

Film Capacitors High Frequency, Wrap-and-Fill, Metallized Polypropylene



FEATURES

- Excellent AC performance
- Low power dissipation
- Low dielectric absorption
- Close tolerance
- High stability
- Compliant to RoHS directive 2002/95/EC


RoHS
COMPLIANT

PERFORMANCE CHARACTERISTICS

Operating Temperature: - 55 °C to + 85 °C

Voltage Derating: At + 105 °C, 50 % of + 85 °C rating

ESR: 20 kHz to 100 kHz

Capacitance Range: 0.022 μF to 10.0 μF

Capacitance Tolerance: ± 20 %, ± 10 %, ± 5 %

DC Voltage Rating: 100 WVDC to 630 WVDC

AC Voltage Rating: 70 V_{RMS} to 275 V_{RMS} , 60 Hz to 400 Hz

Dissipation Factor: 0.1 % maximum

Measure all units at 1000 Hz, at + 25 °C

DC Voltage Test: 200 % of rated voltage for 2 min

AC Voltage Test: 130 % of rated RMS voltage at 60 Hz for 15 s

Insulation Resistance: Measured at 100 WVDC after a 2 min charge.

At + 25 °C: 200 000 MΩ/μF or 400 000 MΩ minimum

At + 85 °C: 10 000 MΩ/μF or 20 000 MΩ minimum

At + 105 °C: 1000 MΩ/μF or 2000 MΩ minimum

Vibration Test (Condition B): No mechanical damage, short, open or intermittent circuits.

DC Life Test: 150 % of rated voltage for 1000 h at + 85 °C. No open or short circuits. No visible damage.

Maximum Δ CAP ± 1.0 %

Minimum IR = 50 % of initial limit

Maximum DF = 0.12 %

Humidity Test: 95 % relative humidity at + 40 °C for 250 h. No visible damage.

Maximum Δ CAP ± 1.0 %

Minimum IR = 20 % of initial limit

Maximum DF = 0.12 %

AC Life Test: 110 % of rated RMS voltage at 60 Hz for 1000 h at + 85 °C.

Maximum Δ CAP ± 5 %

Minimum IR = 50 % of initial limit

Maximum DF = 0.12 %

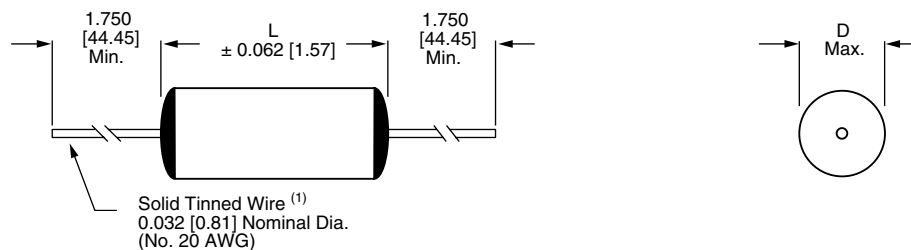
PHYSICAL CHARACTERISTICS

Lead Pull: 5 lb (2.3 kg) for one min. No physical damage.

Lead Bend: After three complete consecutive bends. No damage.

Marking: Sprague® trademark, type or part number, capacitance and voltage.

DIMENSIONS in inches [millimeters]



Note

(1) Leads to be within 0.062" [1.57 mm] of center line at egress but not less than 0.031" [0.79 mm] from edge.

