WRAP-AND-FILL HIGH-FREQUENCY METALIZED POLYPROPYLENE FILM CAPACITORS

FEATURES

- Excellent AC performance
- Low power dissipation
- Low dielectric absorption
- Close tolerance
- High stability
- Oval configuration affords economy of space

MAJOR APPLICATIONS:
Pulse operations, deflection-circuits, SMPS, high frequency coupling and decoupling, sample and hold circuits, timing, and other applications where low loss and high stability are important.

PHYSICAL CHARACTERISTICS

CONSTRUCTION: Non-inductive wound metalized polypropylene.

CASE: Flame retardant tape wrap and epoxy endfill.

LEAD MATERIAL: Solder coated copper wire.

LEAD WIRE SIZES:

Case Dia.	Lead AWG
< 0.350	No. 20
≥ 0.350	No. 18

LEAD STRENGTH: Capable of withstanding a five pound pull force on lead axis.

MARKING:
Dearborn trademark, type or catalog number, capacitance, tolerance and voltage.

ELECTRICAL SPECIFICATIONS

CAPACITANCE RANGE: 0.022 µF to 10.0 µF

VOLTAGE RATING:
- 160 VDC to 630 VDC
- 100 VRMS to 277 VRMS

CAPACITANCE TOLERANCE: ±20%, ±10%, ±5%

OPERATING TEMPERATURE: -55°C to +105°C

VOLTAGE DERATING: At +105°C, 70% of the 85°C rating

DISSIPATION FACTOR: 0.07% maximum

EQUIVALENT SERIES RESISTANCE:
20kHz - 100kHz, see standard ratings tables

DC VOLTAGE TEST: 200% of rated voltage for 2 minutes

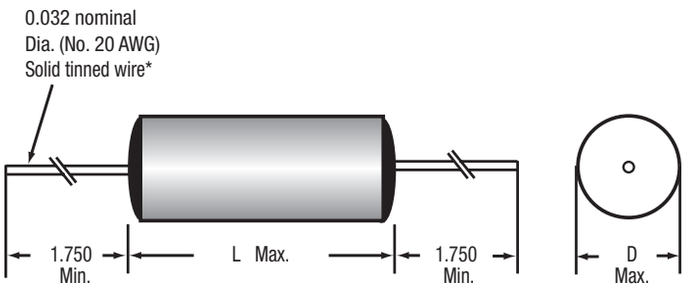
INSULATION RESISTANCE:
Measure at rated VDC after a 2 minute charge.
- At +25°C, 200,000 Megaohm-Microfarads, need not exceed 400,000 Megaohms
- At +85°C, 10,000 Megaohm-Microfarads, need not exceed 20,000 Megaohms
- At +105°C, 1,000 Megaohm-Microfarads, need not exceed 2,000 Megaohms

MAXIMUM PULSE RISE TIME

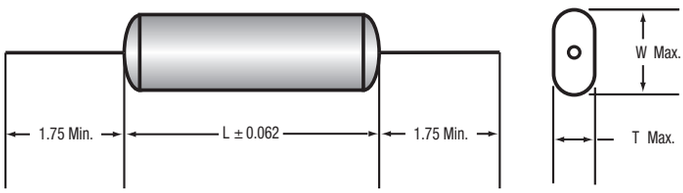
Capacitor Length (inch)	Rise Time dv / dt (V / µs)			
	160 VDC / 100 VAC	250 VDC / 175 VAC	400 VDC / 220 VAC	630 VDC / 277 VAC
0.75	48	72	94	171
1.00	28	40	55	88
1.25	22	30	45	62
1.75	12	18	23	38
2.25	-	13	-	-

DIMENSIONS (in inches)

TYPE 730P



TYPE 731P



* Leads to be within ±0.062" of center line at egress, but not less than 0.031" from edge.

