CONIS COMPANY Ltd.

CAPACITORS
EMI and RFI FILTERS

ALUMINIUM ELECTROLYTIC CAPACITORS - LARGE TYPE SCREW TERMINALS

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Aluminium Electrolytic Capacitors - Large type Screw Terminals

List of Products

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EA - 11	Wide Temp. Range Low ESR. Low Z	-55 to +105	10 to 100	3300 to 470000	105 °C - 2000	6
EA - 23	Low ESR. Low Z. High Reliability	-55 to +105	10 to 63	6800 to 470000	105 °C - 2000	9
EA - 14	For General Purpose	-25 to +70	160 to 400	330 to 15000	70 °C - 1000	11
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Aluminium Electrolytic Capacitors - Large type -Screw Terminals

EA - 10 SERIES For General Purpose

* Hight CV. Product
* Standard series for General Purpose
* Load life of 2000 hours at 85 ^{0}C

Item	Characteristics
Operating temperature range	- 40 ÷ +85 ^{0}C
Rated working voltage range Ur	10 ÷ 100 VDC
Nominal capacitance range Cn	3300 ÷ 470000 μF /at 20 ^{0}C, 120 Hz/
Capacitance tolerance	± 20 % /at 20 ^{0}C, 120 Hz/
Leakage current max.	0.006 CnUr (μA) /after 5 min/

Dissipation factor max. /at 20 ^{0}C, 120 Hz/

ϕD \ VDC	10	16	25	35	50	63	80	100
35; 40	0.50	0.45	0.45	0.40	0.30	0.25	0.25	0.20
51; 45	0.65	0.60	0.60	0.45	0.45	0.35	0.30	0.20
63.5; 55	0.90	0.80	0.70	0.50	0.50	0.40	0.35	0.25
75	1.50	1.30	1.00	0.90	0.70	0.50	0.40	0.30

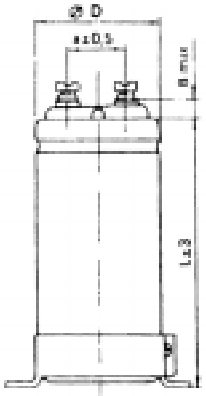
Low temperature characteristics (impedance ratio at 100 Hz)

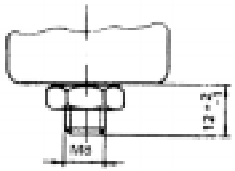
VDC	10	16	25	35	50	63	80	100
Z - 25^{0}C/Z + 20^{0}C	4	3	2	2	2	2	2	2
Z - 40^{0}C/Z + 20^{0}C	8	8	6	4	3	3	3	3

Load life (after application of the rated voltage for 2000 hours at 85^{0}C)

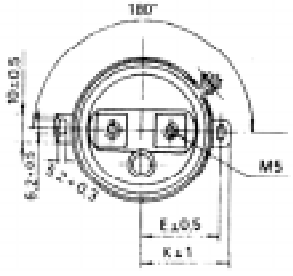
Leakage current	Less than specified value
Capacitance change	± 20%
tgδ	Less than 150% specified value

Shelf life (at 85^{0}C): After 1000 hours no load test, leakage current, capacitance and tgδ are the same as load life values.

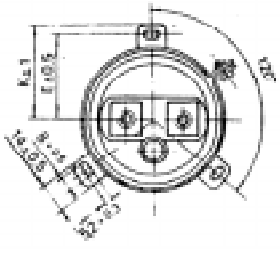




ϕD - 35 mm, 40 mm,45 mm



ϕD - 35 mm, 40 mm,45 mm



ϕD - 51 mm, 55 mm,63,5 mm, 75 mm

ϕD ± 1	E ± 0.5	K ± 1	a ± 0.5
35	24.0	29.0	12.7
40.0	26.5	31.5	15.0
45.0	29.5	34.5	15.0
51.0	32.9	38.9	22.5
55.0	34.5	39.5	22.5
63.5	38.4	45.3	28.6
75.0	44.5	49.5	32.0

Temp. ^{0}C	40	60	70	85
Coefficient	1.9	1.5	1.3	1.0

*** PERMISSIBLE RIPPLE CURRENT MULTIPLIERS**

Frequency	50Hz	120Hz	300Hz	1kHz	10kHz
Coefficient	0.75	1.00	1.10	1.15	1.20

EA - 10 SERIES

*DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT A(rms) at 120 Hz, 85^{0}C & R_{ESR} & I_L