STANDARD RATINGS in inches [millimeters]											
CAPACITANCE (μF)	PART NUMBER (1)	CASE SIZE		ESR (mΩ) 20 kHz to 100 kHz	MAXIMUM RIPPLE CURRENT (A _{RMS}) at 20 kHz CASE TEMPERATURE (2) at						
		D	L		+ 25 °C	+ 35 °C	+ 45 °C	+ 55 °C	+ 65 °C	+ 75 °C	+ 85 °C
100 WVDC											
0.22	V-730P224X9100	0.275 [7.0]	0.75 [19.0]	-	2.3	2.3	2.3	2.3	2.3	1.8	1.0
0.27	V-730P274X9100	0.298 [7.6]	0.75 [19.0]	-	2.6	2.6	2.6	2.6	2.6	1.9	1.1
0.33	V-730P334X9100	0.324 [8.2]	0.75 [19.0]	-	2.8	2.8	2.8	2.8	2.8	2.6	1.2
0.39	V-730P394X9100	0.347 [8.8]	0.75 [19.0]	-	3.1	3.1	3.1	3.1	3.1	2.9	1.3
0.47	V-730P474X9100	0.376 [9.6]	0.75 [19.0]	37.0	3.7	3.4	3.1	2.8	2.5	2.0	1.4
0.56	V-730P564X9100	0.321 [8.2]	1.00 [25.4]	35.0	3.9	3.6	3.3	2.9	2.6	2.1	1.5
0.68	V-730P684X9100	0.348 [8.8]	1.00 [25.4]	33.0	4.1	3.8	3.5	3.1	2.8	2.2	1.6
0.82	V-730P824X9100	0.377 [9.6]	1.00 [25.4]	31.0	4.3	4.0	3.6	3.2	2.9	2.3	1.7
1.0	V-730P105X9100	0.421 [10.7]	1.00 [25.4]	26.0	5.5	5.1	4.7	4.2	3.6	2.8	2.6
1.2	V-730P125X9100	0.454 [11.5]	1.00 [25.4]	24.0	5.7	5.3	4.9	4.4	3.8	3.0	2.8
1.5	V-730P155X9100	0.500 [12.7]	1.00 [25.4]	20.0	6.1	5.5	5.1	4.6	4.0	3.2	3.1
1.8	V-730P185X9100	0.541 [13.7]	1.00 [25.4]	19.0	6.3	5.7	5.3	4.8	4.1	3.4	3.0
2.0	V-730P205X9100	0.486 [12.3]	1.25 [31.8]	18.0	6.5	6.0	5.5	4.9	4.2	3.5	3.2
2.2	V-730P225X9100	0.507 [12.9]	1.25 [31.8]	18.0	6.8	6.3	5.7	5.1	4.4	3.6	3.3
2.7	V-730P275X9100	0.554 [14.1]	1.25 [31.8]	17.0	7.1	6.5	6.0	5.3	4.6	3.7	3.4
3.0	V-730P305X9100	0.581 [14.8]	1.25 [31.8]	16.0	7.3	6.7	6.2	5.5	4.8	3.9	3.5
3.3	V-730P335X9100	0.606 [15.4]	1.25 [31.8]	16.0	7.4	6.8	6.4	5.6	4.9	4.0	3.6
3.9	V-730P395X9100	0.654 [16.6]	1.25 [31.8]	15.0	7.6	6.9	6.6	5.8	5.1	4.1	3.7
4.0	V-730P405X9100	0.537 [13.6]	1.75 [44.5]	15.0	7.8	7.0	6.7	5.9	5.2	4.2	3.8
4.7	V-730P475X9100	0.577 [14.7]	1.75 [44.5]	15.0	8.1	7.4	6.8	6.0	5.3	4.3	3.9
5.0	V-730P505X9100	0.593 [15.1]	1.75 [44.5]	14.0	8.3	7.6	7.0	6.2	5.4	4.4	4.0
5.6	V-730P565X9100	0.624 [15.8]	1.75 [44.5]	14.0	8.4	7.7	7.1	6.4	5.5	4.5	4.1
6.0	V-730P605X9100	0.644 [16.4]	1.75 [44.5]	14.0	8.5	7.8	7.2	6.5	5.6	4.6	4.2
6.8	V-730P685X9100	0.682 [17.3]	1.75 [44.5]	13.0	8.5	8.0	7.4	6.7	5.7	4.7	4.3
8.0	V-730P805X9100	0.735 [18.7]	1.75 [44.5]	13.0	8.6	8.3	7.7	6.8	6.0	4.8	4.4
8.2	V-730P825X9100	0.743 [18.9]	1.75 [44.5]	13.0	8.8	8.6	8.0	7.0	6.1	4.9	4.5
10.0	V-730P106X9100	0.815 [20.7]	1.75 [44.5]	12.0	9.0	9.0	8.5	7.6	6.6	5.4	4.9
250 WVDC											