WRAP-AND-FILL HIGH-FREQUENCY METALIZED POLYPROPYLENE FILM CAPACITORS

STANDARD RATINGS

		TYPE 730P		TYPE 731P										
Capacitance		Case Size (inches)		Case Size (inches)			Typical ESR (Milliohms) 20kHz to 100kHz	Maximum Ripple Current (Amps) at 20-100kHz Case temperature						
µF	Code	D	L	T	W	L		+25°C	+35°C	+45°C	+55°C	+65°C	+75°C	+85°C
160 VDC / 100 VRMS* (VOLTAGE CODE 160)														
0.22	224	0.275	0.75	0.23	0.34	0.75	-	2.3	2.3	2.3	2.3	2.3	1.8	1.0
0.27	274	0.298	0.75	0.26	0.35	0.75	-	2.6	2.6	2.6	2.6	2.4	1.9	1.1
0.33	334	0.324	0.75	0.28	0.39	0.75	-	2.8	2.8	2.8	2.8	2.6	2.2	1.2
0.39	394	0.347	0.75	0.29	0.44	0.75	-	3.1	3.1	3.1	3.1	2.9	2.3	1.3
0.47	474	0.376	0.75	0.33	0.47	0.75	37	3.7	3.4	3.1	2.8	2.5	2.0	1.4
0.56	564	0.321	1.00	0.27	0.45	1.00	35	3.9	3.6	3.3	2.9	2.6	2.1	1.5
0.68	684	0.348	1.00	0.29	0.49	1.00	33	4.1	3.8	3.5	3.1	2.8	2.2	1.6
0.82	824	0.377	1.00	0.30	0.52	1.00	31	4.3	4.0	3.6	3.2	2.9	2.3	1.7
1.0	105	0.421	1.00	0.32	0.54	1.00	26	5.5	5.1	4.7	4.2	3.6	2.8	2.6
1.2	125	0.454	1.00	0.36	0.58	1.00	24	5.7	5.3	4.9	4.4	3.8	3.0	2.8
1.5	155	0.500	1.00	0.40	0.63	1.00	20	6.1	5.5	5.1	4.6	4.0	3.2	3.1
1.8	185	0.541	1.00	0.45	0.67	1.00	19	6.3	5.7	5.3	4.8	4.1	3.4	3.0
2.0	205	0.486	1.25	0.39	0.61	1.25	18	6.5	6.0	5.5	4.9	4.2	3.5	3.2
2.2	225	0.507	1.25	0.42	0.64	1.25	18	6.8	6.3	5.7	5.1	4.4	3.6	3.3
2.7	275	0.554	1.25	0.46	0.68	1.25	17	7.1	6.5	6.0	5.3	4.6	3.7	3.4
3.0	305	0.581	1.25	0.47	0.76	1.25	16	7.3	6.7	6.2	5.5	4.8	3.9	3.5
3.3	335	0.606	1.25	0.51	0.77	1.25	16	7.4	6.8	6.4	5.6	4.9	4.0	3.6
3.9	395	0.654	1.25	0.56	0.79	1.25	15	7.6	6.9	6.6	5.8	5.1	4.1	3.7
4.0	405	0.537	1.75	0.44	0.66	1.75	15	7.8	7.0	6.7	5.9	5.2	4.2	3.8
4.7	475	0.577	1.75	0.48	0.71	1.75	15	8.1	7.4	6.8	6.0	5.3	4.3	3.9
5.0	505	0.593	1.75	0.50	0.72	1.75	14	8.3	7.6	7.0	6.2	5.4	4.4	4.0
5.6	565	0.624	1.75	0.50	0.86	1.75	14	8.4	7.7	7.1	6.4	5.5	4.5	4.1
6.0	605	0.644	1.75	0.50	0.88	1.75	14	8.5	7.8	7.2	6.5	5.6	4.6	4.2
