



Not for New Design

Type 730P  
Vishay Sprague

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



### FEATURES

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

### 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  $\mu$ F to 10.0  $\mu$ F

**Capacitance Tolerance:**  $\pm$  20 %,  $\pm$  10 %,  $\pm$  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  $\Delta$  CAP  $\pm$  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  $\Delta$  CAP  $\pm$  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  $\Delta$  CAP  $\pm$  5 %

Minimum IR = 50 % of initial limit

Maximum DF = 0.12 %

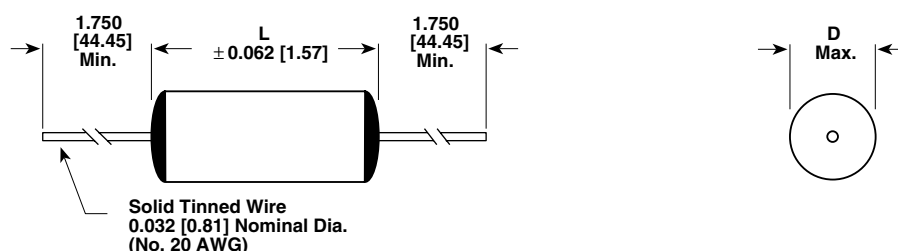
### PHYSICAL CHARACTERISTICS

**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 egress but not less than 0.031" [0.79 mm] from edge.

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

STANDARD RATINGS in inches [millimeters]												
CAPACITANCE ( $\mu$ F)	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	730P224X9100	0.275 [7.0]	0.75 [19.0]	-	Not applicable. These capacitance values are not customarily used in switched-mode power supplies.							
0.27	730P274X9100	0.298 [7.6]	0.75 [19.0]	-								
0.33	730P334X9100	0.324 [8.2]	0.75 [19.0]	-								
0.39	730P394X9100	0.347 [8.8]	0.75 [19.0]	-								
0.47*	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	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	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	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*	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	730P805X9100	0.735 [18.7]	1.75 [44.5]	13.0	8.6	8.35	7.7	6.8	6.0	4.8	4.4	
8.2	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	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*	730P104X9250	0.279 [7.1]	0.75 [19.0]	-	Not applicable. These capacitance values are not customarily used in switched-mode power supplies.							
0.12	730P124X9250	0.300 [7.6]	0.75 [19.0]	-								
0.15	730P154X9250	0.327 [8.3]	0.75 [19.0]	-								
0.18	730P184X9250	0.353 [9.0]	0.75 [19.0]	-								
0.22*	730P224X9250	0.306 [7.8]	1.00 [25.4]	-								
0.27	730P274X9250	0.333 [8.5]	1.00 [25.4]	-								
0.33*	730P334X9250	0.362 [9.2]	1.00 [25.4]	-								
0.39	730P394X9250	0.389 [9.9]	1.00 [25.4]	-								
0.47*	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	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	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	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*	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	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	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	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*	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	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	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	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	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	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	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	730P475X9250	0.866 [22.0]	1.75 [44.5]	16.0	9.0	8.6	8.5	7.7	6.6	5.3	4.9	
5.0	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	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	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	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	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	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	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	

\* These ratings are stocked.

\*\* 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".

\*\*\* The peak current pulse capability of these capacitors is 10 amperes/ $\mu$ F. The maximum rate voltage change is 10 V/ $\mu$ S.