0.1	V-730P104X9250	0.279 [7.1]	0.75 [19.0]	-	1.5	1.5	1.5	1.5	1.5	1.5	0.9
0.12	V-730P124X9250	0.300 [7.6]	0.75 [19.0]	-	1.9	1.9	1.9	1.9	1.9	1.7	1.1
0.15	V-730P154X9250	0.327 [8.3]	0.75 [19.0]	-	2.3	2.3	2.3	2.3	2.3	1.9	1.1
0.18	V-730P184X9250	0.353 [9.0]	0.75 [19.0]	-	2.7	2.7	2.7	2.7	2.5	2.0	1.2
0.22	V-730P224X9250	0.306 [7.8]	1.00 [25.4]	-	1.9	1.9	1.9	1.9	1.9	1.9	1.3
0.27	V-730P274X9250	0.333 [8.5]	1.00 [25.4]	-	2.4	2.4	2.4	2.4	2.4	2.2	1.4
0.33	V-730P334X9250	0.362 [9.2]	1.00 [25.4]	-	2.9	2.9	2.9	2.9	2.9	2.3	1.5
0.39	V-730P394X9250	0.389 [9.9]	1.00 [25.4]	-	3.4	3.4	3.4	3.2	2.9	2.3	1.6
0.47	V-730P474X9250	0.422 [10.7]	1.00 [25.4]	35.0	3.8	3.7	3.6	3.4	2.9	2.4	1.7
0.56	V-730P564X9250	0.464 [11.8]	1.00 [25.4]	33.0	3.9	3.8	3.7	3.5	3.1	2.5	1.8
0.68	V-730P684X9250	0.425 [10.8]	1.25 [31.8]	32.0	4.0	3.9	3.8	3.7	3.2	2.6	1.9
0.82	V-730P824X9250	0.471 [12.0]	1.25 [31.8]	31.0	4.2	4.1	4.0	3.9	3.4	2.8	2.0
1.0	V-730P105X9250	0.513 [13.0]	1.25 [31.8]	28.0	4.4	4.4	4.4	4.4	4.3	3.5	3.2
1.2	V-730P125X9250	0.554 [14.1]	1.25 [31.8]	27.0	4.7	4.6	4.5	5.0	4.5	3.7	3.3
1.5	V-730P155X9250	0.613 [15.6]	1.25 [31.8]	26.0	5.1	5.0	4.9	5.4	4.7	3.9	3.5
1.8	V-730P185X9250	0.667 [17.0]	1.25 [31.8]	25.0	5.9	5.8	5.7	5.7	5.0	4.1	3.7
2.0	V-730P205X9250	0.700 [17.8]	1.25 [31.8]	21.0	7.2	7.2	6.8	6.0	5.2	4.3	3.9
2.2	V-730P225X9250	0.610 [15.5]	1.75 [44.5]	20.0	8.4	7.5	7.0	6.3	5.4	4.5	4.1
2.7	V-730P275X9250	0.669 [17.0]	1.75 [44.5]	19.0	8.6	7.8	7.3	6.6	5.7	4.7	4.3
3.0	V-730P305X9250	0.703 [17.9]	1.75 [44.5]	18.0	9.0	8.3	7.6	6.8	5.9	4.8	4.4
3.3	V-730P335X9250	0.734 [18.6]	1.75 [44.5]	18.0	9.0	8.4	7.8	7.0	6.0	4.9	4.5
3.9	V-730P395X9250	0.794 [20.2]	1.75 [44.5]	17.0	9.0	8.5	8.0	7.2	6.2	5.0	4.6
4.0	V-730P405X9250	0.803 [20.4]	1.75 [44.5]	16.0	9.0	8.6	8.2	7.4	6.3	5.1	4.7
4.7	V-730P475X9250	0.866 [22.0]	1.75 [44.5]	16.0	9.0	8.8	8.5	7.7	6.6	5.3	4.9
5.0	V-730P505X9250	0.892 [22.7]	1.75 [44.5]	15.0	9.0	9.0	8.8	7.9	6.8	5.6	5.1
5.6	V-730P565X9250	0.941 [23.9]	1.75 [44.5]	15.0	9.0	9.0	8.9	8.0	7.0	5.8	5.3
6.0	V-730P605X9250	0.972 [24.7]	1.75 [44.5]	15.0	9.0	9.0	9.0	8.2	7.2	5.9	5.5
6.8	V-730P685X9250	0.882 [22.4]	2.25 [57.2]	15.0	9.0	9.0	9.0	8.4	7.4	6.0	5.6
8.0	V-730P805X9250	0.953 [24.2]	2.25 [57.2]	14.0	9.0	9.0	9.0	8.7	7.8	6.3	5.8
8.2	V-730P825X9250	0.964 [24.5]	2.25 [57.2]	14.0	9.0	9.0	9.0	8.8	7.9	6.4	5.9
10.0	V-730P106X9250	1.060 [26.9]	2.25 [57.2]	13.0	9.0	9.0	9.0	8.9	8.3	6.8	6.2

