for $\geq 0.50 \mu\text{F}$

After 2 minutes at rated voltage or 500V whichever is less. $+25^{\circ}\text{C}$

Dissipation Factor (DF): 0.75% max for $<1200 \text{ V}$, 0.1% max for $\geq 1200 \text{ V}$. $+25^{\circ}\text{C}$

Dielectric Withstand Voltage: 250% rated voltage for $<1000 \text{ V}$, 200% rated voltage for $\geq 1000 \text{ V}$. 5 seconds, $+25^{\circ}\text{C}$

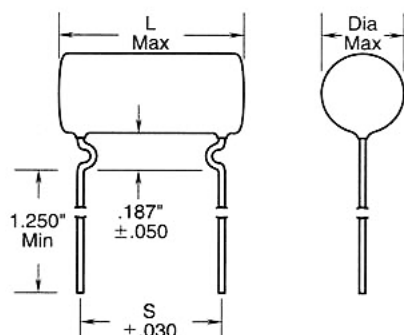
Life Test: 500 hours at $+85^{\circ}\text{C}$, 1.5 times rated DC voltage



Complies with the EU Directive 2002/95/EC requirement restricting the use of Lead (Pb), Mercury (Hg), Cadmium (Cd), Hexavalent chromium (Cr(VI)), PolyBrominated Biphenyls (PBB) and PolyBrominated Diphenyl Ethers (PBDE).

Type PVC Polyester and Polypropylene Film/Foil Capacitors

Outline Drawing



Lead Pull Test

Capacitor leads shall withstand a steady pull of 5 pounds applied radially to the capacitor body for 1 minute.

Lead Bend Test

Capacitor leads shall be bent without breakage below the lead crimp, first 90° in one direction then back to the original position and then 90° in the opposite direction.

Ratings

Catalog Part Number	Cap (μF)	Inches				Millimeters			
		L Max	Dia Max	S Lead Spacing	∅d	L Max	Dia Max	S Lead Spacing	∅d
100 Vdc / 70 Vac									
PVC1118	0.018	0.7	0.33	0.500	0.032	17.8	8.4	12.7	0.8
PVC1122	0.022	0.7	0.35	0.500	0.032	17.8	8.9	12.7	0.8
PVC1127	0.027	0.7	0.35	0.500	0.032	17.8	8.9	12.7	0.8
PVC1133	0.033	0.7	0.35	0.500	0.032	17.8	8.9	12.7	0.8