Capacitance [μF]	Working voltage [V]	Dimensions φDxL [mm]	R_{ESR} max 20^{0}C, 120 Hz [Ω]	I_L max 20 ^{0}C [μA]	Max Ripple Current A[rms], 120 Hz
22000	10	35x52; 40x52	0.060	1320	5.0
33000		35x52; 40x52	0.048	1980	6.0
47000		35x62; 40x62	0.033	2880	8.2
68000		35x84; 40x84	0.030	4080	11.0
100000		35x102; 45x84	0.024	6000	12.5
150000		51x102; 55x84	0.019	9000	16.9
220000		51x137; 55x112	0.015	13200	22.0
330000		63.5x122; 75x112	0.012	19800	23.5
470000		75x122	0.010	28800	25.9
15000	16	35x52; 40x52	0.058	1440	6.0
22000		35x52; 40x52	0.047	2110	6.5
33000		35x62; 40x52	0.038	3200	7.1
47000		35x84; 40x62	0.031	4500	9.1
68000		35x102; 40x84	0.024	6510	12.1
100000		51x84; 45x84	0.019	9600	13.2
150000		51x112; 55x102	0.014	14400	17.6
220000		63.5x122; 75x102	0.012	21100	24.5
330000		75x112	0.010	32100	25.9
470000		75x122	0.009	45000	26.9
10000	25	35x52; 40x52	0.060	1500	6.0
15000		35x52; 40x52	0.045	2250	6.5
22000		35x62; 40x52	0.038	3300	7.3
33000		35x84; 40x62	0.032	4950	9.5
47000		35x102; 40x84	0.027	7050	12.0
68000		51x84; 45x84	0.022	10200	13.0
100000		51x112; 55x102	0.018	15000	18.5
150000		63.5x112; 75x102	0.014	22500	23.5
220000		75x112	0.011	33000	27.9
6800	35	35x52; 40x52	0.063	1650	4.5
10000		35x52; 40x52	0.050	2400	5.0
15000		35x62; 40x52	0.040	3600	6.8
22000		35x84; 40x62	0.030	5200	7.9
33000		35x102; 40x84	0.025	7410	10.5
47000		51x102; 45x112	0.023	11280	13.0
68000		51x112; 55x102	0.019	16500	15.0
100000		51x137; 55x122	0.016	24000	19.5
150000		75x122	0.013	36000	24.5

EA - 10 SERIES

*DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT A(rms) at 120 Hz, 85^{0}C & R_{ESR} & I_L

Capacitance [μF]	Working voltage [V]	Dimensions φDxL [mm]	R_{ESR} max 20^{0}C, 120 Hz [Ω]	I_L max 20 ^{0}C [μA]	Max Ripple Current A[rms], 120 Hz
6800	50	35x52; 40x52	0.058	2040	2.9
10000		35x62; 40x62	0.043	3000	3.9
15000		35x84; 40x84	0.038	4500	5.3
22000		35x102; 45x84	0.032	6600	7.5
33000		51x102; 45x112	0.027	9900	8.3
47000		51x112; 55x102	0.023	14100	10.5
68000		63.5x112; 55x122	0.019	20400	12.6
100000		75x122	0.015	30000	13.7
4700	63	35x52; 40x52	0.070	1380	2.9
6800		35x62; 40x52	0.053	2580	3.4
10000		35x84; 40x62	0.040	3780	4.9
15000		35x102; 40x84	0.035	4200	6.5
22000		51x102; 45x112	0.030	8850	7.0
33000		63.5x112; 55x112	0.025	12360	9.5
47000		63.5x122; 75x112	0.020	17760	11.5
68000		75x122	0.018	25680	15.9
4700	80	35x52; 40x52	0.065	2260	3.0
6800		35x62; 40x62	0.045	3110	4.0
10000		35x84; 40x84	0.035	4800	5.0
15000		51x104; 45x112	0.028	7200	6.6
22000		51x112; 55x112	0.020	10560	8.0
33000		63.5x112; 75x112	0.018	15840	11.0
47000		63.5x137; 75x122	0.016	22600	13.5
3300	100	35x62; 40x52	0.090	1980	3.0
4700		35x84; 40x62	0.065	2820	3.8
6800		35x102; 40x84	0.045	4080	4.5
10000		51x102; 45x112	0.035	6000	6.5
15000		51x122; 55x102	0.028	9000	8.5
22000		63.5x122; 75x102	0.020	13200	9.1
33000		75x122	0.018	19800	12.5

EA - 11 SERIES
Wide Temperature Range

***Screw terminal series for high temperature up to 105°C**

*** High ripple current capability**

*** Ideally suited for use as input and output filter capacitors in power supplies**

Item	Characteristics
Operating temperature range	- 55 ÷ +105 °C
Rated working voltage range Ur	10 ÷ 100 VDC
Nominal capacitance range Cn	3300 ÷ 470000 µF /at 20 °C, 120 Hz/
Capacitance tolerance	± 20 % /at 20 °C, 120 Hz/
Leakage current max.	0.006 CnUr (µA) /after 5 min/

Dissipation factor max. /at 20 °C, 120 Hz/

ϕD \ VDC	10	16	25	35	50	63	80	100
35; 40	0.50	0.46	0.41	0.31	0.26	0.26	0.26	0.22
51; 45	0.65	0.62	0.47	0.37	0.32	0.22	0.22	0.22
63.5; 55	0.80	0.80	0.72	0.52	0.52	0.42	0.37	0.27
75	1.40	1.25	0.95	0.72	0.72	0.72	0.52	0.42