6.8	685	0.682	1.75	0.50	0.92	1.75	13	8.5	8.0	7.4	6.7	5.7	4.7	4.3
8.0	805	0.735	1.75	0.55	0.97	1.75	13	8.6	8.3	7.7	6.8	6.0	4.8	4.4
8.2	825	0.743	1.75	0.55	0.98	1.75	13	8.8	8.6	8.0	7.0	6.1	4.9	4.5
10.0	106	0.815	1.75	0.62	1.06	1.75	12	9.0	9.0	8.5	7.6	6.6	5.4	4.9
250 VDC / 175 VRMS* (VOLTAGE CODE 250)														
0.10	104	0.279	0.75	0.24	0.34	0.75	-	1.5	1.5	1.5	1.5	1.5	1.5	.09
0.12	124	0.300	0.75	0.26	0.37	0.75	-	1.9	1.9	1.9	1.9	1.9	1.7	1.0
0.15	154	0.327	0.75	0.27	0.42	0.75	-	2.3	2.3	2.3	2.3	2.3	1.9	1.1
0.18	184	0.353	0.75	0.28	0.48	0.75	-	2.7	2.7	2.7	2.7	2.5	2.0	1.2
0.22	224	0.306	1.00	0.25	0.39	1.00	-	1.9	1.9	1.9	1.9	1.9	1.9	1.3
0.27	274	0.333	1.00	0.28	0.42	1.00	-	2.4	2.4	2.4	2.4	2.4	2.2	1.4
0.33	334	0.362	1.00	0.31	0.45	1.00	-	2.9	2.9	2.9	2.9	2.9	2.3	1.5
0.39	394	0.389	1.00	0.33	0.48	1.00	-	3.4	3.4	3.4	3.2	2.9	2.3	1.6
0.47	474	0.422	1.00	0.34	0.55	1.00	35	3.8	3.7	3.6	3.4	2.9	2.4	1.7
0.56	564	0.464	1.00	0.37	0.58	1.00	33	3.9	3.8	3.7	3.5	3.1	2.5	1.8
0.68	684	0.425	1.25	0.34	0.55	1.25	32	4.0	3.9	3.8	3.7	3.2	2.6	1.9
0.82	824	0.471	1.25	0.37	0.59	1.25	31	4.2	4.1	4.0	3.9	3.4	2.8	2.0
1.0	105	0.513	1.25	0.38	0.69	1.25	28	4.4	4.4	4.4	4.4	4.3	3.5	3.2
1.2	125	0.554	1.25	0.41	0.73	1.25	27	4.7	4.6	4.5	5.0	4.5	3.7	3.3
1.5	155	0.613	1.25	0.43	0.85	1.25	26	5.1	5.0	4.9	5.4	4.7	3.9	3.5
1.8	185	0.667	1.25	0.48	0.90	1.25	25	5.9	5.8	5.7	5.7	5.0	4.1	3.7
2.0	205	0.700	1.25	0.49	0.99	1.25	21	7.2	7.2	6.8	6.0	5.2	4.3	3.9
2.2	225	0.610	1.75	0.41	0.82	1.75	20	8.4	7.5	7.0	6.3	5.4	4.5	4.1
2.7	275	0.669	1.75	0.46	0.88	1.75	19	8.6	7.8	7.3	6.6	5.7	4.7	4.3
3.0	305	0.703	1.75	0.49	0.91	1.75	18	9.0	8.3	7.6	6.8	5.9	4.8	4.4
3.3	335	0.734	1.75	0.50	1.00	1.75	18	9.0	8.4	7.8	7.0	6.0	4.9	4.5
3.9	395	0.794	1.75	0.53	1.06	1.75	17	9.0	8.5	8.0	7.2	6.2	5.0	4.6
4.0	405	0.803	1.75	0.54	1.07	1.75	16	9.0	8.6	8.2	7.4	6.3	5.1	4.7
4.7	475	0.866	1.75	0.60	1.13	1.75	16	9.0	8.8	8.5	7.7`	6.6	5.3	4.9

