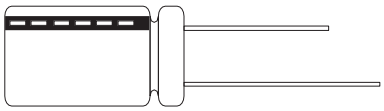
CAAB SERIES: Radial Low Impedance & ESR



FEATURES

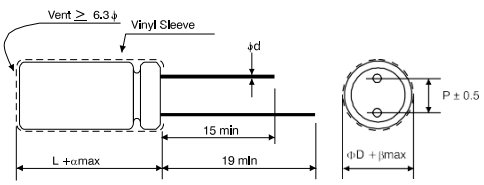
- 105°C, 2000 ~ 5000 hours assured.
- Low ESR, suitable for switching power supplies.
- Small size with large permissible ripple current.

SPECIFICATIONS

Item	Performance								
Operating Temperature Range	-55°C ~ +105°C								
Capacitance Tolerance	± 20% (120Hz, 20°C)								
Leakage Current (at 20°C)	I = 0.01CV or 3 (A) whichever is greater (after 2 minutes) Where, C = rated capacitance in μF. V=rated DC working voltage in V.								
Dissipaton Factor Tan δ at 120 Hz, 20° C	Rated Voltage	6.3	10	16	25	35	50	63	
	Tan δ (max)	0.22	0.19	0.16	0.14	0.12	0.10	0.08	
	When the capacitance exceed 1000 μF 0.02 shall be added every 1000 μ F.								
Low Temperature Characteristics (at 120Hz)	Impedance ratio shall not exceed the values given in the table below								
	Rated Voltage	6.3	10	16	25	35	50	63	
	Impedance Ratio Z(-55°C) /Z(+20°C)	4	4	3	3	3	3	3	
Load Life Test	Test Time	2000hrs for ΦD 5 ~8mm 4000hrs for ΦD =10mm 5000hrs for ΦD >13mm							
	Capacitance Change	Within ≤± 20%							
	Dissipation Factor	Less than 200% of specified value.							
	Leakage Current	Within specified value							
	The above specification shall be satisfied when the capacitors are restored to 20°C after rated voltage applied for 2000 hrs at 105°C. High than 2000 hrs load life are available upon request.								
Shelf Life Test	Test Time	1000 Hrs							
	Capacitance Change	Within ≤± 20%							
	Dissipation Factor	Less than 200% of specified value							
	Leakage Current	Within Specified value							
	The above specification shall be satisfied when the capacitors are restored to 20°C after exposing them for 1000 hrs at 105°C without voltage applied.								
Ripple Current & Frequency Multilpiers	Freq. (Hz) / Cap. (mF)	60(50)	120	500	1K	10K	100K		
	Under 33	0.40	0.55	0.65	0.80	0.90	1.00		
	39 to 330	0.60	0.70	0.80	0.90	0.95	1.00		
	390 to 1000	0.65	0.80	0.85	0.98	1.00	1.00		
	1200 up above	0.80	0.90	0.95	0.98	1.00	1.00		
Riple Current & Temperature Multipliers	Temperature (°C)	Under 50	70	85	105				
	Multipliers	2.40	2.05	1.70	1.00				
Standards	Satisfies Characteristic W of JIS C 5141								

PART NUMBER EXAMPLE

CAAB 227 M 1H B 100 250



Code	Lead Forming Type
O	Bulk
T	5mm Chip tape
A	(Φ4~Φ6.3)2.5mm tape
F	(Φ4~Φ8)5mm tape
P	Φ≥Φ8mm original(vertical)tape
M	5mm Lead forming
C	C Lead forming
B	B Lead forming
D	(Φ4~Φ8)2.5mm Lead forming

LEAD SPACING AND DIAMETER

ϕD	5	6.3	8	10	13	16	18
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5
ϕd	0.5		0.6			0.8	
α	1.0			1.5			
β	0.5						

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DIMENSIONS AND PERMISSABLE RIPPLE CURRENT

Dimension:ϕ D×L(mm) Ripple Current: mA/rms at 100K Hz 105°C

VDC	6.3V(0J)					
Item		ΦDXL	Impedance (Ω, Max/100K Hz)		Ripple Current (mA/rms, 105°C)	
μF	Code		20°C	-10°C	120Hz	100KHz
120	127	5 x 11	0.720	1.800	116	165
220	227	6.3 x 11	0.380	0.950	179	255
330	337	6.3 x 15	0.270	0.680	231	330
390	397	8 x 11.5	0.200	0.500	332	415
470	477	10 x 12.5	0.120	0.300	500	625
560	567	8 x 15	0.160	0.400	396	495
680	687	10 x 16	0.084	0.210	660	825
820	827	8 x 20	0.110	0.280	512	640
1200	127	10 x 20	0.062	0.160	936	1040
1500	157	10 x 25	0.052	0.130	1134	1260
2200	227	10 x 30	0.044	0.110	1296	1440
		13 x 20	0.046	0.120	1206	1340
2700	277	13 x 25	0.034	0.085	1521	1690
3900	397	13 x 30	0.03	0.075	1755	1950
4700	477	13 x 35	0.027	0.068	1980	2200
5600	567	13 x 40	0.024	0.06	2151	2390
		16 x 25	0.028	0.07	1863	2070
6800	687	16 x 31.5	0.025	0.063	2115	2350