PVC114	0.040	0.7	0.35	0.500	0.032	17.8	8.9	12.7	0.8
PVC1147	0.047	0.7	0.35	0.500	0.032	17.8	8.9	12.7	0.8
PVC1156	0.056	0.7	0.38	0.500	0.032	17.8	9.7	12.7	0.8
PVC1168	0.068	0.7	0.38	0.500	0.032	17.8	9.7	12.7	0.8
PVC1182	0.082	0.9	0.40	0.688	0.032	22.9	10.2	17.5	0.8
PVC101	0.10	0.9	0.40	0.688	0.032	22.9	10.2	17.5	0.8
PVC1015	0.15	0.9	0.45	0.688	0.032	22.9	11.4	17.5	0.8
PVC1022	0.22	1.2	0.45	0.969	0.032	30.5	11.4	24.6	0.8
PVC1025	0.25	1.2	0.50	0.969	0.032	30.5	12.7	24.6	0.8
PVC1033	0.33	1.2	0.50	0.969	0.032	30.5	12.7	24.6	0.8
PVC1039	0.39	1.6	0.50	1.344	0.032	40.6	12.7	34.1	0.8
PVC1047	0.47	1.6	0.50	1.344	0.032	40.6	12.7	34.1	0.8
PVC105	0.50	1.6	0.60	1.344	0.032	40.6	15.2	34.1	0.8
PVC1056	0.56	1.6	0.60	1.344	0.032	40.6	15.2	34.1	0.8
PVC1068	0.68	1.6	0.60	1.344	0.032	40.6	15.2	34.1	0.8
PVC1082	0.82	1.6	0.65	1.344	0.032	40.6	16.5	34.1	0.8
PVC11	1.00	1.6	0.70	1.344	0.032	40.6	17.8	34.1	0.8
200 Vdc / 140 Vac									
PVC211	0.010	0.7	0.33	0.500	0.032	17.8	8.4	12.7	0.8
PVC2115	0.015	0.7	0.33	0.500	0.032	17.8	8.4	12.7	0.8
PVC2118	0.018	0.7	0.33	0.500	0.032	17.8	8.4	12.7	0.8
PVC212	0.020	0.7	0.33	0.500	0.032	17.8	8.4	12.7	0.8
PVC2122	0.022	0.7	0.33	0.500	0.032	17.8	8.4	12.7	0.8
PVC2133	0.033	0.9	0.38	0.688	0.032	22.9	9.7	17.5	0.8
PVC2139	0.039	0.9	0.38	0.688	0.032	22.9	9.7	17.5	0.8
PVC214	0.040	0.9	0.38	0.688	0.032	22.9	9.7	17.5	0.8
PVC2147	0.047	0.9	0.38	0.688	0.032	22.9	9.7	17.5	0.8
PVC215	0.050	0.9	0.38	0.688	0.032	22.9	9.7	17.5	0.8
PVC2156	0.056	1.2	0.38	0.969	0.032	30.5	9.7	24.6	0.8

