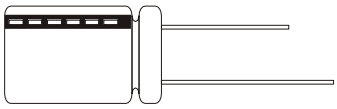
CAAA SERIES: Low Impedance, High Temperature



FEATURES

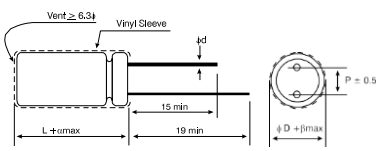
- 105℃, 2000 ~ 5000 hours assured
- Low ESR, suitable for switching power supplies
- Smaller size with large permissible ripple current
- 160 ~ 450V also suitable for ballasts

SPECIFICATIONS

Item	Performance														
Operating Temperature	6.3 ~ 100V								160 ~ 450V						
	-55°C ~ +105°C								-40°C ~ +105°C						
Capacitance Tolerance	± 20% (120Hz, 20°C)														
Leakage Current (at 20°C)	Rated Voltage	<100V		>100V											
	Time	After 2 minutes		After 5 minutes											
	Leakage Curent	I = 0.01CV or 3 (μA) whichever is greater		CV<1000 I=0.03CV+15(μA)			CV>1000 I=0.02CV+25(μA)								
	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	100	160	200	250	350	400	450
	Tan δ (max)	0.22	0.19	0.16	0.14	0.12	0.10	0.08	0.05	0.20	0.24	0.24	0.24	0.24	0.24
	When the capacitance exceed 1000 μF 0.02 shall be added every 1000 μF.														
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	100				
	Impedance Ratio	Z(-55°C) /Z(+20°C)		4	4	3	3	3	3	3	3				
Low Temperature Characteristics (at 120Hz)	Impedance ratio shall not exceed the valuesgivenin the table below														
	Impedance Ratio	Rated Voltage		6.3	10	16	25	35	50	63	100				
		Z((-55°C)/Z(+20°C)		4	4	3	3	3	3	3	3				
		Rated Voltage		160	200	250	350	400	450						
		Z(-40)/Z(+200176C)		6	6	6	6	6	6						
Load Life Test	Test Time	2000hrs for φD =5~8mm 5000hrs for φ D＞8mm													
	Capacitance Change	Within ≤ ± 20% of initial value													
	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 rated voltage applied for 1000 hours at 105° C without voltage applied.														
Ripple Current & Frequency Multilpiers	Freq. (Hz) / Cap. (μF)	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

CAAA 107 M 1E B 080 115



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 / Item / μF	6.3V(0J)					10V(1A)					16V(1C)				
	φDxL	Impedance (Ω) Max @100KHz		Ripple current (mA rms) @105°C		φDxL	Impedance (Ω) Max @100KHz		Ripple current (mA rms) @105°C		φDxL	Impedance (Ω) Max @100KHz		Ripple current (mA rms) @105°C	
		20°C	-10°C	120Hz	100KHz		20°C	-10°C	120Hz	100KHz		20°C	-10°C	120Hz	100KHz
33											5 x 11	1.30	3.90	108	154
39											5 x 11	1.30	3.90	108	154
47						5 x 11	2.10	5.50	78	111	6.3 x 11	0.60	1.80	182	260
56						5 x 11	1.90	4.80	85	121	6.3 x 11	0.60	1.80	182	260
68						5 x 11	1.30	3.90	108	154	6.3 x 11	0.60	1.80	182	260
100	5 x 11	1.30	3.90	108	154	6.3 x 11	0.60	1.80	182	260	6.3 x 11	0.60	1.80	182	260
220	6.3 x 11	0.60	1.80	182	260	8 x 11.5	0.33	0.99	280	400	8 x 11.5	0.33	0.99	320	400
330	8 x 11.5	0.33	0.88	280	400	8 x 11.5	0.33	0.99	280	400	10 x 12.5	0.25	0.75	360	510
390	8 x 11.5	0.33	0.88	320	400	10 x 12.5	0.27	0.70	410	510	10 x 16	0.19	0.57	510	635
470	10 x 12.5	0.25	0.75	410	510	10 x 12.5	0.25	0.75	410	510	10 x 16	0.19	0.57	510	635
560	10 x 12.5	0.25	0.75	410	510	10 x 16	0.19	0.57	510	635	10 x 20	0.14	0.42	775	860
680	10 x 16	0.19	0.57	510	635	10 x 16	0.19	0.57	510	635	10 x 20	0.14	0.42	775	860
1000	10 x 20	0.14	0.42	690	860	10 x 20	0.14	0.37	690	860	12.5 x 20	0.085	0.26	1000	1250
1200	10 x 20	0.14	0.42	775	860	10 x 25	0.12	0.30	930	1030	12.5 x 20	0.085	0.26	1125	1250
2200	12.5 x 20	0.085	0.26	1125	1250	12.5 x 25	0.070	0.21	1200	1355	12.5 x 25	0.070	0.21	1200	1355
3300	12.5 x 25	0.070	0.21	1200	1355	12.5 x 25	0.070	0.21	1200	1355	16 x 31.5	0.048	0.14	1830	2030
4700	16 x 25	0.060	0.18	1595	1770	16 x 31.5	0.048	0.14	1830	2030	16 x 35.5	0.044	0.13	2065	2295

