

LD Series 85°C 5000H



Features

Standard capacitors

Applications

- ◆ Switch-mode power supplies in industrial and entertainment electronics
- ◆ Uninterruptible power supplies

Features

- ◆ High reliability
- ◆ Long useful life
- ◆ High ripple current capability
- ◆ Aluminum case designed explosion-proof vent
- ◆ RoHS-compatible

Construction

- ◆ Charge-discharge proof, polar
- ◆ Aluminum case with insulating sleeve
- ◆ Aluminum case designed explosion-proof vent
- ◆ Snap-in solder pins to hold component in place on PC-board

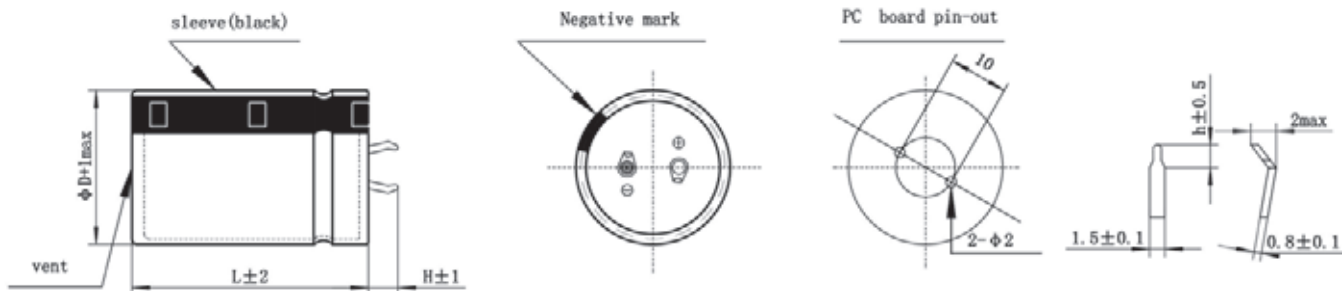
Specifications

Item	Performance Characteristics											
Operating Temperature Range	-40 to +85°C	-25 to +85°C										
Rated voltage V_R	10 to 350 V DC	400 to 500 V DC										
Surge voltage V_S	$V_R \leq 315V$ 1.15 V_R $V_R > 315V$ 1.10 V_R											
Rated capacitance C_R	82 to 100000 μF	47 to 1800 μF										
Capacitance tolerance	$\pm 20\%$ (120Hz, +20°C)											
Leakage Current I_{leak} (+20°C, max.)	$I \leq 3 \sqrt{CV}$ (μA) After 5 minutes with rated working voltage applied											
Dissipation Factor ($\tan \delta$, at 20°C, 120Hz)	Less than the value under table(%)											
	$\mu F/Vdc$	6.3	10	16	25	35	50	63	80	100	160~420	450~600
	≤ 8200	-	35	35	30	25	20	20	15	15	15	20
	10000 to 22000	55	40	40	35	30	30	25	15	-	-	-
≥ 27000	60	50	40	35	35	30	25	-	-	-	-	
Self-inductance ESL	approx. 20 nH											
Useful life 85°C; $V_R, I_{AC, R}$	$V_R \leq 100V$: >7000 h	Requirements:										$V_R > 100V$ $\Delta C/C \leq \pm 20\%$ of initial value $\tan \delta \leq 2$ times initial specified limit $I_{leak} \leq$ initial specified limit
		$V_R \leq 100V$ $\Delta C/C \leq \pm 30\%$ of initial value $\tan \delta \leq 3$ times initial specified limit $I_{leak} \leq$ initial specified limit										
Voltage Endurance test 85°C; V_R	5000 h	Post test requirements:										$V_R > 100V$ $\Delta C/C \leq \pm 10\%$ of initial value $\tan \delta \leq 1.3$ times initial specified limit $I_{leak} \leq$ initial specified limit
		$V_R \leq 100V$ $\Delta C/C \leq \pm 15\%$ of initial value $\tan \delta \leq 1.3$ times initial specified limit $I_{leak} \leq$ initial specified limit										
Shelf Life 85°C	1000 h	Post test requirements:										$V_R > 100V$ $\Delta C/C \leq \pm 10\%$ of initial value $\tan \delta \leq 1.3$ times initial specified limit $I_{leak} \leq$ initial specified limit
		$V_R \leq 100V$ $\Delta C/C \leq \pm 15\%$ of initial value $\tan \delta \leq 1.3$ times initial specified limit $I_{leak} \leq$ initial specified limit										
Vibration Resistance test	To IEC 60068-2-6, test Fc: Displacement amplitude 0.75 mm, frequency range 10 ... 55 Hz, acceleration max. 10 g, duration 3x2 h. Capacitor mounted by its body which is rigidly clamped to the work surface.											
Characteristics at low temperature	Max. impedance ratio at 120 Hz											
	$V_R(V)$	6.3	10	16	25	35~100	160~250	300~350	400~600			
	$Z_{25^\circ C} / Z_{20^\circ C}$	5	5	5	4	4	4	8	8			
$Z_{-40^\circ C} / Z_{20^\circ C}$	15	15	15	15	12	8	12	-				
Sectional specification	IEC 60384-4 and JIS-C-5101											