Type PVC Polyester and Polypropylene Film/Foil Capacitors

Catalog Part Number	Cap (µF)	Inches				Millimeters			
		L Max	Dia Max	S Lead Spacing	∅d	L Max	Dia Max	S Lead Spacing	∅d
200 Vdc / 140 Vac									
PVC2168	0.068	1.2	0.38	0.969	0.032	30.5	9.7	24.6	0.8
PVC2182	0.082	1.2	0.40	0.969	0.032	30.5	10.2	24.6	0.8
PVC201	0.10	1.2	0.40	0.969	0.032	30.5	10.2	24.6	0.8
PVC2015	0.15	1.2	0.45	0.969	0.032	30.5	11.4	24.6	0.8
PVC2022	0.22	1.2	0.50	0.969	0.032	30.5	12.7	24.6	0.8
PVC2025	0.25	1.2	0.50	0.969	0.032	30.5	12.7	24.6	0.8
PVC2027	0.27	1.6	0.47	1.344	0.032	40.6	11.9	34.1	0.8
PVC2033	0.33	1.6	0.47	1.344	0.032	40.6	11.9	34.1	0.8
PVC2047	0.47	1.6	0.56	1.344	0.032	40.6	14.2	34.1	0.8
PVC205	0.50	1.6	0.56	1.344	0.032	40.6	14.2	34.1	0.8
400 Vdc / 200 Vac									
PVC421	0.0010	0.7	0.30	0.500	0.032	17.8	7.6	12.7	0.8
PVC4222	0.0022	0.7	0.30	0.500	0.032	17.8	7.6	12.7	0.8
PVC4233	0.0033	0.7	0.30	0.500	0.032	17.8	7.6	12.7	0.8
PVC4247	0.0047	0.7	0.30	0.500	0.032	17.8	7.6	12.7	0.8
PVC4268	0.0068	0.7	0.33	0.500	0.032	17.8	8.4	12.7	0.8
PVC411	0.010	0.7	0.35	0.500	0.032	17.8	8.9	12.7	0.8
PVC412	0.020	0.9	0.39	0.688	0.032	22.9	9.9	17.5	0.8
PVC4133	0.033	0.9	0.40	0.688	0.032	22.9	10.2	17.5	0.8
PVC4147	0.047	1.2	0.40	0.969	0.032	30.5	10.2	24.6	0.8
PVC415	0.050	1.2	0.45	0.969	0.032	30.5	11.4	24.6	0.8
PVC4156	0.056	1.2	0.45	0.969	0.032	30.5	11.4	24.6	0.8
PVC4168	0.068	1.2	0.45	0.969	0.032	30.5	11.4	24.6	0.8
PVC4182	0.082	1.2	0.52	0.969	0.032	30.5	13.2	24.6	0.8
PVC401	0.10	1.2	0.53	0.969	0.032	30.5	13.5	24.6	0.8
PVC4015	0.15	1.2	0.57	0.969	0.032	30.5	14.5	24.6	0.8
PVC4018	0.18	1.6	0.60	1.344	0.032	40.6	15.2	34.1	0.8
PVC4022	0.22	1.6	0.60	1.344	0.032	40.6	15.2	34.1	0.8
PVC4025	0.25	1.6	0.65	1.344	0.032	40.6	16.5	34.1	0.8
PVC4033	0.33	1.6	0.65	1.344	0.032	40.6	16.5	34.1	0.8
PVC4039	0.39	1.6	0.72	1.344	0.032	40.6	18.3	34.1	0.8
PVC4047	0.47	1.6	0.80	1.344	0.032	40.6	20.3	34.1	0.8
600 Vdc / 200 Vac									
PVC621	0.0010	0.7	0.30	0.500	0.032	17.8	7.6	12.7	0.8
PVC6212	0.0012	0.7	0.33	0.500	0.032	17.8	8.4	12.7	0.8
PVC6215	0.0015	0.7	0.33	0.500	0.032	17.8	8.4	12.7	0.8
PVC6218	0.0018	0.7	0.33	0.500	0.032	17.8	8.4	12.7	0.8
PVC622	0.0020	0.7	0.33	0.500	0.032	17.8	8.4	12.7	0.8
PVC6222	0.0022	0.7	0.33	0.500	0.032	17.8	8.4	12.7	0.8
PVC6225	0.0025	0.7	0.34	0.500	0.032	17.8	8.6	12.7	0.8
PVC6227	0.0027	0.7	0.35	0.500	0.032	17.8	8.9	12.7	0.8
PVC623	0.0030	0.7	0.35	0.500	0.032	17.8	8.9	12.7	0.8
PVC6233	0.0033	0.7	0.35	0.500	0.032	17.8	8.9	12.7	0.8
PVC6239	0.0039	0.7	0.38	0.500	0.032	17.8	9.7	12.7	0.8
PVC624	0.0040	0.7	0.38	0.500	0.032	17.8	9.7	12.7	0.8
PVC6247	0.0047	0.7	0.38	0.500	0.032	17.8	9.7	12.7	0.8
PVC625	0.0050	0.7	0.38	0.500	0.032	17.8	9.7	12.7	0.8
PVC6256	0.0056	0.7	0.40	0.500	0.032	17.8	10.2	12.7	0.8