VDC	10V(1A)					
Item		ΦDXL	Impedance (Ω, Max/100K Hz)		Ripple Current (mA/rms, 105°C)	
μF	Code		20°C	-10°C	120Hz	100KHz
82	826	5 x 11	0.720	1.800	116	165
180	187	6.3 x 11	0.380	0.950	179	255
270	277	6.3 x 15	0.270	0.680	231	330
330	337	8 x 11.5	0.200	0.500	291	415
390	397	10 x 12.5	0.120	0.300	500	625
470	477	8 x 15	0.160	0.400	396	495
680	687	8 x 20	0.110	0.280	512	640
		10 x 16	0.084	0.210	660	825
1000	108	10 x 20	0.062	0.160	832	1040
1200	128	10 x 25	0.052	0.130	1134	1260
1500	158	10 x 30	0.044	0.110	1296	1440
1800	188	13 x 20	0.046	0.120	1206	1340
2200	228	13 x 25	0.034	0.085	1521	1690
2700	278	13 x 30	0.03	0.075	1755	1950
3300	338	13 x 35	0.027	0.068	1980	2200
3900	398	13 x 40	0.024	0.060	2151	2390
		16 x 25	0.028	0.070	1863	2070
5600	568	16 x 31.5	0.025	0.063	2115	2350
6800	688	16 x 35.5	0.022	0.055	2295	2550

VDC	16V(1C)					
Item		ΦDXL	Impedance (Ω, Max/100K Hz)		Ripple Current (mA/rms, 105°C)	
μF	Code		20°C	-10°C	120Hz	100KHz
56	566	5 x 11	0.720	1.800	116	165
120	127	6.3 x 11	0.380	0.950	179	255
180	187	6.3 x 15	0.270	0.680	231	330
270	277	8 x 11.5	0.200	0.500	291	415
		10 x 12.5	0.120	0.300	438	625
330	337	8 x 15	0.160	0.400	347	495
470	477	8 x 20	0.110	0.280	512	640
		10 x 16	0.084	0.210	660	825
680	687	10 x 20	0.062	0.160	832	1040
820	827	10 x 25	0.052	0.130	1008	1260
1200	128	10 x 30	0.044	0.110	1296	1440
		13 x 20	0.046	0.120	1206	1340
1500	158	13 x 25	0.034	0.080	1521	1690
2200	228	13 x 30	0.030	0.075	1755	1950
2700	278	13 x 35	0.027	0.068	1980	2200
		16 x 25	0.028	0.07	1863	2070
3300	338	13 x 40	0.024	0.06	2151	2390
3900	398	16 x 31.5	0.025	0.063	2115	2350
4700	478	16 x 35.5	0.022	0.055	2295	2550
5600	568	16 x 40	0.018	0.045	2610	2900
6800	688	18 x 35.5	0.021	0.053	2394	2660

VDC	25V(1E)					
Item		ΦDXL	Impedance (Ω, Max/100K Hz)		Ripple Current (mA/rms, 105°C)	
μF	Code		20°C	-10°C	120Hz	100KHz
39	396	5 x 11	0.720	1.800	116	165
82	826	6.3 x 11	0.380	0.950	179	255
120	127	6.3 x 15	0.270	0.680	231	330
150	157	8 x 11.5	0.500	0.020	291	415
180	187	10 x 12.5	0.120	0.300	438	625
220	227	8 x 15	0.160	0.400	347	495
330	337	8 x 20	0.110	0.280	448	640
		10 x 16	0.084	0.210	578	825
470	477	10 x 20	0.062	0.160	832	1040
560	567	10 x 25	0.052	0.130	1008	1260
820	827	10 x 30	0.044	0.110	1152	1440
		13 x 20	0.046	0.120	1072	1340
1000	108	13 x 25	0.034	0.085	1352	1690
1500	158	13 x 30	0.030	0.075	1755	1950
1800	188	16 x 25	0.028	0.070	1863	2070
2200	228	13 x 40	0.024	0.060	2151	2390
2700	278	16 x 31.5	0.025	0.063	2115	2350
3300	338	16 x 35.5	0.022	0.055	2295	2550
3900	398	16 x 40	0.018	0.045	2610	2900
		18 x 35.5	0.021	0.053	2394	2660
4700	478	18 x 40	0.017	0.043	2709	3010