Low temperature characteristics (impedance ratio at 100 Hz)

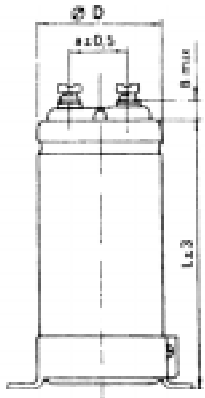
VDC	10	16	25	35	50	63	80	100
Z - 25°C/Z + 20°C	4	3	2	2	2	2	2	2
Z - 40°C/Z + 20°C	8	8	6	4	3	3	3	3

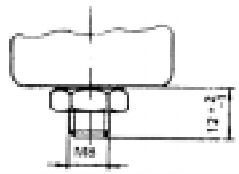
Load life (after application of the rated voltage for 2000 hours at 105°C)

Leakage current	Less than specified value
Capacitance change	±20%
tgδ	Less than 200% specified value

Shelf life (at 105°C)

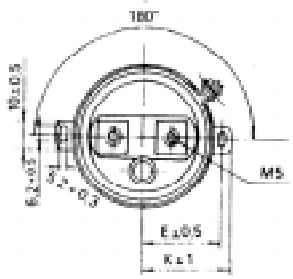
After 1000 hours no load test, leakage current, capacitance and tgδ are the same as load life values.



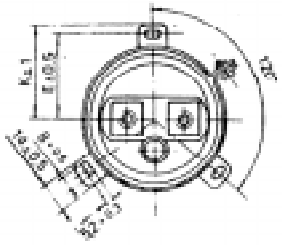


ϕD - 35 mm, 40 mm,45 mm

ϕD ± 1	E ± 0.5	K ± 1	a ± 0.5
35	24.0	29.0	12.7
40.0	26.5	31.5	15.0
45.0	29.5	34.5	15.0
51.0	32.9	38.9	22.5
55.0	34.5	39.5	22.5
63.5	38.4	45.3	28.6
75.0	44.5	49.5	32.0



ϕD - 35 mm, 40 mm,45 mm



ϕD - 51 mm, 55 mm,63,5 mm, 75 mm

Temp. °C	40	60	70	85	105
Coefficient	2.20	1.85	1.55	1.25	1.00

*** PERMISSIBLE RIPPLE CURRENT MULTIPLIERS**

Frequency	50Hz	120Hz	300Hz	1kHz	10kHz
Coefficient	0.75	1.00	1.10	1.15	1.20

EA - 11 SERIES

*DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT A(rms) at 120 Hz, 105^{0}C & R_{ESR} & I_L

Capacitance [μF]	Working voltage [V]	Dimensions φDxL [mm]	R_{ESR} max 20^{0}C, 120 Hz [Ω]	I_L max 20 ^{0}C [μA]	Max Ripple Current A[rms], 120 Hz
22000	10	35x52; 40x52	0.050	1320	4.1
33000		35x52; 40x52	0.042	1980	5.2
47000		35x62; 40x62	0.029	2880	7.1
68000		35x84; 40x84	0.028	4080	9.0
100000		35x102; 45x84	0.021	6000	10.0
150000		51x102; 55x84	0.016	9000	12.0
220000		51x137; 55x112	0.013	13200	17.0
330000		63.5x122; 75x112	0.010	19800	17.5
470000		75x122	0.008	28800	18.0
15000	16	35x52; 40x52	0.050	1440	5.2
22000		35x52; 40x52	0.043	2110	5.5
33000		35x62; 40x52	0.035	3200	6.1
47000		35x84; 40x62	0.029	4500	7.5
68000		35x102; 40x84	0.022	6510	10.5
100000		51x84; 45x84	0.017	9600	11.0
150000		51x112; 55x102	0.012	14400	13.9
220000		63.5x122; 75x102	0.010	21100	18.5
330000		75x112	0.008	32100	19.0
470000		75x122	0.007	45000	19.5
10000	25	35x52; 40x52	0.055	1500	5.2
15000		35x52; 40x52	0.040	2250	5.5
22000		35x62; 40x52	0.033	3300	6.2
33000		35x84; 40x62	0.028	4950	7.1
47000		35x102; 40x84	0.024	7050	8.9
68000		51x84; 45x84	0.019	10200	10.9
100000		51x112; 55x102	0.015	15000	12.5
150000		63.5x112; 75x102	0.010	22500	15.9
220000		75x112	0.008	33000	19.5
6800	35	35x52; 40x52	0.052	1650	3.8
10000		35x52; 40x52	0.042	2400	4.1
15000		35x62; 40x52	0.035	3600	5.9
22000		35x84; 40x62	0.024	5200	6.5
33000		35x102; 40x84	0.022	7410	7.8
47000		51x102; 45x112	0.019	11280	9.5
68000		51x112; 55x102	0.016	16500	11.5
100000		51x137; 55x122	0.013	24000	14.0
150000		75x122	0.010	36000	17.0