Additional capacitance values, voltages, and tolerances are available upon request.

* AC voltage rating is at 400Hz 1.4 x VRMS + VDC should not exceed the rated VDC. * Graphs of AC voltage vs. frequency follow.

WRAP-AND-FILL HIGH-FREQUENCY METALIZED POLYPROPYLENE FILM CAPACITORS

STANDARD RATINGS

Capacitance		TYPE 730P Case Size (inches)		TYPE 731P Case Size (inches)			Typical ESR (Milliohms) 20kHz to 100kHz	Maximum Ripple Current (Amps) at 20-100kHz Case temperature						
µF	Code	D	L	T	W	L		+25°C	+35°C	+45°C	+55°C	+65°C	+75°C	+85°C
250 VDC (Cont.) (VOLTAGE CODE 250)														
2.0	205	0.700	1.25	0.49	0.99	1.25	21	6.5	6.5	6.5	6.5	6.0	4.9	3.5
2.2	225	0.610	1.75	0.41	0.82	1.75	20	7.8	7.8	7.8	7.8	7.2	5.9	4.2
2.7	275	0.669	1.75	0.46	0.88	1.75	19	8.0	8.0	8.0	8.0	7.4	6.0	4.3
3.0	305	0.703	1.75	0.49	0.91	1.75	18	8.4	8.4	8.4	8.4	7.8	6.4	4.5
3.6	335	0.734	1.75	0.50	1.00	1.75	18	7.8	7.8	7.8	7.8	7.3	5.9	4.2
3.9	395	0.794	1.75	0.53	1.06	1.75	17	7.9	7.9	7.9	7.9	7.3	5.9	4.2
4.0	405	0.803	1.75	0.54	1.07	1.75	16	8.2	8.2	8.2	8.2	7.6	6.2	4.4
4.7	475	0.866	1.75	0.60	1.13	1.75	16	7.9	7.9	7.9	7.9	7.3	6.0	4.2
5.0	505	0.892	1.75	0.62	1.15	1.75	15	9.0	9.0	8.8	7.9	6.8	5.6	5.1
5.6	565	0.941	1.75	0.67	1.20	1.75	15	9.0	9.0	8.9	8.0	7.0	5.8	5.3
6.0	605	0.972	1.75	0.70	1.23	1.75	15	9.0	9.0	9.0	8.2	7.2	5.9	5.5
6.8	685	0.882	2.25	0.66	1.09	2.25	15	9.0	9.0	9.0	8.4	7.4	6.0	5.6
8.0	805	0.953	2.25	0.73	1.17	2.25	14	9.0	9.0	9.0	8.7	7.8	6.3	5.8
8.2	825	0.964	2.25	0.74	1.23	2.25	14	9.0	9.0	9.0	8.8	7.9	6.4	5.9
10.0	106	1.060	2.25	0.78	1.32	2.25	13	9.0	9.0	9.0	9.0	8.3	6.8	6.2
400 VDC / 220 VRMS* (VOLTAGE CODE 400)														
0.047	473	0.258	0.75	0.22	0.32	0.75	-	1.0	1.0	1.0	1.0	1.0	1.0	0.9
0.056	563	0.275	0.75	0.24	0.34	0.75	-	1.1	1.1	1.1	1.1	1.1	1.1	0.9
0.068	683	0.297	0.75	0.25	0.39	0.75	-	1.4	1.4	1.4	1.4	1.4	1.4	1.0
0.082	823	0.320	0.75	0.27	0.4	0.75	-	1.7	1.7	1.7	1.7	1.7	1.6	1.1
0.10	104	0.348	0.75	0.27	0.48	0.75	-	2.0	2.0	2.0	2.0	2.0	1.9	1.3
0.12	124	0.299	1.00	0.25	0.39	1.00	-	1.4	1.4	1.4	1.4	1.4	1.4	1.4
0.15	154	0.328	1.00	0.28	0.42	1.00	-	1.7	1.7	1.7	1.7	1.7	1.7	1.6
0.18	184	0.353	1.00	0.29	0.48	1.00	-	2.1	2.1	2.1	2.1	2.1	2.1	1.7
0.22	224	0.385	1.00	0.30	0.52	1.00	-	2.6	2.6	2.6	2.6	2.6	2.5	1.8
0.27	274	0.421	1.00	0.30	0.61	1.00	-	3.1	3.1	3.1	3.1	3.1	2.7	1.9
0.33	334	0.469	1.00	0.33	0.65	1.00	-	3.8	3.8	3.8	3.8	3.5	2.9	2.0
0.39	394	0.503	1.00	0.37	0.69	1.00	-	4.1	4.1	4.1	4.1	3.7	3.1	2.1
0.47	474	0.545	1.00	0.41	0.73	1.00	32	5.7	5.5	5.0	4.4	3.8	3.2	2.2
0.56	564	0.506	1.25	0.37	0.69	1.25	31	5.7	5.7	5.3	4.4	4.1	3.3	2.3
0.68	684	0.551	1.25	0.38	0.79	1.25	30	5.7	5.7	5.5	4.8	4.3	3.5	2.4
0.82	824	0.599	1.25	0.42	0.84	1.25	28	5.7	5.7	5.6	5.3	4.5	3.7	2.6
1.0	105	0.655	1.25	0.47	0.90	1.25	27	5.7	5.7	5.7	5.7	5.7	4.7	4.3
1.2	125	0.712	1.25	0.53	0.95	1.25	26	6.3	6.2	6.0	5.9	5.8	4.9	4.5
1.5	155	0.658	1.75	0.45	0.88	1.75	25	7.0	6.9	6.7	6.6	6.5	5.2	4.7
1.8	185	0.716	1.75	0.51	0.93	1.75	23	8.0	7.9	7.8	7.7	6.8	5.5	5.0
2.0	205	0.752	1.75	0.54	0.97	1.75	21	9.0	9.0	9.0	8.0	7.0	5.7	5.2
2.2	225	0.786	1.75	0.55	1.06	1.75	20	9.0	9.0	9.0	8.3	7.4	5.9	5.4
2.7	275	0.865	1.75	0.60	1.13	1.75	19	9.0	9.0	9.0	8.6	7.6	6.0	5.6
3.0	305	0.909	1.75	0.64	1.17	1.75	17	9.0	9.0	9.0	9.0	7.9	6.4	5.9
3.3	335	0.951	1.75	0.68	1.22	1.75	16	9.0	9.0	9.0	9.0	8.1	6.6	6.3
3.9	395	1.031	1.75	0.75	1.29	1.75	15	9.0	9.0	9.0	9.0	8.3	6.8	6.5

Additional capacitance values, voltages, and tolerances are available upon request.