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Type 730P

Film Capacitors  
High Frequency, Wrap-and-Fill,  
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STANDARD RATINGS in inches [millimeters]											
CAPACITANCE ( $\mu$ F)	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
<b>400 WVDC</b>											
0.047	730P473X9400	0.258 [6.6]	0.75 [19.0]	-	-	-	-	-	-	-	-
0.056	730P563X9400	0.275 [7.0]	0.75 [19.0]	-	-	-	-	-	-	-	-
0.068	730P683X9400	0.297 [7.5]	0.75 [19.0]	-	-	-	-	-	-	-	-
0.082	730P823X9400	0.320 [8.1]	0.75 [19.0]	-	-	-	-	-	-	-	-
0.1*	730P104X9400	0.348 [8.8]	0.75 [19.0]	-	Not applicable. These capacitance values are not customarily used in switched-mode power supplies.						
0.12	730P124X9400	0.299 [7.6]	1.00 [25.4]	-	Not applicable. These capacitance values are not customarily used in switched-mode power supplies.						
0.15*	730P154X9400	0.328 [8.3]	1.00 [25.4]	-	Not applicable. These capacitance values are not customarily used in switched-mode power supplies.						
0.18	730P184X9400	0.353 [9.0]	1.00 [25.4]	-	Not applicable. These capacitance values are not customarily used in switched-mode power supplies.						
0.22	730P224X9400	0.385 [9.8]	1.00 [25.4]	-	Not applicable. These capacitance values are not customarily used in switched-mode power supplies.						
0.27	730P274X9400	0.421 [10.7]	1.00 [25.4]	-	Not applicable. These capacitance values are not customarily used in switched-mode power supplies.						
0.33	730P334X9400	0.469 [11.9]	1.00 [25.4]	-	Not applicable. These capacitance values are not customarily used in switched-mode power supplies.						
0.39	730P394X9400	0.503 [12.8]	1.00 [25.4]	-	Not applicable. These capacitance values are not customarily used in switched-mode power supplies.						
0.47*	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	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	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	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*	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	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	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	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*	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	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	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*	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	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	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
<b>630 WVDC</b>											
0.022*	730P223X9630	0.283 [7.2]	0.75 [19.0]	-	-	-	-	-	-	-	-
0.027	730P273X9630	0.307 [7.8]	0.75 [19.0]	-	-	-	-	-	-	-	-
0.033	730P333X9630	0.334 [8.5]	0.75 [19.0]	-	-	-	-	-	-	-	-
0.039	730P393X9630	0.358 [9.1]	0.75 [19.0]	-	-	-	-	-	-	-	-
0.047	730P473X9630	0.388 [9.9]	0.75 [19.0]	-	-	-	-	-	-	-	-
0.056	730P563X9630	0.418 [10.6]	0.75 [19.0]	-	-	-	-	-	-	-	-
0.068	730P683X9630	0.346 [8.8]	1.00 [25.4]	-	Not applicable. These capacitance values are not customarily used in switched-mode power supplies.						
0.082	730P823X9630	0.374 [9.5]	1.00 [25.4]	-	Not applicable. These capacitance values are not customarily used in switched-mode power supplies.						
0.1	730P104X9630	0.408 [10.4]	1.00 [25.4]	-	Not applicable. These capacitance values are not customarily used in switched-mode power supplies.						
0.12	730P124X9630	0.443 [11.3]	1.00 [25.4]	-	Not applicable. These capacitance values are not customarily used in switched-mode power supplies.						
0.15	730P154X9630	0.496 [12.6]	1.00 [25.4]	-	Not applicable. These capacitance values are not customarily used in switched-mode power supplies.						
0.18	730P184X9630	0.538 [13.7]	1.00 [25.4]	-	Not applicable. These capacitance values are not customarily used in switched-mode power supplies.						
0.22	730P224X9630	0.496 [12.6]	1.25 [31.8]	-	Not applicable. These capacitance values are not customarily used in switched-mode power supplies.						
0.27	730P274X9630	0.542 [13.8]	1.25 [31.8]	-	Not applicable. These capacitance values are not customarily used in switched-mode power supplies.						
0.33	730P334X9630	0.593 [15.1]	1.25 [31.8]	-	Not applicable. These capacitance values are not customarily used in switched-mode power supplies.						
0.39	730P394X9630	0.639 [16.2]	1.25 [31.8]	-	-	-	-	-	-	-	-
0.47	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	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	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	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*	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

\* These ratings are stocked.

\*\* 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".

\*\*\* The peak current pulse capability of these capacitors is 10 amperes/ $\mu$ F. The maximum rate voltage change is 10 V/ $\mu$ S.

ORDERING INFORMATION					
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 = $\pm 20\%$ X9 = $\pm 10\%$ X5 = $\pm 5\%$	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



### Notice

Specifications of the products displayed herein are subject to change without notice. Vishay Intertechnology, Inc., or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

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