EA - 11 SERIES

*DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT A(rms) at 120 Hz, 105^{0}C & R_{ESR} & I_L

Capacitance [μF]	Working voltage [V]	Dimensions φDxL [mm]	R_{ESR} max 20^{0}C, 120 Hz [W]	I_L max 20 ^{0}C [μA]	Max Ripple Current A[rms], 120 Hz
6800	50	35x52; 40x52	0.050	2040	2.4
10000		35x62; 40x62	0.039	3000	3.1
15000		35x84; 40x84	0.035	4500	4.5
22000		35x102; 45x84	0.025	6600	6.5
33000		51x102; 45x112	0.021	9900	7.0
47000		51x112; 55x102	0.019	14100	8.5
68000		63.5x112; 55x122	0.015	20400	9.9
100000		75x122	0.013	30000	10.5
4700	63	35x52; 40x52	0.060	1380	2.3
6800		35x62; 40x52	0.045	2580	3.1
10000		35x84; 40x62	0.035	3780	4.0
15000		35x102; 40x84	0.030	4200	4.6
22000		51x102; 45x112	0.025	8850	6.5
33000		63.5x112; 55x112	0.020	12360	7.3
47000		63.5x122; 75x112	0.016	17760	9.0
68000		75x122	0.013	25680	10.8
4700	80	35x52; 40x52	0.057	2260	2.4
6800		35x62; 40x62	0.041	3110	3.4
10000		35x84; 40x84	0.030	4800	4.3
15000		51x104; 45x112	0.025	7200	5.0
22000		51x112; 55x112	0.017	10560	7.0
33000		63.5x112; 75x112	0.015	15840	8.5
47000		63.5x137; 75x122	0.013	22600	10.0
3300	100	35x62; 40x52	0.080	1980	2.5
4700		35x84; 40x62	0.057	2820	3.0
6800		35x102; 40x84	0.041	4080	3.8
10000		51x102; 45x112	0.030	6000	4.8
15000		51x122; 55x102	0.025	9000	5.9
22000		63.5x122; 75x102	0.017	13200	7.6
33000		75x122	0.015	19800	9.0

EA - 23 SERIES
Wide Temperature Range. High Reliability

***Screw terminal series for high temperature up to 105^{0}C**

*** High ripple current capability**

*** Ideally suited for use as input and output filter capacitors in power supplies**

Item	Characteristics
Operating temperature range	- 55 ÷ +105 ^{0}C
Rated working voltage range Ur	10 ÷ 63 VDC
Nominal capacitance range Cn	6800 ÷ 470000 μF /at 20 ^{0}C, 120 Hz/
Capacitance tolerance	± 20 % /at 20 ^{0}C, 120 Hz/
Leakage current max.	0.006 CnUr (μA) /after 5 min/

Dissipation factor max. /at 20 ^{0}C, 120 Hz/

ϕD \ VDC	10	16	25	35	50	63
35; 40	0.45	0.45	0.36	0.26	0.21	0.20
51; 45	0.60	0.58	0.43	0.33	0.28	0.27
63.5; 55	0.70	0.70	0.65	0.47	0.47	0.45
75	1.20	1.15	0.85	0.65	0.65	0.60

Low temperature characteristics (impedance ratio at 100 Hz)

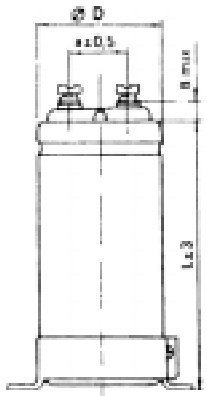
VDC	10	16	25	35	50	63
Z - 40^{0}C/Z + 20^{0}C	4	3	2	2	2	2
Z - 55^{0}C/Z + 20^{0}C	8	8	6	4	3	3

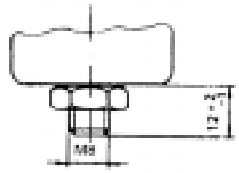
Load life (after application of the rated voltage for 2000 hours at 105^{0}C)

Leakage current	Less than specified value
Capacitance change	±20%
tg δ	Less than 200% specified value

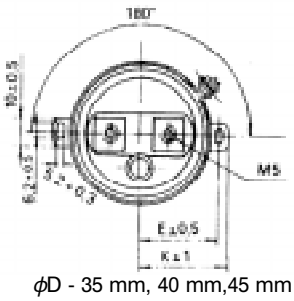
Shelf life (at 105^{0}C)

After 1000 hours no load test, leakage current, capacitance and tg δ are the same as load life values.

