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

FEATURES

- Excellent AC performance
- Low Power dissipation
- Low dielectric absorption
- Close tolerance
- High stability

Pb-free
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

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

DC Voltage Rating: 100 WVDC to 630 WVDC

AC Voltage Rating: 70 Vrms to 275 Vrms, 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 minutes

AC Voltage Test: 130 % of rated rms voltage at 60 Hz for 15 seconds

Insulation Resistance: Measured at 100 WVDC after a 2 minute charge.
At + 25 °C: 200 000 Megohm - Microfarads or 400 000 Megohm minimum.
At + 85 °C: 10 000 Megohm - Microfarads or 20 000 Megohm minimum.
At + 105 °C: 1000 Megohm - Microfarads or 2000 Megohm minimum.

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

DC Life Test: 150 % of rated voltage for 1000 hours 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 %

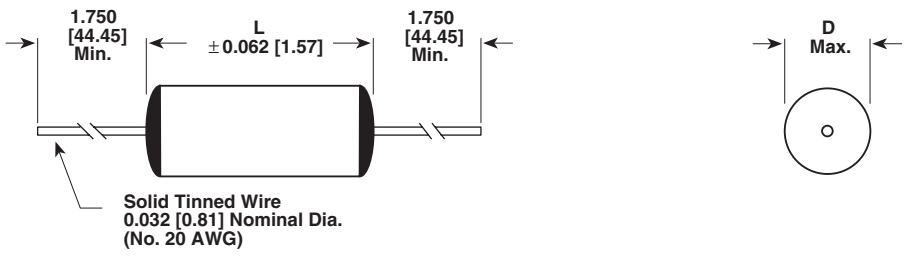
Humidity Test: 95 % relative humidity at + 40 °C for 250 hours. No visible damage.
Maximum Δ CAP ± 1.0 %
Minimum IR = 20 % of initial limit
Maximum DF = 0.12 %

AC Life Test: 110 % of rated rms voltage at 60 Hz for 1000 hours at + 85 °C.
Maximum Δ CAP ± 5 %
Minimum IR = 50 % of initial limit
Maximum DF = 0.12 %

PHYSICAL CHARACTERISTICS

Lead Pull: 5 pounds (2.3 kilograms) for one minute. 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]



* Leads to be within 0.062" [1.57 mm] of center line at egrees but not less than 0.031" [0.79 mm] from edge.

STANDARD RATINGS in inches [millimeters]

CAPACITANCE (µF)	PART NUMBER**	CASE SIZE		ESR (Milliohms) 20 kHz - 100 kHz	MAXIMUM RIPPLE CURRENT (Amps rms) at 20 kHz Case Temperature*** 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	2.4	1.9	1.1
0.33	V-730P334X9100	0.324 [8.2]	0.75 [19.0]	-	2.8	2.8	2.8	2.8	2.6	2.2	1.2
0.39	V-730P394X9100	0.347 [8.8]	0.75 [19.0]	-	3.1	3.1	3.1	3.1	2.9	2.3	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

Note:

Other capacitance values and voltage ratings are available upon request

** Part Numbers listed are for a capacitance tolerance of ± 10 %. To specifiy ± 20 % tolerance, change the “X9” in the Part Number to “X0”; for ± 5 %, from “X9” to “X5”.

*** The peak current pulse capability ot these capacitors is 10 amperes/µF. The maximum rate voltage change is 10 V/µS.

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

STANDARD RATINGS in inches [millimeters]

CAPACITANCE (µF)	PART NUMBER**	CASE SIZE		ESR (Milliohms) 20 kHz - 100 kHz	MAXIMUM RIPPLE CURRENT (Amps rms) at 20 kHz Case Temperature*** 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	00.8	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

Note:

Other capacitance values and voltage ratings are available on request

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

*** The peak current pulse capability ot these capacitors is 10 amperes/µF. The maximum rate voltage change is 10 V/µS.

ORDERING INFORMATION

V-730P	224	X9	100
TYPE	CAPACITANCE	CAPACITANCE TOLERANCE	DC VOLTAGE RATING*
	This is expressed in picofarads. The first two digits are the significant figures. The third is the number of zeros to follow.	X0 = ± 20 % X9 = ± 10 % X5 = ± 5 %	This is expressed in volts.

* At + 85 °C, AC rms ratings for frequencies up to and including 400 Hz correspond to this table:

WVDC	100	250	400	630
RATED rms VOLTS	70	175	275	275

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