Multiplier for Ripple Current vs. Frequency

$V_R(V)/$ Frequency(Hz)	50(60)	120	300	1K	10K	50K-100K
$10 \leq V_R \leq 100$	0.88	1	1.07	1.15	1.15	1.15
$160 \leq V_R \leq 250$	0.81	1	1.17	1.32	1.45	1.5
$315 \leq V_R \leq 600$	0.77	1	1.16	1.30	1.41	1.43

Dimensional drawings



Standard snap-in terminals: length (6.0 ± 1) mm
 Also available with length of (4.0 ± 1) mm

H	h
6	2.5
4	1.5

Packing

Capacitor diameter D(mm)	Length L(mm)	Terminal length H(mm)	Each carton packing Qty units(pcs.)	Box/carton units(pcs.)	Each box packing Qty units(pcs.)
20	all	/	720	6	120
22	< 55	/	600	6	100
22	≥ 55	/	400	4	100
25	< 65	/	500	5	100
25	≥ 65	/	400	4	100
30	≤ 36	< 6(L=35、36)	400	8	50
30	$35 \leq L \leq 65$	≥ 6 (L=35、36)	300	6	50
30	> 65	/	200	4	50
35	≤ 25	/	400	8	50
35	$25 < L < 45$	/	300	6	50
35	$45 \leq L \leq 85$	/	200	4	50
35	> 85	/	100	2	50
40	35	< 6	200	5	40
40	35	≥ 6	160	4	40
40	$40 \leq L \leq 45$	/	160	4	40
40	$45 < L \leq 75$	/	120	3	40
40	> 75	/	80	2	40
45	$40 \leq L \leq 65$	/	140	4	35
45	$65 < L \leq 100$	/	70	2	35

Packing of snap-in



Case Size

WV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (Arms/85°C /120Hz)	Typ. ESR 20°C 120Hz (mΩ)	MAX ESR 20°C 120Hz (mΩ)
10	10000	22x25	2.51	36	46
10	12000	22x25	2.71	34	44
10	15000	22x30	3.21	27	35
10	15000	25x25	3.21	27	35
10	18000	22x35	3.61	23	29
10	18000	25x30	3.61	23	29
10	22000	22x40	4.11	19	24
10	22000	25x35	4.11	19	24
10	22000	30x25	4.11	19	24
10	33000	22x45	4.81	15	20
10	33000	25x40	5.21	15	20
10	33000	30x30	5.21	15	20
10	47000	22x50	6.01	11	14
10	47000	25x45	6.31	11	14
10	47000	30x35	6.31	11	14
10	56000	30x40	7.21	9	12
10	56000	35x35	7.51	9	12
10	68000	30x50	8.21	8	10
10	68000	35x40	8.21	8	10
10	82000	35x50	9.31	6	8
10	100000	35x55	10.11	5	7
16	8200	22x25	2.21	44	57
16	10000	22x30	2.61	36	46
16	10000	25x25	2.61	36	46
16	12000	22x35	2.91	34	44
16	15000	22x40	3.31	27	35
16	15000	25x30	3.31	27	35
16	15000	30x25	3.41	27	35
16	18000	22x45	3.81	23	29
16	18000	25x35	3.71	23	29
16	22000	22x50	4.21	19	24
16	22000	25x40	4.21	19	24
16	22000	30x30	4.21	19	24
16	22000	35x25	4.41	19	24
16	33000	25x45	5.21	12	16
16	33000	30x35	5.21	12	16
16	33000	35x30	5.21	12	16
16	47000	25x50	6.31	9	11
16	47000	30x40	6.31	9	11
16	47000	35x35	6.31	9	11
16	56000	30x45	9.81	7	10
16	56000	35x40	9.81	7	10
16	56000	40x40	9.81	7	10
16	68000	35x50	10.81	6	8
16	68000	40x50	11.51	6	8
16	82000	35x60	11.81	5	7
16	82000	40x50	11.81	5	7
16	100000	35x80	13.21	4	6
16	100000	40x60	13.51	4	6
25	5600	22x25	2.01	55	71
25	6800	22x30	2.31	45	59
25	6800	25x25	2.31	45	59
25	8200	22x35	2.61	37	49
25	10000	22x40	2.91	31	40
25	10000	25x30	2.81	31	40
25	10000	30x25	3.01	31	40
25	12000	22x45	3.31	30	39
25	12000	25x35	3.21	30	39