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DIMENSIONS AND PERMISSABLE RIPPLE CURRENT

Dimension:ϕ D×L(mm) Ripple Current: mA/rms at 100K Hz 105°C

VDC		35V(1V)				
Item		ΦDXL	Impedance (Ω, Max/100K Hz)		Ripple Current (mA/rms, 105°C)	
μF	Code		20°C	-10°C	120Hz	100KHz
27	276	5 x 11	0.720	1.800	91	165
56	566	6.3 x 11	0.380	0.950	179	255
82	826	6.3 x 15	0.270	0.680	231	330
120	127	8 x 11.5	0.200	0.500	291	415
		10 x 12.5	0.120	0.300	438	625
180	187	8 x 15	0.160	0.400	347	495
220	227	8 x 20	0.110	0.280	448	640
		10 x 16	0.084	0.210	578	825
330	337	10 x 20	0.062	0.160	728	1040
390	397	10 x 25	0.052	0.130	1008	1260
560	567	10 x 30	0.040	0.110	1152	1440
		13 x 20	0.046	0.120	1072	1340
680	687	13 x 25	0.034	0.085	1352	1690
1000	108	13 x 30	0.030	0.750	1560	1950
1200	128	13 x 35	0.027	0.068	1980	2200
		16 x 25	0.028	0.070	1863	2070
1500	158	13 x 40	0.024	0.060	2151	2390
1800	188	16 x 31.5	0.025	0.063	2115	2350
2200	228	16 x 35.5	0.022	0.055	2295	2550
2700	278	16 x 40	0.018	0.045	2610	2900
		18 x 35.5	0.021	0.053	2394	2660
3300	338	18 x 40	0.010	0.043	2709	3010

VDC		50V(1H)				
Item		ΦDXL	Impedance (Ω, Max/100K Hz)		Ripple Current (mA/rms, 105°C)	
μF	Code		20°C	-10°C	120Hz	100KHz
18	186	5 x 11	1.100	3.300	72	130
39	396	6.3 x 11	0.560	1.600	154	220
56	566	6.3 x 15	0.410	1.200	217	310
68	686	8 x 11.5	0.290	0.840	238	340
82	826	8 x 15	0.250	0.750	329	470
		10 x 12.5	0.160	0.400	336	480
120	127	8 x 20	0.180	0.520	427	610
		10 x 16	0.120	0.300	529	755
180	187	10 x 20	0.088	0.220	662	945
220	227	10 x 25	0.068	0.170	805	1150
330	337	10 x 30	0.059	0.150	882	1260
		13 x 20	0.059	0.150	833	1190
470	477	13 x 25	0.045	0.110	1192	1490
560	567	13 x 30	0.039	0.098	1376	1720
680	687	13 x 35	0.033	0.083	1512	1890
820	827	13 x 40	0.029	0.073	1624	2030
		16 x 25	0.033	0.083	1504	1880
1000	108	16 x 31.5	0.029	0.073	1720	2150
1200	128	16 x 35.5	0.025	0.063	2088	2320
1500	158	16 x 40	0.021	0.063	2286	2540
1800	188	18 x 35.5	0.023	0.058	2160	2400
2200	228	18 x 40	0.020	0.050	2349	2610

VDC		63V(1J)				
Item		ΦDXL	Impedance (Ω, Max/100K Hz)		Ripple Current (mA/rms, 105°C)	
μF	Code		20°C	-10°C	120Hz	100KHz
12	126	5 x 11	1.900	4.800	55	100
27	276	6.3 x 11	1.100	2.800	88	160
39	396	6.3 x 15	0.620	1.600	161	230
47	476	8 x 11.5	0.490	1.300	193	275
56	566	10 x 12.5	0.270	0.680	294	420
68	686	8 x 15	0.340	0.850	252	360
		10 x 16	0.210	0.530	366	523
82	826	8 x 20	0.210	0.530	350	500
120	127	10 x 20	0.160	0.400	455	650
150	157	10 x 25	0.130	0.330	546	780
180	187	10 x 30	0.100	0.250	672	960
220	227	13 x 20	0.110	0.280	609	870
270	277	13 x 25	0.074	0.190	805	1150
390	397	13 x 30	0.068	0.170	1024	1280
470	477	13 x 35	0.063	0.160	1112	1390
		16 x 25	0.055	0.140	1184	1480
560	567	13 x 40	0.051	0.130	1224	1530
680	687	16 x 31.5	0.046	0.120	1376	1720
820	827	16 x 35.5	0.040	0.100	1528	1910
1000	108	18 x 35.5	0.040	0.100	1576	1970