Notes

Other capacitance values and voltage ratings are available upon request

(1) Part Numbers listed are for a capacitance tolerance of ± 10 %. To specify ± 20 % tolerance, change the "X9" in the Part Number to "X0"; for ± 5 %, from "X9" to "X5".

(2) The peak current pulse capability of these capacitors is 10 A/μF. The maximum rate voltage change is 10 V/μs.



Film Capacitors High Frequency, Wrap-and-Fill,
Metallized Polypropylene

Vishay Sprague

STANDARD RATINGS in inches [millimeters]											
CAPACITANCE (μ F)	PART NUMBER ⁽¹⁾	CASE SIZE		ESR (m Ω) 20 kHz to 100 kHz	MAXIMUM RIPPLE CURRENT (I_{RMS}) at 20 kHz CASE TEMPERATURE ⁽²⁾ at						
		D	L		+ 25 °C	+ 35 °C	+ 45 °C	+ 55 °C	+ 65 °C	+ 75 °C	+ 85 °C
		400 WVDC									
0.047	V-730P473X9400	0.258 [6.6]	0.75 [19.0]	-	1.0	1.0	1.0	1.0	1.0	1.0	0.9
0.056	V-730P563X9400	0.275 [7.0]	0.75 [19.0]	-	1.1	1.1	1.1	1.1	1.1	1.1	0.9
0.068	V-730P683X9400	0.297 [7.5]	0.75 [19.0]	-	1.4	1.4	1.4	1.4	1.4	1.4	1.0
0.082	V-730P823X9400	0.320 [8.1]	0.75 [19.0]	-	1.7	1.7	1.7	1.7	1.7	1.6	1.1
0.1	V-730P104X9400	0.348 [8.8]	0.75 [19.0]	-	2.0	2.0	2.0	2.0	2.0	1.9	1.3
0.12	V-730P124X9400	0.299 [7.6]	1.00 [25.4]	-	1.4	1.4	1.4	1.4	1.4	1.4	1.4
0.15*	V-730P154X9400	0.328 [8.3]	1.00 [25.4]	-	1.7	1.7	1.7	1.7	1.7	1.7	1.6
0.18	V-730P184X9400	0.353 [9.0]	1.00 [25.4]	-	2.1	2.1	2.1	2.1	2.1	2.1	1.7
0.22	V-730P224X9400	0.385 [9.8]	1.00 [25.4]	-	2.6	2.6	2.6	2.6	2.6	2.5	1.8
0.27	V-730P274X9400	0.421 [10.7]	1.00 [25.4]	-	3.1	3.1	3.1	3.1	3.1	2.7	1.9
0.33	V-730P334X9400	0.469 [11.9]	1.00 [25.4]	-	3.8	3.8	3.8	3.8	3.5	2.9	2.0
0.39	V-730P394X9400	0.503 [12.8]	1.00 [25.4]	-	4.1	4.1	4.1	4.1	3.7	3.1	2.1
0.47	V-730P474X9400	0.545 [13.8]	1.00 [25.4]	32.0	5.7	5.5	5.0	4.4	3.8	3.2	2.2
0.56	V-730P564X9400	0.506 [12.9]	1.25 [31.8]	31.0	5.7	5.7	5.3	4.4	4.1	3.3	2.3
0.68	V-730P684X9400	0.551 [14.0]	1.25 [31.8]	30.0	5.7	5.7	5.5	4.8	4.3	3.5	2.4
0.82	V-730P824X9400	0.599 [15.2]	1.25 [31.8]	28.0	5.7	5.7	5.6	5.3	4.5	3.7	2.6
1.0	V-730P105X9400	0.655 [16.6]	1.25 [31.8]	27.0	5.7	5.7	5.7	5.7	5.7	4.7	4.3
1.2	V-730P125X9400	0.712 [18.1]	1.25 [31.8]	26.0	6.3	6.2	6.0	5.9	5.8	4.9	4.5
1.5	V-730P155X9400	0.658 [16.7]	1.75 [44.5]	25.0	7.0	6.9	6.7	6.6	6.5	5.2	4.7