* AC voltage rating is at 400Hz 1.4 x VRMS + VDC should not exceed the rated VDC.

* Graphs of AC voltage vs. frequency follow.

WRAP-AND-FILL HIGH-FREQUENCY METALIZED POLYPROPYLENE FILM CAPACITORS

STANDARD RATINGS

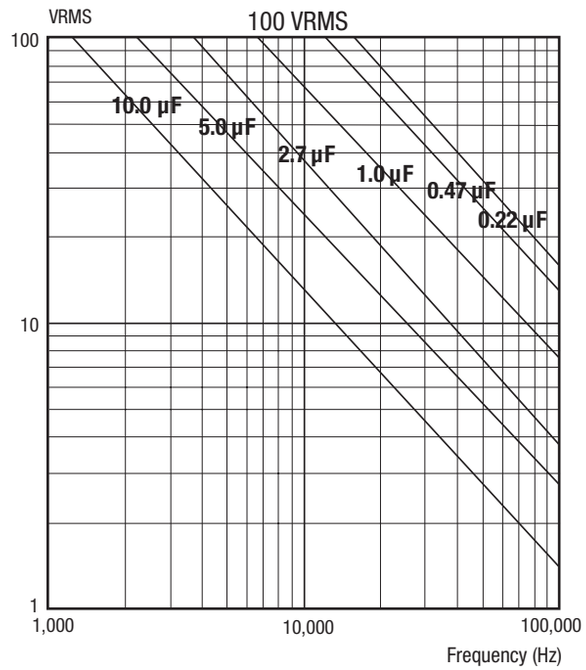
		TYPE 730P		TYPE 731P										
Capacitance		Case Size (inches)		Case Size (inches)			Typical ESR (Milliohms) 20kHz to 100kHz	Maximum Ripple Current (Amps) at 20-100kHz Case temperature						
µF	Code	D	L	T	W	L		+25°C	+35°C	+45°C	+55°C	+65°C	+75°C	+85°C
630 VDC / 277 VRMS* (VOLTAGE CODE 630)														
0.022	223	0.283	0.75	0.25	0.35	0.75	-	0.8	0.8	0.8	0.8	0.8	0.8	0.8
0.027	273	0.307	0.75	0.26	0.40	0.75	-	1.0	1.0	1.0	1.0	1.0	1.0	0.9
0.033	333	0.334	0.75	0.27	0.43	0.75	-	1.2	1.2	1.2	1.2	1.2	1.2	1.0
0.039	393	0.358	0.75	0.28	0.49	0.75	-	1.4	1.4	1.4	1.4	1.4	1.4	1.0
0.047	473	0.388	0.75	0.29	0.58	0.75	-	1.7	1.7	1.7	1.7	1.7	1.6	1.1
0.056	563	0.418	0.75	0.30	0.61	0.75	-	2.1	2.1	2.1	2.1	2.1	1.7	1.2
0.068	683	0.346	1.00	0.27	0.48	1.00	-	1.3	1.3	1.3	1.3	1.3	1.3	1.3
0.082	823	0.374	1.00	0.29	0.51	1.00	-	1.6	1.6	1.6	1.6	1.6	1.6	1.4
0.10	104	0.408	1.00	0.31	0.56	1.00	-	1.9	1.9	1.9	1.9	1.9	1.9	1.6
0.12	124	0.443	1.00	0.32	0.63	1.00	-	2.3	2.3	2.3	2.3	2.3	2.3	1.8
0.15	154	0.496	1.00	0.36	0.68	1.00	-	2.9	2.9	2.9	2.9	2.9	2.6	1.9
0.18	184	0.538	1.00	0.40	0.72	1.00	-	3.5	3.5	3.5	3.5	3.5	2.7	1.9
0.22	224	0.496	1.25	0.36	0.68	1.25	-	2.8	2.8	2.8	2.8	2.8	2.8	2.3
0.27	274	0.542	1.25	0.40	0.72	1.25	-	3.5	3.5	3.5	3.5	3.5	3.3	2.3
0.33	334	0.593	1.25	0.41	0.83	1.25	-	4.3	4.3	4.3	4.3	4.3	3.5	2.4
0.39	394	0.639	1.25	0.46	0.88	1.25	-	5.0	5.0	5.0	5.0	4.6	3.7	2.5
0.47	474	0.696	1.25	0.51	0.93	1.25	28	6.8	6.3	5.8	5.2	4.5	3.6	2.6
0.56	564	0.608	1.75	0.42	0.84	1.75	26	7.4	6.9	6.3	5.6	4.8	4.0	2.8
0.68	684	0.664	1.75	0.47	0.89	1.75	25	7.8	7.2	6.6	5.9	5.1	4.2	2.9
0.82	824	0.724	1.75	0.53	0.95	1.75	22	8.1	7.5	6.9	6.2	5.3	4.3	3.1
1.0	105	0.794	1.75	0.57	1.02	1.75	18	8.6	7.9	7.3	6.5	5.6	4.6	3.6

