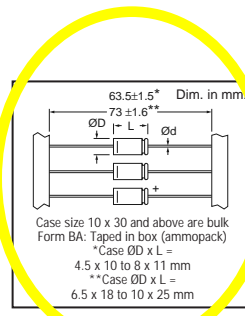


**Axial Standard Miniature Electrolytic Capacitors**

**FEATURES:** • Polarized aluminum electrolytic capacitors, non-solid • Axial leads, cylindrical aluminum case, insulated with a blue sleeve • Charge and discharge proof • Case Ø10mm x 30mm to 21mm x 40 mm with pressure relief • Taped versions up to case Ø15mm x 30 mm available for automatic insertion • Miniaturized, high CV-product per unit volume

**APPLICATIONS:** • General purpose, industrial, automotive, audio-video • Coupling, decoupling, smoothing, filtering, buffering and timing • Portable and mobile equipment (small size, low mass) • Low mounting height boards, vibration and shock resistant.



DESCRIPTION	VALUE	
Case sizes (ØD <sub>nom</sub> x L <sub>nom</sub> in mm)	4.5 x 10 to 10 x 25	10 x 30 to 21 x 40
Rated capacitance range, C <sub>R</sub>	0.47 to 15,000 µF	
Tolerance on C <sub>R</sub>	±20%	
Rated voltage range, U <sub>R</sub>	6.3 to 100V	
Category temperature range	-40°C to +85°C	
Endurance test at 85°C: U <sub>R</sub> = 6.3 to 25 V U <sub>R</sub> = 40 to 100 V	1 000 hours	5 000 hours
	2 000 hours	8 000 hours
Useful life at 85°C	2 500 hours	5 000 hours
Useful life at 40°C, 1.4 x IR applied	70 000 hours	200 000 hours
	500 hours	500 hours
Based on sectional specification:	IEC 384-4/CECC 30300	IEC384-4/CECC 30300
	GP grade	LL grade
Climatic category IEC 68 (DIN 40040)	UR = 6.3 to 25 V	UR = 40 to 100 V
	LL grade	LL grade
	40/085/56 (GPF)	