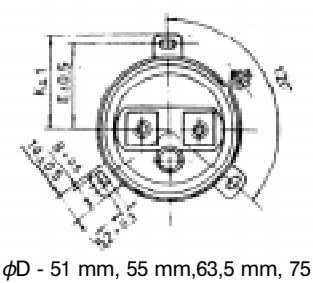




ϕD - 35 mm, 40 mm,45 mm



ϕD - 35 mm, 40 mm,45 mm



ϕD - 51 mm, 55 mm,63,5 mm, 75 mm

ϕD ± 1	E ± 0.5	K ± 1	a ± 0.5
35	24.0	29.0	12.7
40.0	26.5	31.5	15.0
45.0	29.5	34.5	15.0
51.0	32.9	38.9	22.5
55.0	34.5	39.5	22.5
63.5	38.4	45.3	28.6
75.0	44.5	49.5	32.0

Temp. ^{0}C	40	60	70	85	105
Coefficient	2.20	1.85	1.55	1.25	1.00

*** PERMISSIBLE RIPPLE CURRENT MULTIPLIERS**

Frequency	50Hz	120Hz	300Hz	1kHz	10kHz
Coefficient	0.75	1.00	1.10	1.15	1.20

EA - 23 SERIES

*DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT A(rms) at 120 Hz, 105^{0}C & R_{ESR} & I_L

Capacitance [μF]	Working voltage [V]	Dimensions φDxL [mm]	R_{ESR} max 20^{0}C, 120 Hz [Ω]	I_L max 20 ^{0}C [μA]	Max Ripple Current A[rms], 120 Hz
22000	10	35x52; 40x52	0.045	1320	5.0
33000		35x52; 40x52	0.038	1980	6.0
47000		35x62; 40x62	0.023	2880	8.2
68000		35x84; 40x84	0.022	4080	11.0
100000		35x102; 45x84	0.018	6000	12.5
150000		51x102; 55x84	0.014	9000	16.9
220000		51x137; 55x112	0.011	13200	22.0
330000		63.5x122; 75x112	0.008	19800	23.5
470000		75x122	0.006	28800	25.9
15000	16	35x52; 40x52	0.045	1440	6.0
22000		35x52; 40x52	0.038	2110	6.5
33000		35x62; 40x52	0.031	3200	7.1
47000		35x84; 40x62	0.025	4500	9.1
68000		35x102; 40x84	0.018	6510	12.1
100000		51x84; 45x84	0.014	9600	13.2
150000		51x112; 55x102	0.010	14400	17.6
220000		63.5x122; 75x102	0.008	21100	24.5
330000		75x112	0.006	32100	25.9
470000		75x122	0.005	45000	26.9
10000	25	35x52; 40x52	0.048	1500	6.0
15000		35x52; 40x52	0.035	2250	6.5
22000		35x62; 40x52	0.029	3300	7.3
33000		35x84; 40x62	0.024	4950	9.5
47000		35x102; 40x84	0.020	7050	12.0
68000		51x84; 45x84	0.016	10200	13.0
100000		51x112; 55x102	0.013	15000	18.5
150000		63.5x112; 75x102	0.009	22500	23.5
220000		75x112	0.007	33000	27.9
6800	35	35x52; 40x52	0.047	1650	4.5
10000		35x52; 40x52	0.037	2400	5.0
15000		35x62; 40x52	0.030	3600	6.8
22000		35x84; 40x62	0.020	5200	7.9
33000		35x102; 40x84	0.018	7410	10.5
47000		51x102; 45x112	0.016	11280	13.0
68000		51x112; 55x102	0.013	16500	15.0
100000		51x137; 55x122	0.010	24000	19.5
150000		75x122	0.008	36000	24.5
6800	50	35x52; 40x52	0.045	2040	2.9
10000		35x62; 40x62	0.034	3000	3.9
15000		35x84; 40x84	0.030	4500	5.3
22000		35x102; 45x84	0.021	6600	7.5
33000		51x102; 45x112	0.017	9900	8.3
47000		51x112; 55x102	0.016	14100	10.5
68000		63.5x112; 55x122	0.012	20400	12.6
100000		75x122	0.010	30000	13.7
4700	63	35x52; 40x52	0.060	1380	2.3
6800		35x62; 40x52	0.045	2580	3.1
10000		35x84; 40x62	0.035	3780	4.0
15000		35x102; 40x84	0.030	4200	4.6
22000		51x102; 45x112	0.025	8850	6.5
33000		63.5x112; 55x112	0.020	12360	7.3
47000		63.5x122; 75x112	0.016	17760	9.0
68000		75x122	0.013	25680	10.8

EA - 14 SERIES

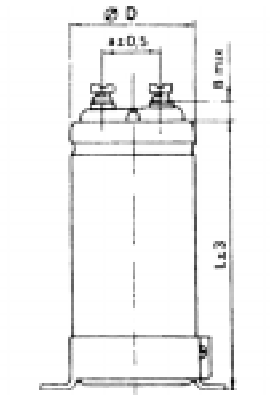
For General Purpose

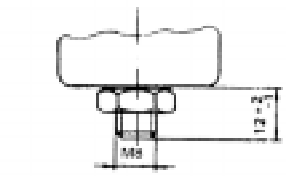
***Standard series for General Purpose**
*** Load life of 1000 hours at 70 ^{0}C**
*** Screw terminals**

