

Film/Foil Capacitors Polypropylene, High Frequency Wrap-and-Fill



PERFORMANCE CHARACTERISTICS

- Operating Temperature:** - 55°C to + 85°C.
- Capacitance Range:** 0.001μF to 1.0μF.
- Capacitance Tolerance:** ± 20%, ± 10%, ± 5%.
- DC Voltage Rating:** 200 WVDC to 800 WVDC.
- Voltage Derating:** At + 105°C, 50% of + 85°C rating.
- Dissipation Factor:** 0.1% maximum.
- Voltage Test:** 250% of rated voltage for 5 seconds.
- Insulation Resistance:** 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.
- Pulse Capability (ΔV/ΔT):**
 - 200 WVDC - 300 V/μsec maximum.
 - 400 WVDC - 400 V/μsec maximum.
 - 600 WVDC - 500 V/μsec maximum.
 - 800 WVDC - 600 V/μsec maximum.

FEATURES

- Extended foil construction
- Low loss
- High average AC current
- Moisture resistant
- Low dissipation

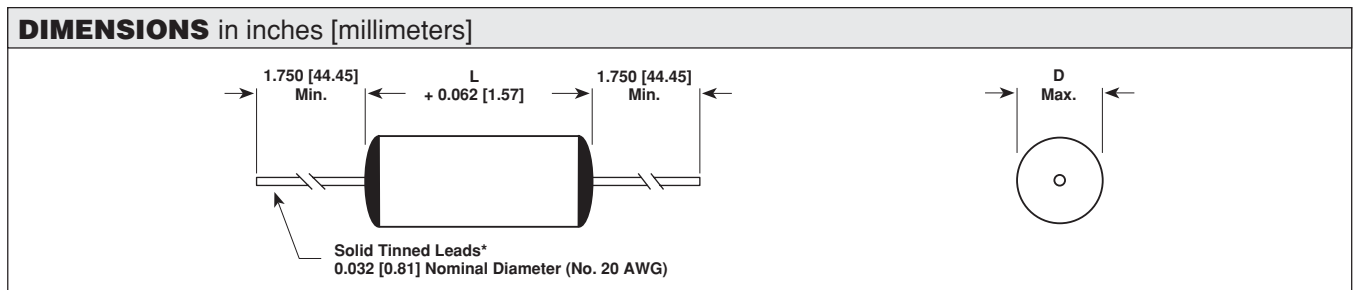
ENVIRONMENTAL CHARACTERISTICS

- Vibration Test (Condition B):** No mechanical damage, short, open or intermittent circuits.
- DC Life Test:** 150% of rated voltage for 500 hours @ + 85°C. No open or short circuits. No visible damage. Maximum Δ CAP: ± 5%. Minimum I.R. = 50% of initial limit. Maximum D.F. = 0.1%.
- Humidity Test:** 95% relative humidity @ + 75°C for 72 hours. No visible damage. Minimum I.R. = 25%.
- AC Life Test:** 110% of rated rms voltage for 500 hours. See AC Voltage Ratings for voltage, frequency and temperature. Maximum Δ CAP: ± 5%. Minimum I.R. = 50% of initial limit. Maximum D.F. = 0.1%.

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.

AC VOLTAGE RATINGS												
WVDC	CAPACITANCE RANGE (μF)	EQUIVALENT VAC RATINGS @										MAXIMUM AC LIFE TEST VOLTAGE (rms)
		1000Hz		5000Hz		10,000Hz		15,000Hz		20,000Hz		
		+ 85°C	+ 105°C	+ 85°C	+ 105°C	+ 85°C	+ 105°C	+ 85°C	+ 105°C	+ 85°C	+ 105°C	
200 V	0.012 - 0.068	155	75	115	75	85	60	70	50	60	45	155
	0.082 - 0.47	155	75	75	60	55	40	45	35	40	30	155
	0.68 - 1.0	155	75	75	50	55	30	45	20	40	15	155
400 V	0.0039 - 0.033	200	100	190	100	135	105	110	85	95	75	200
	0.039 - 0.47	200	100	100	80	75	55	60	45	50	40	200
	0.68 - 1.0	200	100	100	50	75	30	60	20	50	15	200
600 V	0.001 - 0.033	200	140	200	165	160	120	130	100	110	85	200
	0.039 - 0.22	200	140	125	95	90	65	75	55	65	45	200
	0.27 - 1.0	200	100	125	55	90	30	75	20	60	15	200
800 V	0.0056 - 0.033	500	250	500	190	500	150	450	120	405	100	500
	0.039 - 0.10	500	250	400	120	240	100	185	75	140	60	500
	0.12 - 0.56	500	195	280	75	160	45	115	30	85	20	500