WV (VDC)	Cap. (µF)	Leakage Curr. (µA)	tan δ	Ripple Curr. (mA)	Dimensions (mm)			Digi-Key Part No.	Pricing*		Digi-Key Part No.	Pricing*		BC Components Part No.			
					L	D	d		100	500		1,000	5,000		10,000		
6.3	470	22	0.250	260	11	8	0.6	4000PHCT-ND	.47	3.99	31.26	4000PHTB-ND	127.76	198.51	187.33/M	172.73/M	2222 021 33471
	1000	42	0.250	440	18	8	0.8	4001PHCT-ND	.53	4.50	35.25	4001PHTB-ND	144.10	223.88	211.27/M	194.81/M	2222 021 33102
	2200	87	0.290	710	25	10	0.8	4002PHCT-ND	.89	7.65	59.83	4002PHTB-ND	244.96	380.60	359.16/M	331.77/M	2222 021 30589
	100	10	0.200	100	10	4.5	0.6	4003PHCT-ND	.32	2.76	21.62	4003PHTB-ND	—	137.31	129.58/M	119.48/M	2222 021 34101
	220	17	0.200	160	10	6	0.6	4004PHCT-ND	.36	3.12	24.44	4004PHTB-ND	—	155.22	146.48/M	135.07/M	2222 021 34221
	330	24	0.200	230	11	8	0.6	4005PHCT-ND	.47	3.99	31.26	4005PHTB-ND	127.76	198.51	187.33/M	172.73/M	2222 021 34331
	470	32	0.200	310	18	6.5	0.8	4006PHCT-ND	.49	4.17	32.67	4006PHTB-ND	—	207.46	195.78/M	180.52/M	2222 021 34471
	680	45	0.200	400	18	8	0.8	4007PHCT-ND	.53	4.50	35.25	4007PHTB-ND	144.10	223.88	211.27/M	194.81/M	2222 021 34681
	1000	64	0.200	550	18	10	0.8	4008PHCT-ND	.65	5.55	43.48	4008PHTB-ND	177.72	276.12	260.57/M	240.26/M	2222 021 34102
	1500	94	0.230	690	25	10	0.8	4009PHCT-ND	.85	7.29	57.11	4009PHTB-ND	233.43	362.68	342.26/M	315.59/M	2222 021 90525
10	1500	94	0.230	740	30	10	0.8	4010PHBK-ND	1.21	10.35	81.08	—	331.42	514.92	485.92/M	448.06/M	2222 021 14152
	2200	136	0.250	800	30	12.5	0.8	4011PHBK-ND	1.35	11.55	90.48	—	369.84	574.62	542.26/M	500.00/M	2222 021 14222
	3300	202	0.270	1000	30	12.5	0.8	4012PHBK-ND	1.38	11.82	92.59	—	378.49	588.06	554.93/M	511.69/M	2222 021 14332
	4700	286	0.290	1180	30	15	0.8	4013PHBK-ND	1.58	13.56	106.22	—	434.21	674.62	636.62/M	587.02/M	2222 021 14472
	6800	412	0.340	1480	30	18	0.8	4014PHBK-ND	1.84	15.75	123.38	—	504.33	783.58	739.44/M	681.82/M	2222 021 14682
	10000	604	0.400	1860	38	18	0.8	4015PHBK-ND	2.33	19.98	156.51	—	638.78	994.02	938.03/M	864.94/M	2222 021 14103
	15000	904	0.500	2250	38	21	0.8	4016PHBK-ND	2.94	25.20	197.40	—	806.93	1253.73	1183.10/M	1090.91/M	2222 021 14153
	88	11	0.160	90	10	4.5	0.6	4017PHCT-ND	.32	2.76	21.62	4017PHTB-ND	—	137.31	129.58/M	119.48/M	2222 021 35689
	150	18	0.160	140	10	6	0.6	4018PHCT-ND	.36	3.12	24.44	4018PHTB-ND	—	155.22	146.48/M	135.07/M	2222 021 35151
	220	25	0.160	210	11	8	0.6	4019PHCT-ND	.47	3.99	31.26	4019PHTB-ND	127.76	198.51	187.33/M	172.73/M	2222 021 35221
16	330	36	0.160	290	18	6.5	0.8	4020PHCT-ND	.47	3.99	31.26	4020PHTB-ND	—	198.51	187.33/M	172.73/M	2222 021 35331
	470	49	0.160	380	18	8	0.8	4021PHCT-ND	.55	4.68	36.66	4021PHTB-ND	149.86	232.83	219.72/M	202.60/M	2222 021 35471
	680	69	0.160	500	18	10	0.8	4022PHCT-ND	.67	5.70	44.65	4022PHTB-ND	182.52	283.58	267.61/M	246.76/M	2222 021 35681
	1000	100	0.160	660	25	10	0.8	4023PHCT-ND	.85	7.29	57.11	4023PHTB-ND	233.43	362.68	342.26/M	315.59/M	2222 021 90518
	1000	100	0.160	640	30	10	0.8	4024PHBK-ND	1.21	10.42	81.55	—	333.34	517.93	488.74/M	451.73/M	2222 021 15102
	1500	148	0.190	740	30	12.5	0.8	4025PHBK-ND	1.35	11.61	90.95	—	371.77	577.61	545.07/M	502.60/M	2222 021 15152
	2200	216	0.210	890	30	12.5	0.8	4026PHBK-ND	1.37	11.76	92.12	—	376.57	585.07	552.12/M	509.09/M	2222 021 15222