Item	Characteristics
Operating temperature range	- 25 ÷ +70 ^{0}C
Rated working voltage range Ur	160 ÷ 400 VDC
Nominal capacitance range Cn	330 ÷ 15000 μF /at 20 ^{0}C, 120 Hz/
Capacitance tolerance	± 20 % /at 20 ^{0}C, 120 Hz/
Leakage current max.	0.02 CnUr (μA) /after 5 min/
Dissipation factor max. /at 20 ^{0}C, 120 Hz/	0.20
Low temperature characteristics (impedance ratio at 100 Hz)	
Load life (after application of the rated voltage for 1000 hours at 70^{0}C)	
Shelf life (at 70^{0}C)	After 1000 hours no load test, leakage current, capacitance and tgδ are the same as load life values.

VDC	160	200	250	350	385	400
Z - 25^{0}C/Z + 20^{0}C	6	6	8	10	12	12

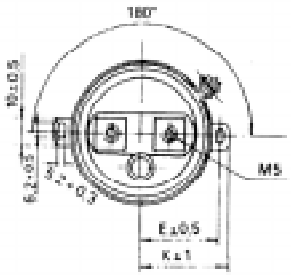
Leakage current	Less than specified value
Capacitance change	±20%
tgδ	Less than 150% specified value



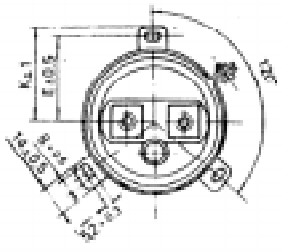


ϕD - 35 mm, 40 mm,45 mm

ϕD ± 1	E ± 0.5	K ± 1	a ± 0.5
35.0	24.0	29.0	12.7
40.0	26.5	31.5	15.0
45.0	29.5	34.5	15.0
51.0	32.9	38.9	22.5
55.0	34.5	39.5	22.5
63.5	38.4	45.3	28.6
75.0	44.5	49.5	32.0



ϕD - 35 mm, 40 mm,45 mm



ϕD - 51 mm, 55 mm,63,5 mm, 75 mm

Temp. ^{0}C	40	60	70
Coefficient	1.8	1.4	1.0

*** PERMISSIBLE RIPPLE CURRENT MULTIPLIERS**

Frequency	50Hz	120Hz	300Hz	1kHz	10kHz
Coefficient	0.75	1.00	1.10	1.15	1.20

EA - 14 SERIES

DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT A(rms) at 120 Hz, 70°C

μF \ VDC	160			200			250		
680							35x62;	40x52	2.10
1000				35x62;	40x52	2.80	35x84;	40x62	2.90
1500	35x62;	40x52	3.40	35x84;	40x62	3.60	35x112;	40x84	3.80
2200	35x84;	40x62	4.60	35x102;	40x84	5.10	51x84;	45x84	5.50
3300	35x102;	40x84	6.20	51x84;	45x84	6.70	51x112;	45x112	7.00
4700	51x102;	45x84	7.70	51x112;	45x112	8.30	63.5x112;	55x122	8.60
6800	51x122;	45x112	10.00	63.5x122;	75x112	11.50	63.5x137;	75x112	10.00
10000	63.5x137;	75x112	14.10		75x122	12.10		75x122	11.20
15000		75x122	16.50						

μF \ VDC	350			385			400		
330	35x62;	40x52	1.20	35x62;	40x52	1.25	35x62;	40x52	1.20
470	35x62;	40x62	1.80	35x84;	40x62	1.90	35x84;	40x62	2.00
680	35x102;	40x84	2.60	35x102;	40x84	2.60	35x102;	40x84	2.20
1000	35x112;	45x112	3.40	51x102;	45x112	3.40	51x102;	45x112	3.00
1500	51x102;	55x112	4.30	51x112;	55x112	4.30	51x112;	55x112	3.70
2200	63.5x112;	75x112	5.70	63.5x122;	75x112	5.80	63.5x122;	75x112	5.10
3300	63.5x137;	75x122	8.00		75x122	8.50		75x122	6.20

EA - 24 SERIES
Wide Temperature Range

***Standard series for temperature up to 85 ^{0}C**

*** Load life of 2000 hours at 85 ^{0}C**

*** Screw terminals**

Item	Characteristics
Operating temperature range	- 40 ÷ +85 ^{0}C
Rated working voltage range Ur	160 ÷ 450 VDC
Nominal capacitance range Cn	330 ÷ 15000 μF /at 20 ^{0}C, 120 Hz/
Capacitance tolerance	± 20 % /at 20 ^{0}C, 120 Hz/
Leakage current max.	0.02 CnUr (μA) /after 5 min/
Dissipation factor max. /at 20 ^{0}C, 120 Hz/	0.20