STANDARD RATINGS in inches [millimeters]			
CAPACITANCE (μ F)	PART NUMBER*	NOMINAL CASE SIZE	
		D	L
200 WVDC			
0.012	710P123X9200	0.250 [6.35]	.750 [19.05]
0.015	710P153X9200	0.250 [6.35]	.750 [19.05]
0.018	710P183X9200	0.290 [7.37]	.750 [19.05]
0.022	710P223X9200**	0.290 [7.37]	.750 [19.05]
0.027	710P273X9200	0.335 [8.51]	.750 [19.05]
0.033	710P333X9200	0.335 [8.51]	.750 [19.05]
0.039	710P393X9200	0.315 [8.00]	.938 [23.83]
0.047	710P473X9200**	0.315 [8.00]	.938 [23.83]
0.056	710P563X9200	0.375 [9.53]	.938 [23.83]
0.068	710P683X9200	0.375 [9.53]	.938 [23.83]
0.082	710P823X9200	0.360 [9.14]	1.250 [31.75]
0.01	710P104X9200**	0.360 [9.14]	1.250 [31.75]
0.12	710P124X9200	0.420 [10.67]	1.250 [31.75]
0.15	710P154X9200	0.420 [10.67]	1.250 [31.75]
0.18	710P184X9200	0.495 [12.57]	1.250 [31.75]
0.22	710P224X9200**	0.495 [12.57]	1.250 [31.75]
0.27	710P274X9200	0.510 [12.95]	1.688 [42.88]
0.33	710P334X9200	0.510 [12.95]	1.688 [42.88]
0.39	710P394X9200	0.590 [14.99]	1.688 [42.88]
0.47	710P474X9200**	0.590 [14.99]	1.688 [42.88]
0.68	710P684X9200	0.799 [20.29]	1.688 [42.88]
0.82	710P824X9200	0.821 [20.85]	2.063 [52.41]
1.00	710P105X9200**	0.821 [20.85]	2.063 [52.41]
400 WVDC			
0.0039	710P392X9400	0.240 [6.10]	0.750 [19.05]
0.0047	710P472X9400	0.240 [6.10]	0.750 [19.05]
0.0056	710P562X9400	0.270 [6.86]	0.750 [19.05]
0.0068	710P682X9400	0.270 [6.86]	0.750 [19.05]
0.0082	710P822X9400	0.290 [7.37]	0.750 [19.05]
0.01	710P103X9400**	0.290 [7.37]	0.750 [19.05]
0.012	710P123X9400	0.330 [8.38]	0.750 [19.05]
0.015	710P153X9400	0.330 [8.38]	0.750 [19.05]
0.018	710P183X9400	0.325 [8.26]	0.938 [23.83]
0.022	710P223X9400**	0.325 [8.26]	0.938 [23.83]
0.027	710P273X9400	0.375 [9.53]	0.938 [23.83]
0.033	710P333X9400	0.375 [9.53]	0.938 [23.83]
0.039	710P393X9400	0.355 [9.02]	1.250 [31.75]
0.047	710P473X9400**	0.355 [9.02]	1.250 [31.75]
0.056	710P563X9400	0.415 [10.54]	1.250 [31.75]
0.068	710P683X9400	0.415 [10.54]	1.250 [31.75]
0.082	710P823X9400	0.485 [12.32]	1.250 [31.75]
0.1	710P104X9400**	0.485 [12.32]	1.250 [31.75]
0.12	710P124X9400	0.570 [14.48]	1.250 [31.75]
0.15	710P154X9400	0.570 [14.48]	1.250 [31.75]
0.18	710P184X9400	0.595 [15.11]	1.688 [42.88]
0.22	710P224X9400**	0.595 [15.11]	1.688 [42.88]
0.27	710P274X9400	0.690 [17.53]	1.688 [42.88]
0.33	710P334X9400	0.690 [17.53]	1.688 [42.88]
0.39	710P394X9400	0.830 [21.08]	1.688 [42.88]
0.47	710P474X9400**	0.830 [21.08]	1.688 [42.88]
0.68	710P684X9400	0.911 [23.14]	2.438 [61.93]
0.82	710P824X9400	1.091 [27.71]	2.438 [61.93]
1.00	710P105X9400**	1.091 [27.71]	2.438 [61.93]
600 WVDC			
0.001	710P102X9600	0.290 [7.37]	0.750 [19.05]
0.0012	710P122X9600	0.305 [7.75]	0.750 [19.05]
0.0015	710P152X9600	0.305 [7.75]	0.750 [19.05]
0.0018	710P182X9600	0.315 [8.00]	0.750 [19.05]
0.0022	710P222X9600	0.315 [8.00]	0.750 [19.05]
0.0027	710P272X9600	0.320 [8.13]	0.750 [19.05]
0.0033	710P332X9600	0.320 [8.13]	0.750 [19.05]
0.0039	710P392X9600	0.330 [8.38]	0.750 [19.05]
0.0047	710P472X9600	0.330 [8.38]	0.750 [19.05]
0.0056	710P562X9600	0.360 [9.14]	0.750 [19.05]
0.0068	710P682X9600	0.360 [9.14]	0.750 [19.05]
0.0082	710P822X9600	0.340 [8.64]	0.938 [23.83]
0.01	710P103X9600**	0.340 [8.64]	0.938 [23.83]
0.012	710P123X9600	0.390 [9.91]	0.938 [23.83]

* The Part Numbers listed are for capacitance tolerance of $\pm 10\%$. To specify $\pm 20\%$ tolerance, change "X9" in the part number to "X0".
For $\pm 5\%$ tolerance: Change the "X9" to "X5".