WV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (Arms/85°C /120Hz)	Typ. ESR 20°C 120Hz (mΩ)	MAX ESR 20°C 120Hz (mΩ)
25	12000	30x30	3.41	30	39
25	15000	25x40	3.71	24	31
25	15000	35x25	3.91	24	31
25	18000	25x50	4.31	20	26
25	18000	30x35	4.21	20	26
25	18000	35x30	4.41	20	26
25	22000	30x40	5.01	16	21
25	22000	35x35	5.01	16	21
25	33000	35x40	8.11	11	14
25	33000	40x40	8.71	11	14
25	39000	35x45	9.01	9	12
25	39000	40x40	9.61	9	12
25	47000	35x50	9.61	8	10
25	56000	35x60	10.31	6	8
25	56000	40x50	10.81	6	8
25	68000	35x80	11.31	5	7
25	68000	40x60	11.81	5	7
25	82000	40x80	13.51	4	6
35	3300	22x25	1.81	77	100
35	3900	22x30	2.11	65	85
35	4700	25x25	2.21	54	71
35	5600	22x35	2.31	46	59
35	5600	25x30	2.31	46	59
35	6800	22x40	2.91	38	49
35	6800	25x35	2.91	38	49
35	6800	30x25	2.91	38	49
35	8200	22x50	2.81	31	40
35	8200	25x40	2.81	31	40
35	8200	30x30	2.81	31	40
35	8200	35x25	2.91	31	40
35	10000	25x45	3.11	26	33
35	10000	30x35	3.21	26	33
35	12000	25x50	3.51	26	33
35	12000	30x40	3.51	26	33
35	12000	35x30	3.61	26	33
35	15000	30x45	4.11	20	27
35	15000	35x35	4.11	20	27
35	18000	30x50	4.61	17	22
35	18000	35x40	4.71	17	22
35	22000	35x45	5.31	14	18
35	27000	35x45	8.21	13	17
35	27000	40x40	8.21	13	17
35	33000	35x50	8.71	11	14
35	39000	35x60	10.31	9	12
35	39000	40x50	10.31	9	12
35	47000	35x80	11.41	8	10
35	47000	40x60	10.81	8	10
35	56000	40x70	12.11	6	8
35	68000	40x80	14.21	5	7
50	2200	22x25	1.71	92	120
50	2700	22x30	1.91	76	98
50	2700	25x25	1.91	76	98
50	3300	25x30	1.81	62	80
50	3900	22x35	2.11	52	68
50	3900	25x30	2.11	52	68
50	3900	30x25	2.41	52	68
50	4700	22x40	2.41	43	56
50	4700	25x35	2.41	43	56

VV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (Arms/85°C /120Hz)	Typ. ESR 20°C 120Hz (mΩ)	MAX ESR 20°C 120Hz (mΩ)
50	5600	22x50	2.51	36	47
50	5600	25x40	2.51	36	47
50	5600	30x30	2.51	36	47
50	5600	35x25	2.61	36	47
50	6800	25x45	3.21	30	39
50	6800	30x35	3.21	30	39
50	8200	25x50	3.01	25	32
50	8200	30x40	3.01	25	32
50	8200	35x30	3.01	25	32
50	10000	30x45	3.41	20	27
50	10000	35x35	3.41	20	27
50	12000	30x45	3.81	26	33
50	12000	35x35	3.81	26	33
50	15000	30x50	4.51	20	27
50	15000	35x40	7.71	20	27
50	15000	40x40	8.11	20	27
50	18000	35x45	8.31	17	22
50	18000	40x40	8.31	17	22
50	22000	35x50	9.11	14	18
50	22000	40x50	9.41	14	18
50	27000	35x80	11.21	11	15
50	27000	40x60	10.81	11	15
50	33000	35x80	13.41	9	12
50	33000	40x70	13.41	9	12
50	39000	40x80	15.51	8	10
63	1500	22x25	1.61	140	180
63	1800	22x25	1.81	120	150
63	2200	22x30	2.01	92	120
63	2200	25x25	2.01	92	120
63	2700	22x35	2.21	76	98
63	2700	25x30	2.31	76	98
63	3300	22x40	2.31	62	80
63	3300	25x35	2.31	62	80
63	3300	30x25	2.31	62	80
63	3900	22x45	2.51	52	68
63	3900	25x40	2.61	52	68
63	3900	30x30	2.61	52	68
63	3900	35x25	2.71	52	68
63	4700	30x30	2.91	43	56
63	5600	25x45	3.11	36	47
63	5600	30x35	3.21	36	47
63	5600	35x30	3.31	36	47
63	6800	30x40	3.61	30	39
63	6800	35x35	3.71	30	39
63	8200	30x50	3.71	25	32
63	8200	35x40	3.81	25	32
63	10000	35x45	4.31	20	27
63	12000	35x50	4.81	21	28
63	12000	35x50	8.71	21	28
63	12000	40x40	8.61	21	28
63	15000	35x70	10.21	17	22
63	15000	40x50	9.51	17	22
63	18000	35x80	11.21	14	18
63	18000	40x60	10.71	14	18
63	27000	40x80	12.71	9	12
80	1000	22x25	1.31	150	200
80	1200	22x30	1.51	130	170
80	1500	25x25	1.71	100	130
80	1800	22x35	1.91	85	110
80	1800	25x30	1.91	85	110