1.8	V-730P185X9400	0.716 [18.2]	1.75 [44.5]	23.0	8.0	7.9	7.8	7.7	6.8	5.5	5.0
2.0	V-730P205X9400	0.752 [19.1]	1.75 [44.5]	21.0	9.0	9.0	9.0	8.0	7.0	5.7	5.2
2.2	V-730P225X9400	0.786 [20.0]	1.75 [44.5]	20.0	9.0	9.0	9.0	8.3	7.4	5.9	5.4
2.7	V-730P275X9400	0.865 [22.0]	1.75 [44.5]	19.0	9.0	9.0	9.0	8.6	7.6	6.0	5.6
3.0	V-730P305X9400	0.909 [23.1]	1.75 [44.5]	17.0	9.0	9.0	9.0	9.0	7.9	6.4	5.9
3.3	V-730P335X9400	0.951 [24.2]	1.75 [44.5]	16.0	9.0	9.0	9.0	9.0	8.1	6.6	6.3
3.9	V-730P395X9400	1.031 [26.2]	1.75 [44.5]	15.0	9.0	9.0	9.0	9.0	8.3	6.8	6.5
630 WVDC											
0.022	V-730P223X9630	0.283 [7.2]	0.75 [19.0]	-	0.8	0.8	0.8	0.8	0.8	0.8	0.8
0.027	V-730P273X9630	0.307 [7.8]	0.75 [19.0]	-	1.0	1.0	1.0	1.0	1.0	1.0	0.9
0.033	V-730P333X9630	0.334 [8.5]	0.75 [19.0]	-	1.2	1.2	1.2	1.2	1.2	1.2	1.0
0.039	V-730P393X9630	0.358 [9.1]	0.75 [19.0]	-	1.4	1.4	1.4	1.4	1.4	1.4	1.0
0.047	V-730P473X9630	0.388 [9.9]	0.75 [19.0]	-	1.7	1.7	1.7	1.7	1.7	1.6	1.1
0.056	V-730P563X9630	0.418 [10.6]	0.75 [19.0]	-	2.1	2.1	2.1	2.1	2.1	1.7	1.2
0.068	V-730P683X9630	0.346 [8.8]	1.00 [25.4]	-	1.3	1.3	1.3	1.3	1.3	1.3	1.3
0.082	V-730P823X9630	0.374 [9.5]	1.00 [25.4]	-	1.6	1.6	1.6	1.6	1.6	1.6	1.6
0.1	V-730P104X9630	0.408 [10.4]	1.00 [25.4]	-	1.9	1.9	1.9	1.9	1.9	1.9	1.6
0.12	V-730P124X9630	0.443 [11.3]	1.00 [25.4]	-	2.3	2.3	2.3	2.3	2.3	2.3	1.8
0.15	V-730P154X9630	0.496 [12.6]	1.00 [25.4]	-	2.9	2.9	2.9	2.9	2.9	2.9	1.9
0.18	V-730P184X9630	0.538 [13.7]	1.00 [25.4]	-	3.5	3.5	3.5	3.5	3.5	2.7	1.9
0.22	V-730P224X9630	0.496 [12.6]	1.25 [31.8]	-	2.8	2.8	2.8	2.8	2.8	2.8	2.3
0.27	V-730P274X9630	0.542 [13.8]	1.25 [31.8]	-	3.5	3.5	3.5	3.5	3.5	3.3	2.3
0.33	V-730P334X9630	0.593 [15.1]	1.25 [31.8]	-	4.3	4.3	4.3	4.3	4.3	3.5	2.4
0.39	V-730P394X9630	0.639 [16.2]	1.25 [31.8]	-	5.0	5.0	5.0	5.0	4.6	3.7	2.5
0.47	V-730P474X9630	0.696 [17.7]	1.25 [31.8]	28.0	6.8	6.3	5.8	5.2	4.5	3.6	2.6
0.56	V-730P564X9630	0.608 [15.4]	1.75 [44.5]	26.0	7.4	6.9	6.3	5.6	4.8	4.0	2.8
0.68	V-730P684X9630	0.664 [16.9]	1.75 [44.5]	25.0	7.8	7.2	6.6	5.9	5.1	4.2	2.9
0.82	V-730P824X9630	0.724 [18.4]	1.75 [44.5]	22.0	8.1	7.5	6.9	6.2	5.3	4.3	3.1
1.0	V-730P105X9630	0.794 [20.2]	1.75 [44.5]	18.0	8.6	7.9	7.3	6.5	5.6	4.6	3.6