VDC / Item / μF	25V(1E)					35V(1V)					50V(1H)				
	φDxL	Impedance (Ω)Max @ 100KHz		Ripple current (mA rms) @105°C		φDxL	Impedance (Ω)Max @ 100KHz		Ripple current (mA rms) @105°C		φDxL	Impedance (Ω)Max @ 100KHz		Ripple current (mA rms) @105°C	
		20°C	-10°C	120Hz	100KHz		20°C	-10°C	120Hz	100KHz		20°C	-10°C	120Hz	100KHz
1											5 x 11	5.0	15.0	43	78
2.2											5 x 11	4.0	12.0	48	88
3.3											5 x 11	3.50	11.0	52	94
4.7											5 x 11	3.00	9.00	55	100
6.8											5 x 11	3.00	9.00	55	100
10											5 x 11	2.00	6.00	68	124
22						5 x 11	1.30	3.90	108	154	6.3 x 11	0.60	1.80	143	260
33	5 x 11	1.30	3.90	108	154	6.3 x 11	0.60	1.80	182	260	6.3 x 11	0.60	1.80	143	260
39	6.3 x 11	0.60	1.80	182	260	6.3 x 11	0.60	1.80	182	260	6.3 x 11	0.60	1.80	182	260
47	6.3 x 11	0.60	1.80	182	260	6.3 x 11	0.60	1.80	182	260	8 x 11.5	0.33	0.99	320	400
56	6.3 x 11	0.60	1.80	182	260	6.3 x 11	0.60	1.80	182	260	8 x 11.5	0.33	0.99	320	400
68	6.3 x 11	0.60	1.80	182	260	6.3 x 11	0.60	1.80	182	260	8 x 11.5	0.33	0.99	320	400
100	8 x 11.5	0.33	0.99	320	400	8 x 11.5	0.33	0.99	320	400	10 x 16	0.19	0.57	445	635
220	10 x 12.5	0.25	0.75	360	510	10 x 16	0.19	0.57	445	635	10 x 25	0.12	0.30	825	1030
330	10 x 16	0.19	0.57	445	635	10 x 20	0.12	0.42	600	860	12.5x 20	0.085	0.26	875	1250
390	10 x 20	0.14	0.42	775	635	10 x 25	0.12	0.30	930	1030	12.5x 25	0.070	0.21	1085	1355
470	10 x 20	0.14	0.42	775	635	12.5x 20	0.085	0.26	1000	1250	12.5x 25	0.070	0.21	1085	1355
560	10 x 25	0.12	0.30	930	1030	12.5x 20	0.085	0.26	1000	1250	12.5x 25	0.070	0.21	1085	1355
680	12.5 x 20	0.085	0.26	1000	1250	12.5x 25	0.070	0.21	1085	1355	16 x 25	0.060	0.18	1415	1770
1000	12.5 x 25	0.070	0.23	1080	1355	12.5x 25	0.070	0.21	1085	1355	16 x 25	0.060	0.18	1595	1770
1200	12.5 x 25	0.070	0.21	1200	1355	12.5x 25	0.070	0.21	1200	1355	16 x 31.5	0.048	0.14	1830	2030
2200	16 x 25	0.060	0.18	1595	1770	16 x 35.5	0.044	0.13	2065	2295	18 x 40	0.037	0.1	2465	2740
3300	16 x 35.5	0.044	0.13	2065	2295	18 x 40	0.037	0.10	2465	2740					
4700	18 x 40	0.037	0.1	2465	2740										

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DIMENSIONS AND PERMISSABLE RIPPLE CURRENT

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

VDC / Item / μF	63V(1J)					100V(2A)				
	φDxL	Impedance (Ω) Max @ 100KHz		Ripple current (mA rms) @ 105°C		φDxL	Impedance (Ω) Max @ 100KHz		Ripple current (mA rms) @ 105°C	
		20°C	-10°C	120Hz	100KHz		20°C	-10°C	120Hz	100KHz
1						5 x 11	7.00	25	36	66
2.2						5 x 11	6.00	21	40	72
3.3						5 x 11	5.00	18.0	43	78
4.7						6.3 x 11	1.20	4.20	100	180
6.8						6.3 x 11	1.20	4.20	100	180
10	6.3 x 11	1.20	4.2	100	180	8 x 11.5	0.56	2.00	168	305
22	6.3 x 11	1.20	4.2	100	180	8 x 11.5	0.56	2.00	168	308
33	8 x 11.5	0.56	2.00	170	305	10 x 12.5	0.50	1.80	210	380
39	8 x 11.5	0.56	2.00	170	305	10 x 16	0.32	1.10	350	500
47	8 x 11.5	0.56	2.00	170	305	10 x 20	0.27	0.95	435	620
56	10 x 12.5	0.50	1.80	265	380	10 x 20	0.27	0.95	435	620
68	10 x 12.5	0.50	1.80	265	380	10 x 25	0.21	0.63	530	760
100	10 x 20	0.27	0.95	600	620	13 x 20	0.16	0.56	625	890
220	12.5 x 20	0.094	0.24	570	820	16 x 25	0.090	0.32	1010	1440
330	12.5 x 25	0.073	0.21	770	1100	16 x 31.5	0.060	0.17	1255	1790
390	12.5 x 25	0.073	0.21	770	1100	16 x 35.5	0.056	0.14	1650	2065
470	16 x 25	0.060	0.18	1420	1770					
560	16 x 31.5	0.048	0.14	1625	2030					
680	16 x 31.5	0.048	0.14	1625	2030					
1000	18 x 35.5	0.041	0.11	1790	2240					