** Inventoried.



STANDARD RATINGS in inches [millimeters]			
CAPACITANCE (μ F)	PART NUMBER	NOMINAL CASE SIZE	
		D	L
600 WVDC (Continued)			
0.015	710P153X9600	0.390 [9.91]	0.938 [23.83]
0.018	710P183X9600	0.450 [11.43]	0.938 [23.83]
0.022	710P223X9600**	0.450 [11.43]	0.938 [23.83]
0.027	710P273X9600	0.435 [11.05]	1.250 [31.75]
0.033	710P333X9600	0.435 [11.05]	1.250 [31.75]
0.039	710P393X9600	0.490 [12.45]	1.250 [31.75]
0.047	710P473X9600**	0.490 [12.45]	1.250 [31.75]
0.056	710P563X9600	0.590 [14.99]	1.250 [31.75]
0.068	710P683X9600	0.590 [14.99]	1.250 [31.75]
0.082	710P823X9600	0.690 [17.53]	1.250 [31.75]
0.1	710P104X9600**	0.690 [17.53]	1.250 [31.75]
0.12	710P124X9600	0.670 [17.02]	1.688 [42.88]
0.15	710P154X9600	0.670 [17.02]	1.688 [42.88]
0.18	710P184X9600	0.800 [20.32]	1.688 [42.88]
0.22	710P224X9600**	0.800 [20.32]	1.688 [42.88]
0.33	710P334X9600	0.876 [22.25]	2.063 [52.41]
0.39	710P394X9600	1.032 [26.21]	2.063 [52.41]
0.47	710P474X9600**	1.032 [26.21]	2.063 [52.41]
0.56	710P564X9600	1.096 [27.84]	2.438 [61.93]
0.68	710P684X9600	1.096 [27.84]	2.438 [61.93]
0.82	710P824X9600	1.316 [33.43]	2.438 [61.93]
1.00	710P105X9600**	1.316 [33.43]	2.438 [61.93]
800 WVDC			
0.0056	710P562X9800	0.275 [6.99]	1.250 [31.75]
0.0068	710P682X9800	0.275 [6.99]	1.250 [31.75]
0.0082	710P822X9800	0.315 [8.00]	1.250 [31.75]
0.01	710P103X9800**	0.315 [8.00]	1.250 [31.75]
0.012	710P123X9800	0.365 [9.27]	1.250 [31.75]
0.015	710P153X9800	0.365 [9.27]	1.250 [31.75]
0.018	710P183X9800	0.430 [10.92]	1.250 [31.75]
0.022	710P223X9800**	0.430 [10.92]	1.250 [31.75]
0.027	710P273X9800	0.515 [13.08]	1.250 [31.75]
0.033	710P333X9800	0.515 [13.08]	1.250 [31.75]
0.039	710P393X9800	0.495 [12.57]	1.688 [42.88]
0.047	710P473X9800**	0.495 [12.57]	1.688 [42.88]
0.056	710P563X9800	0.595 [15.11]	1.688 [42.88]
0.068	710P683X9800	0.595 [15.11]	1.688 [42.88]
0.082	710P823X9800	0.700 [17.78]	1.688 [42.88]
0.1	710P104X9800**	0.700 [17.78]	1.688 [42.88]
0.12	710P124X9800	0.755 [19.18]	2.063 [52.41]
0.15	710P154X9800	0.755 [19.18]	2.063 [52.41]
0.18	710P184X9800	0.910 [23.11]	2.063 [52.41]
0.22	710P224X9800**	0.910 [23.11]	2.063 [52.41]
0.27	710P274X9800	0.985 [25.02]	2.438 [61.93]
0.33	710P334X9800	0.985 [25.02]	2.438 [61.93]
0.39	710P394X9800	1.220 [30.99]	2.438 [61.93]
0.47	710P474X9800**	1.220 [30.99]	2.438 [61.93]
0.56	710P564X9800	1.220 [30.99]	2.438 [61.93]

* The Part Numbers listed are for capacitance tolerance of $\pm 10\%$. To specify $\pm 20\%$ tolerance, change "X9" in the part number to "X0".
For $\pm 5\%$ tolerance: Change the "X9" to "X5".

** Inventoried.

ORDERING INFORMATION			
710P TYPE	123 CAPACITANCE	X9 CAPACITANCE TOLERANCE	200 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 = $\pm 10\%$ (Inventoried) X5 = $\pm 5\%$	This is expressed in volts.



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.

Information contained herein is intended to provide a product description only. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Vishay's terms and conditions of sale for such products, Vishay assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of Vishay products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Vishay for any damages resulting from such improper use or sale.