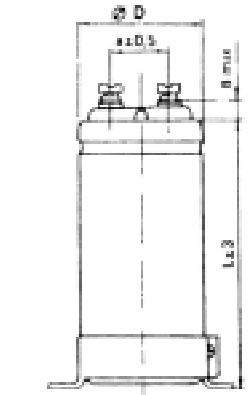
Low temperature characteristics (impedance ratio at 100 Hz)

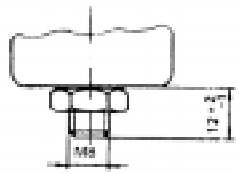
VDC	160	200	250	350	385	400	450
Z - 40^{0}C/Z + 20^{0}C	8	8	8	10	12	12	12

Load life (after application of the rated voltage for 2000 hours at 85^{0}C)

Leakage current	Less than specified value
Capacitance change	±20%
tg δ	Less than 200% specified value

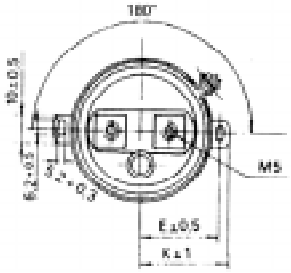
Shelf life (at 85^{0}C): After 1000 hours no load test, leakage current, capacitance and tg δ are the same as load life values.



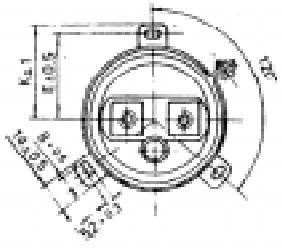


ϕD - 35 mm, 40 mm,45 mm

ϕD ± 1	E ± 0.5	K ± 1	a ± 0.5
35.0	24.0	29.0	12.7
40.0	26.5	31.5	15.0
45.0	29.5	34.5	15.0
51.0	32.9	38.9	22.5
55.0	34.5	39.5	22.5
63.5	38.4	45.3	28.6
75.0	44.5	49.5	32.0



ϕD - 35 mm, 40 mm,45 mm



ϕD - 51 mm, 55 mm,63,5 mm, 75 mm

Temp. ^{0}C	40	60	70	85
Coefficient	1.8	1.4	1.2	1.0

*** PERMISSIBLE RIPPLE CURRENT MULTIPLIERS**

Frequency	50Hz	120Hz	300Hz	1kHz	10kHz
Coefficient	0.75	1.00	1.10	1.15	1.20

EA - 24 SERIES

DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT A(rms) at 120 Hz, 85°C

µF \ VDC	160	200	250
680			35x62; 40x52 1.90
1000		35x62; 40x52 2.10	35x84; 40x62 2.60
1500	35x62; 40x52 2.80	35x84; 40x62 2.90	35x112; 40x84 3.20
2200	35x84; 40x62 4.10	35x102; 40x84 4.80	51x84; 45x84 4.60
3300	35x102; 40x84 5.80	51x84; 45x84 6.00	51x112; 45x112 6.10
4700	51x102; 45x84 6.80	51x112; 45x112 7.30	63.5x112; 55x122 8.10
6800	51x122; 45x112 8.80	63.5x122; 75x112 10.10	63.5x137; 75x112 9.15
10000	63.5x137; 75x112 12.50	75x122 11.00	75x122 10.20
15000	75x122 15.30		

µF \ VDC	350	385	400
330	35x62; 40x52 1.00	35x62; 40x52 1.10	35x62; 40x52 1.10
470	35x62; 40x62 1.70	35x84; 40x62 1.45	35x84; 40x62 1.45
680	35x102; 40x84 2.30	35x102; 40x84 2.10	35x102; 40x84 2.10
1000	35x112;45x112 2.90	51x102; 45x112 2.80	51x102; 45x112 2.80
1500	51x102;55x112 3.80	51x112; 55x112 3.30	51x112; 55x112 3.30
2200	63.5x112;75x112 4.90	63.5x122; 75x112 5.00	63.5x122; 75x112 5.00
3300	63.5x137;75x122 7.10	75x122 6.30	75x122 6.30

µF \ VDC	450
330	35x62; 40x52 1.10
470	35x84; 40x62 1.45
680	35x102; 40x84 2.10
1000	51x102; 45x112 2.80
1500	51x112; 55x112 3.30
2200	63.5x122; 75x112 5.00
3300	75x122; 6.30

EA - 25 SERIES
Wide Temperature Range

*** Screw terminal series for high temperature up to 105^{0}C**

*** High ripple current capability**

*** Ideally suited for use as input and output filter capacitors in power supplies**

Item	Characteristics
Operating temperature range	- 25 ÷ +105 ^{0}C
Rated working voltage range Ur	160 ÷ 450 VDC
Nominal capacitance range Cn	330 ÷ 15000 μF /at 20 ^{0}C, 120 Hz/
Capacitance tolerance	± 20 % /at 20 ^{0}C, 120 Hz/
Leakage current max.	0.02 CnUr (μA) /after 5 min/
Dissipation factor max. /at 20 ^{0}C, 120 Hz/	0.15