	3300	321	0.230	1130	30	15	0.8	4027PHBK-ND	1.58	13.56	106.22	—	434.21	674.62	636.62/M	587.02/M	2222 021 15332
	4700	455	0.250	1410	30	18	0.8	4028PHBK-ND	1.83	15.72	123.14	—	503.37	782.09	738.03/M	680.52/M	2222 021 15472
	6800	656	0.300	1780	38	18	0.8	4029PHBK-ND	2.31	19.83	155.34	—	634.98	986.56	930.99/M	858.45/M	2222 021 15682
10000	964	0.360	2170	38	21	0.8	4030PHBK-ND	2.89	24.78	194.11	—	793.48	1232.83	1163.38/M	1072.73/M	2222 021 15103	
25	47	10	0.140	80	10	4.5	0.6	4031PHCT-ND	.32	2.76	21.62	4031PHTB-ND	—	137.31	129.58/M	119.48/M	2222 021 36479
	100	19	0.140	150	10	6.0	0.6	4032PHCT-ND	.36	3.12	24.44	4032PHTB-ND	—	155.22	146.48/M	135.07/M	2222 021 36101
	150	27	0.140	190	11	8.0	0.6	4033PHCT-ND	.47	3.99	31.26	4033PHTB-ND	127.76	198.51	187.33/M	172.73/M	2222 021 90535
	220	37	0.140	250	18	6.5	0.8	4034PHCT-ND	.47	3.99	31.26	4034PHTB-ND	—	198.51	187.33/M	172.73/M	2222 021 36151
	330	54	0.140	340	18	8.0	0.8	4035PHCT-ND	.47	3.99	31.26	4035PHTB-ND	—	198.51	187.33/M	172.73/M	2222 021 36221
	470	75	0.140	450	18	10	0.8	4036PHCT-ND	.53	4.50	35.25	4036PHTB-ND	144.10	223.88	211.27/M	194.81/M	2222 021 36331
	680	106	0.140	560	25	10	0.8	4037PHCT-ND	.65	5.55	43.48	4037PHTB-ND	177.72	276.12	260.57/M	240.26/M	2222 021 36471
	880	106	0.140	540	30	10	0.8	4038PHBK-ND	1.21	10.42	81.55	—	233.43	362.68	342.26/M	315.59/M	2222 021 90528
	1000	154	0.140	720	30	12.5	0.8	4040PHBK-ND	1.36	11.67	91.42	—	373.69	580.59	547.89/M	505.20/M	2222 021 16102
	1500	229	0.170	790	30	12.5	0.8	4041PHBK-ND	1.37	11.76	92.12	—	376.57	585.07	552.12/M	509.09/M	2222 021 16152
2200	334	0.190	1030	30	15	0.8	4042PHBK-ND	1.58	13.56	106.22	—	434.21	674.62	636.62/M	587.02/M	2222 021 16222	
40	3300	499	0.210	1310	30	18	0.8	4043PHBK-ND	1.85	15.84	124.08	—	507.22	788.06	743.67/M	685.72/M	2222 021 16332
	4700	709	0.230	1680	38	18	0.8	4044PHBK-ND	2.33	19.95	156.28	—	638.82	992.53	936.62/M	863.64/M	2222 021 16472
	6800	1024	0.280	2070	38	21	0.8	4045PHBK-ND	2.92	24.99	195.76	—	800.21	1243.28	1173.24/M	1081.82/M	2222 021 16682
	22	9	0.110	110	10	4.5	0.6	4046PHCT-ND	.32	2.76	21.62	4046PHTB-ND	—	137.31	129.58/M	119.48/M	2222 021 37229
	47	15	0.110	170	11	6.0	0.6	4047PHCT-ND	.36	3.12	24.44	4047PHTB-ND	—	155.22	146.48/M	135.07/M	2222 021 37479
	100	28	0.110	170	11	8.0	0.6	4048PHCT-ND	.47	3.99	31.26	4048PHTB-ND	127.76	198.51	187.33/M	172.73/M	2222 021 90538
	100	28	0.110	190	18	6.5	0.8	4049PHCT-ND	.47	3.99	31.26	4049PHTB-ND	—	198.51	187.33/M	172.73/M	2222 021 37101
	150	40	0.110	250	18	8	0.8	4050PHCT-ND	.49	4.17	32.67	4050PHTB-ND	133.53	207.46	195.78/M	180.52/M	2222 021 37151
	220	57	0.110	330	18	10	0.8	4051PHCT-ND	.65	5.55	43.48	4051PHTB-ND	177.72	276.12	260.57/M	240.26/M	2222 021 37221
	330	83	0.110	430	25	10	0.8	4052PHCT-ND	.83	7.08	55.46	4052PHTB-ND	226.71	352.24	332.40/M	306.50/M	2222 021 37331
63	470	117	0.110	520	25	10	0.8	4053PHCT-ND	.85	7.29	57.11	4053PHTB-ND	233.43	362.68	342.26/M	315.59/M	2222 021 90515
	680	167	0.120	620	30	12.5	0.8	4055PHBK-ND	1.36	11.67	91.42	—	373.69	580.59	547.89/M	505.20/M	2222 021 17681
	1000	244	0.120	770	30	12.5	0.8	4056PHBK-ND	1.41	12.09	94.71	—	387.14	601.49	567.61/M	523.38/M	2222 021 17102
	1500																