Type PVC Polyester and Polypropylene Film/Foil Capacitors

Catalog Part Number	Cap (μF)	Inches				Millimeters			
		L Max	Dia Max	S Lead Spacing	∅d	L Max	Dia Max	S Lead Spacing	∅d
600 Vdc / 200 Vac									
PVC626	0.0060	0.7	0.40	0.500	0.032	17.8	10.2	12.7	0.8
PVC6268	0.0068	0.7	0.40	0.500	0.032	17.8	10.2	12.7	0.8
PVC6275	0.0075	0.7	0.40	0.500	0.032	17.8	10.2	12.7	0.8
PVC628	0.0080	0.9	0.40	0.688	0.032	22.9	10.2	17.5	0.8
PVC6282	0.0082	0.9	0.40	0.688	0.032	22.9	10.2	17.5	0.8
PVC611	0.010	0.9	0.40	0.688	0.032	22.9	10.2	17.5	0.8
PVC6112	0.012	0.9	0.40	0.688	0.032	22.9	10.2	17.5	0.8
PVC6115	0.015	0.9	0.40	0.688	0.032	22.9	10.2	17.5	0.8
PVC6118	0.018	0.9	0.45	0.688	0.032	22.9	11.4	17.5	0.8
PVC612	0.020	0.9	0.45	0.688	0.032	22.9	11.4	17.5	0.8
PVC6122	0.022	0.9	0.45	0.688	0.032	22.9	11.4	17.5	0.8
PVC6125	0.025	0.9	0.45	0.688	0.032	22.9	11.4	17.5	0.8
PVC6127	0.027	1.2	0.45	0.969	0.032	30.5	11.4	24.6	0.8
PVC613	0.030	1.2	0.45	0.969	0.032	30.5	11.4	24.6	0.8
PVC6133	0.033	1.2	0.45	0.969	0.032	30.5	11.4	24.6	0.8
PVC6139	0.039	1.2	0.56	0.969	0.032	30.5	14.2	24.6	0.8
PVC614	0.040	1.2	0.56	0.969	0.032	30.5	14.2	24.6	0.8
PVC6147	0.047	1.2	0.56	0.969	0.032	30.5	14.2	24.6	0.8
PVC615	0.050	1.2	0.56	0.969	0.032	30.5	14.2	24.6	0.8
PVC6156	0.056	1.2	0.60	0.969	0.032	30.5	15.2	24.6	0.8
PVC6168	0.068	1.2	0.60	0.969	0.032	30.5	15.2	24.6	0.8
PVC6182	0.082	1.2	0.65	0.969	0.032	30.5	16.5	24.6	0.8
PVC601	0.10	1.2	0.65	0.969	0.032	30.5	16.5	24.6	0.8
PVC6012	0.12	1.6	0.70	1.344	0.032	40.6	17.8	34.1	0.8
PVC6015	0.15	1.6	0.70	1.344	0.032	40.6	17.8	34.1	0.8
PVC6018	0.18	1.6	0.80	1.344	0.032	40.6	20.3	34.1	0.8
PVC602	0.20	1.6	0.80	1.344	0.032	40.6	20.3	34.1	0.8
PVC6022	0.22	1.6	0.80	1.344	0.032	40.6	20.3	34.1	0.8
PVC6025	0.25	1.6	0.80	1.344	0.032	40.6	20.3	34.1	0.8
PVC6033	0.33	1.81	0.89	1.531	0.032	46.0	22.6	38.9	0.8
1000 Vdc / 200 Vac									
PVC1021	0.0010	0.7	0.33	0.500	0.032	17.8	8.4	12.7	0.8
PVC10215	0.0015	0.7	0.33	0.500	0.032	17.8	8.4	12.7	0.8
PVC10218	0.0018	0.7	0.35	0.500	0.032	17.8	8.9	12.7	0.8
PVC10222	0.0022	0.7	0.35	0.500	0.032	17.8	8.9	12.7	0.8
PVC10233	0.0033	0.9	0.35	0.688	0.032	22.9	8.9	17.5	0.8
PVC10247	0.0047	0.9	0.40	0.688	0.032	22.9	10.2	17.5	0.8
PVC10256	0.0056	0.9	0.43	0.688	0.032	22.9	10.9	17.5	0.8
PVC10268	0.0068	0.9	0.43	0.688	0.032	22.9	10.9	17.5	0.8
PVC10282	0.0082	0.9	0.48	0.688	0.032	22.9	12.2	17.5	0.8
PVC1011	0.010	0.9	0.48	0.688	0.032	22.9	12.2	17.5	0.8
PVC10115	0.015	1.2	0.48	0.969	0.032	30.5	12.2	24.6	0.8
PVC10118	0.018	1.2	0.58	0.969	0.032	30.5	14.7	24.6	0.8
PVC10122	0.022	1.2	0.58	0.969	0.032	30.5	14.7	24.6	0.8
PVC10127	0.027	1.2	0.65	0.969	0.032	30.5	16.5	24.6	0.8
PVC10133	0.033	1.2	0.65	0.969	0.032	30.5	16.5	24.6	0.8