Notes

Other capacitance values and voltage ratings are available on request

(1) Part Numbers listed are for a capacitance tolerance of $\pm 10\%$. To specify $\pm 20\%$ tolerance, change the "X9" in the Part Number to "X0"; for $\pm 5\%$, from "X9" to "X5".

(2) The peak current pulse capability of these capacitors is 10 A/ μ F. The maximum rate voltage change is 10 V/ μ s.

ORDERING INFORMATION			
V-730P	224	X9	100
TYPE	CAPACITANCE	CAPACITANCE TOLERANCE	DC VOLTAGE RATING ⁽³⁾
	This is expressed in picofarads. The first two digits are the significant figures. The third is the number of zeros to follow.	X0 = $\pm 20\%$ X9 = $\pm 10\%$ X5 = $\pm 5\%$	This is expressed in volts.
Note ⁽³⁾ At + 85 °C, AC RMS ratings for frequencies up to and including 400 Hz correspond to this table:			
	WVDC	100	250
	Rated RMS Volts	70	175
		400	630
		275	275



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk and agree to fully indemnify and hold Vishay and its distributors harmless from and against any and all claims, liabilities, expenses and damages arising or resulting in connection with such use or sale, including attorneys fees, even if such claim alleges that Vishay or its distributor was negligent regarding the design or manufacture of the part. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.