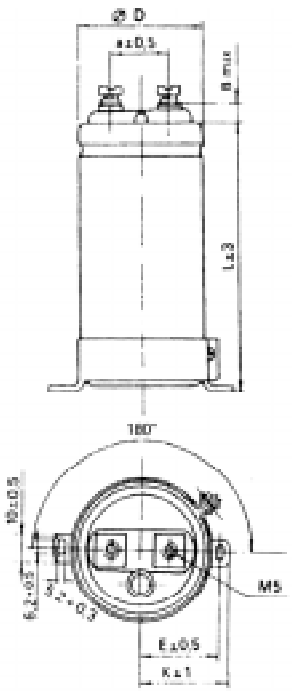
Low temperature characteristics (impedance ratio at 100 Hz)

VDC	160	200	250	350	385	400	450
Z - 25^{0}C/Z + 20^{0}C	6	6	6	8	8	8	10
Z - 40^{0}C/Z + 20^{0}C	8	8	8	10	10	12	12

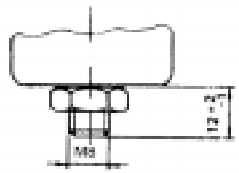
Load life (after application of the rated voltage for 2000 hours at 105^{0}C)

Leakage current	Less than specified value
Capacitance change	±20%
tg δ	Less than 200% specified value

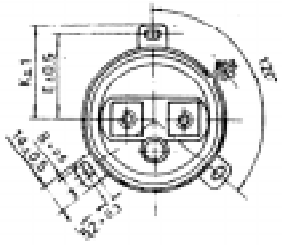
Shelf life (at 105^{0}C): After 1000 hours no load test, leakage current, capacitance and tg δ are the same as load life values.



*ϕ*D - 35 mm, 40 mm,45 mm



*ϕ*D - 35 mm, 40 mm,45 mm



*ϕ*D - 51 mm, 55 mm,63,5 mm, 75 mm

ϕD ± 1	E ± 0.5	K ± 1	a ± 0.5
35.0	24.0	29.0	12.7
40.0	26.5	31.5	15.0
45.0	29.5	34.5	15.0
51.0	32.9	38.9	22.5
55.0	34.5	39.5	22.5
63.5	38.4	45.3	28.6
75.0	44.5	49.5	32.0

Temp. ^{0}C	40	60	85	105
Coefficient	1.8	1.4	1.2	1.0

*** PERMISSIBLE RIPPLE CURRENT MULTIPLIERS**

Frequency	50Hz	120Hz	300Hz	1kHz	10kHz
Coefficient	0.75	1.00	1.10	1.15	1.20

EA - 25 SERIES

DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT A(rms) at 120 Hz, 105^{0}C

μF \ VDC	160			200			250		
680							35x84;	40x62	1.50
1000				35x62;	40x52	1.80	35x102;	40x84	2.10
1500	35x62;	40x52	2.10	35x84;	40x62	2.30	35x112;	45x84	2.60
2200	35x102;	40x84	3.00	35x102;	40x102	3.30	51x102;	45x102	3.40
3300	35x112;	40x102	4.00	51x102;	45x102	4.20	51x122;	55x112	4.80
4700	51x102;	45x102	5.00	51x122;	55x112	5.80	63.5x122;	55x122	5.20
6800	51x137;	55x112	7.00	63.5x122;	75x112	6.20	63.5x137;	75x112	5.50
10000	63.5x137;	75x112	7.60		75x122	7.00		75x122	7.50
15000		75x122	8.00						

μF \ VDC	350			385			400		
330	35x62;	40x52	0.70	35x62;	40x52	0.70	35x62;	40x52	0.70
470	35x84;	40x62	1.00	35x84;	40x62	1.00	35x84;	40x62	1.00
680	35x102;	40x84	1.30	35x102;	40x84	1.30	35x112;	40x84	1.30
1000	35x112;	45x112	1.70	51x102;	45x112	1.70	51x102;	45x112	1.70
1500	51x102;	55x112	2.20	51x112;	55x112	2.20	51x112;	55x112	2.20
2200	63.5x112;	75x112	3.10	63.5x122;	75x112	3.10	63.5x122;	75x112	3.10
3300	63.5x137;	75x122	3.90		75x122	3.90		75x122	3.90

μF \ VDC	450		
330	35x62;	40x52	0.80
470	35x84;	40x62	1.10
680	35x102;	40x84	1.35
1000	51x102;	45x112	1.70
1500	51x112;	55x112	2.20
2200	63.5x122;	75x112	3.10
3300		75x122;	3.90