Type PVC Polyester and Polypropylene Film/Foil Capacitors

Catalog Part Number	Cap (μF)	Inches				Millimeters			
		L Max	Dia Max	S Lead Spacing	Ød	L Max	Dia Max	S Lead Spacing	Ød
1000 Vdc / 200 Vac									
PVC10139	0.039	1.6	0.65	1.344	0.032	40.6	16.5	34.1	0.8
PVC10147	0.047	1.6	0.65	1.344	0.032	40.6	16.5	34.1	0.8
PVC10156	0.056	1.6	0.75	1.344	0.032	40.6	19.1	34.1	0.8
PVC10168	0.068	1.6	0.75	1.344	0.032	40.6	19.1	34.1	0.8
PVC10182	0.082	1.6	0.85	1.344	0.032	40.6	21.6	34.1	0.8
PVC10010	0.100	1.6	0.85	1.344	0.032	40.6	21.6	34.1	0.8
1200 Vdc / 475 Vac									
PVC1221	0.0010	1.25	0.42	0.969	0.032	31.8	10.7	24.6	0.8
PVC12212	0.0012	1.25	0.42	0.969	0.032	31.8	10.7	24.6	0.8
PVC12215	0.0015	1.25	0.42	0.969	0.032	31.8	10.7	24.6	0.8
PVC12218	0.0018	1.25	0.42	0.969	0.032	31.8	10.7	24.6	0.8
PVC12222	0.0022	1.25	0.42	0.969	0.032	31.8	10.7	24.6	0.8
PVC12227	0.0027	1.25	0.42	0.969	0.032	31.8	10.7	24.6	0.8
PVC12233	0.0033	1.25	0.42	0.969	0.032	31.8	10.7	24.6	0.8
PVC12239	0.0039	1.25	0.42	0.969	0.032	31.8	10.7	24.6	0.8
PVC12247	0.0047	1.25	0.42	0.969	0.032	31.8	10.7	24.6	0.8
PVC12256	0.0056	1.25	0.44	0.969	0.032	31.8	11.2	24.6	0.8
PVC12268	0.0068	1.25	0.47	0.969	0.032	31.8	11.9	24.6	0.8
PVC12282	0.0082	1.25	0.50	0.969	0.032	31.8	12.7	24.6	0.8
PVC1211	0.010	1.25	0.53	0.969	0.032	31.8	13.5	24.6	0.8
PVC12112	0.012	1.25	0.57	0.969	0.032	31.8	14.5	24.6	0.8
PVC12115	0.015	1.25	0.61	0.969	0.032	31.8	15.5	24.6	0.8
PVC12118	0.018	1.65	0.56	1.344	0.032	41.9	14.2	34.1	0.8
PVC12122	0.022	1.65	0.60	1.344	0.032	41.9	15.2	34.1	0.8
PVC12127	0.027	1.65	0.65	1.344	0.032	41.9	16.5	34.1	0.8
PVC12133	0.033	1.65	0.70	1.344	0.032	41.9	17.8	34.1	0.8
PVC12139	0.039	1.65	0.74	1.344	0.032	41.9	18.8	34.1	0.8
PVC12147	0.047	1.65	0.80	1.344	0.032	41.9	20.3	34.1	0.8
1600 Vdc / 475 Vac									
PVC1621	0.0010	1.25	0.42	0.969	0.032	31.8	10.7	24.6	0.8
PVC16215	0.0015	1.25	0.42	0.969	0.032	31.8	10.7	24.6	0.8
PVC16222	0.0022	1.25	0.42	0.969	0.032	31.8	10.7	24.6	0.8
PVC16227	0.0027	1.25	0.42	0.969	0.032	31.8	10.7	24.6	0.8
PVC1623	0.0030	1.25	0.42	0.969	0.032	31.8	10.7	24.6	0.8
PVC16233	0.0033	1.25	0.42	0.969	0.032	31.8	10.7	24.6	0.8
PVC1624	0.0040	1.25	0.42	0.969	0.032	31.8	10.7	24.6	0.8
PVC16247	0.0047	1.25	0.42	0.969	0.032	31.8	10.7	24.6	0.8
PVC1625	0.0050	1.25	0.42	0.969	0.032	31.8	10.7	24.6	0.8
PVC1626	0.0060	1.25	0.44	0.969	0.032	31.8	11.2	24.6	0.8
PVC16268	0.0068	1.25	0.47	0.969	0.032	31.8	11.9	24.6	0.8
PVC1627	0.0070	1.25	0.50	0.969	0.032	31.8	12.7	24.6	0.8
PVC16275	0.0075	1.25	0.50	0.969	0.032	31.8	12.7	24.6	0.8
PVC1628	0.0080	1.25	0.50	0.969	0.032	31.8	12.7	24.6	0.8
PVC16282	0.0082	1.25	0.50	0.969	0.032	31.8	12.7	24.6	0.8