Additional capacitance values, voltages, and tolerances are available upon request.

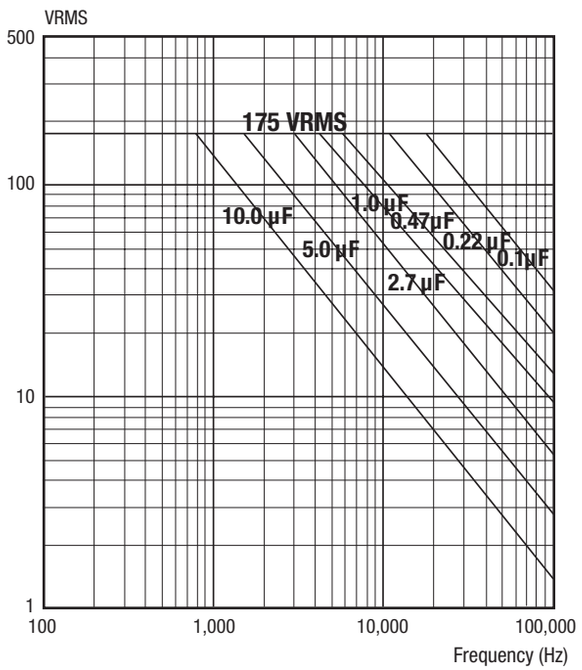
* AC voltage rating is at 400Hz 1.4 x VRMS + VDC should not exceed the rated VDC.
* Graphs of AC voltage vs. frequency follow.

WRAP-AND-FILL HIGH-FREQUENCY METALIZED POLYPROPYLENE FILM CAPACITORS

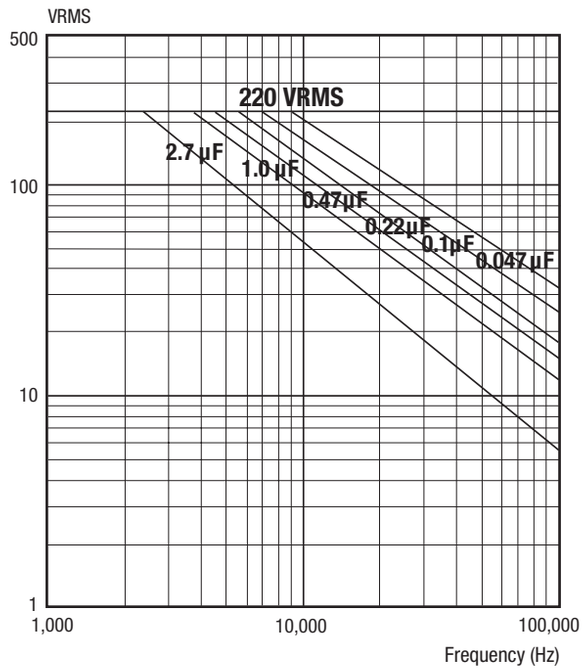
VOLTAGE VS. FREQUENCY TYPE 730P / 731P
160 VDC / 100 VAC



VOLTAGE VS. FREQUENCY TYPE 730P / 731P
250 VDC / 175 VAC



VOLTAGE VS. FREQUENCY TYPE 730P / 731P
400 VDC / 220 VAC



VOLTAGE VS. FREQUENCY TYPE 730P / 731P
630 VDC / 277 VAC