Type PVC Polyester and Polypropylene Film/Foil Capacitors

Catalog Part Number	Cap (μF)	Inches				Millimeters			
		L Max	Dia Max	S Lead Spacing	∅d	L Max	Dia Max	S Lead Spacing	∅d
1600 Vdc / 475 Vac									
PVC1611	0.010	1.25	0.53	0.969	0.032	31.8	13.5	24.6	0.8
PVC16115	0.015	1.25	0.61	1.344	0.032	33.8	15.5	34.1	0.8
PVC1612	0.020	1.65	0.60	1.344	0.032	41.9	15.2	34.1	0.8
PVC16122	0.022	1.65	0.60	1.344	0.032	41.9	15.2	34.1	0.8
PVC16133	0.033	1.65	0.70	1.344	0.032	41.9	17.8	34.1	0.8
PVC16147	0.047	1.65	0.80	1.344	0.032	41.9	20.3	34.1	0.8
PVC1615	0.050	1.65	0.85	1.344	0.032	41.9	21.6	34.1	0.8
2000 Vdc / 500 Vac									
PVC2X21	0.0010	1.25	0.33	0.969	0.032	31.8	8.4	24.6	0.8
PVC2X212	0.0012	1.25	0.34	0.969	0.032	31.8	8.6	24.6	0.8
PVC2X215	0.0015	1.25	0.36	0.969	0.032	31.8	9.1	24.6	0.8
PVC2X218	0.0018	1.25	0.38	0.969	0.032	31.8	9.7	24.6	0.8
PVC2X222	0.0022	1.25	0.39	0.969	0.032	31.8	9.9	24.6	0.8
PVC2X227	0.0027	1.25	0.42	0.969	0.032	31.8	10.7	24.6	0.8
PVC2X233	0.0033	1.25	0.44	0.969	0.032	31.8	11.2	24.6	0.8
PVC2X239	0.0039	1.25	0.47	0.969	0.032	31.8	11.9	24.6	0.8
PVC2X247	0.0047	1.25	0.5	0.969	0.032	31.8	12.7	24.6	0.8
PVC2X256	0.0056	1.25	0.53	0.969	0.032	31.8	13.5	24.6	0.8
PVC2X268	0.0068	1.25	0.56	0.969	0.032	31.8	14.2	24.6	0.8
PVC2X282	0.0082	1.25	0.60	0.969	0.032	31.8	15.2	24.6	0.8
PVC2X11	0.0100	1.25	0.65	0.969	0.032	31.8	16.5	24.6	0.8
PVC2X112	0.0120	1.65	0.58	1.344	0.032	41.9	14.7	34.1	0.8
PVC2X115	0.0150	1.65	0.63	1.344	0.032	41.9	16.0	34.1	0.8
PVC2X118	0.018	1.65	0.67	1.344	0.032	41.9	17.0	34.1	0.8
PVC2X122	0.022	1.65	0.73	1.344	0.032	41.9	18.5	34.1	0.8
PVC2X127	0.027	1.65	0.78	1.344	0.032	41.9	19.8	34.1	0.8
PVC2X133	0.033	1.65	0.85	1.344	0.032	41.9	21.6	34.1	0.8

Part Numbering System

PVC	4	01
Series	Voltage	Capacitance
PVC	1 = 100 V	21 = .001 μ F
	2 = 200V	11 = .01 μ F
	4 = 400V	01 = .1 μ F
	6 = 600V	1 = 1.0 μ F
	10 = 1000 V	
	12 = 1200 V	
	16 = 1600 V	
	2X = 2000 V	