VV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (Arms/85°C /120Hz)	Typ. ESR 20°C 120Hz (mΩ)	MAX ESR 20°C 120Hz (mΩ)
80	2200	22x40	2.11	70	90
80	2200	25x35	2.21	70	90
80	2200	30x25	2.21	70	90
80	2700	22x50	2.51	57	74
80	2700	25x40	2.51	57	74
80	2700	30x30	2.51	57	74
80	2700	35x25	2.51	57	74
80	3300	25x45	2.81	46	60
80	3300	30x35	2.81	46	60
80	3900	25x50	3.11	39	51
80	3900	30x40	3.21	39	51
80	3900	35x30	3.21	39	51
80	4700	30x45	3.61	33	42
80	4700	35x35	3.61	33	42
80	5600	30x50	3.81	27	36
80	5600	35x40	3.81	27	36
80	6800	35x50	4.11	23	29
80	8200	35x50	6.91	19	24
80	10000	35x60	8.71	15	20
80	12000	35x70	9.71	13	17
80	12000	40x50	9.01	13	17
80	15000	35x80	10.51	10	13
80	15000	40x60	10.21	10	13
80	18000	40x80	12.31	9	11
100	680	22x25	1.11	220	290
100	820	22x30	1.21	180	240
100	1000	25x25	1.41	150	200
100	1200	22x35	1.61	130	170
100	1200	25x30	1.61	130	170
100	1500	22x40	1.81	100	130
100	1500	25x35	1.81	100	130
100	1500	30x25	1.81	100	130
100	1800	22x50	2.11	85	110
100	1800	25x40	2.01	85	110
100	1800	30x30	2.11	85	110
100	1800	35x25	2.21	85	110
100	2200	25x45	2.21	70	90
100	2200	30x35	2.31	70	90
100	2200	35x30	2.51	70	90
100	2700	25x50	2.61	57	74
100	2700	30x40	2.71	57	74
100	3300	30x45	3.01	46	60
100	3300	35x35	3.11	46	60
100	3900	30x45	3.41	39	51
100	3900	35x35	3.41	39	51
100	4700	35x40	4.01	33	42
100	5600	35x45	7.01	27	36
100	5600	40x40	7.41	27	36
100	6800	35x50	8.01	23	29
100	6800	40x50	8.91	23	29
100	8200	35x70	9.61	19	24
100	8200	40x60	9.61	19	24
100	10000	35x80	10.41	15	20
100	10000	40x60	10.21	15	20
100	12000	40x80	12.31	13	17
160	220	22x20	1.01	500	900
160	270	22x25	1.11	410	740
160	330	22x25	1.51	330	600
160	390	22x30	1.51	280	510
160	390	25x25	1.61	280	510

VV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (Arms/85°C /120Hz)	Typ. ESR 20°C 120Hz (mΩ)	MAX ESR 20°C 120Hz (mΩ)
160	470	22x35	1.81	230	420
160	470	25x25	1.71	230	420
160	560	22x35	2.11	200	360
160	560	25x30	2.21	200	360
160	560	30x25	2.11	200	360
160	680	22x40	2.31	160	290
160	680	25x35	2.31	160	290
160	820	22x50	2.71	130	240
160	820	25x40	2.71	130	240
160	820	30x30	2.71	130	240
160	820	35x25	2.71	130	240
160	1000	25x45	3.31	110	200
160	1000	30x35	3.41	110	200
160	1000	35x30	3.41	110	200
160	1200	25x50	3.71	94	170
160	1200	30x40	3.81	94	170
160	1200	35x35	3.81	94	170
160	1500	30x45	4.41	72	130
160	1500	35x40	4.41	72	130
160	1800	35x40	4.41	61	110
160	2200	35x45	4.91	50	90
160	2700	35x50	5.31	41	74
160	3300	35x70	5.51	33	60
160	3900	40x60	5.51	33	60
160	3900	35x80	5.91	28	51
160	4700	40x80	7.31	24	42
180	270	22x25	1.21	410	740
180	330	22x30	1.51	330	600
180	390	25x25	1.68	280	510
180	470	22x35	1.71	230	420
180	470	25x30	1.71	230	420
180	470	30x25	1.81	230	420
180	560	22x40	2.12	200	360
180	560	25x35	2.12	200	360
180	680	22x50	2.41	160	290
180	680	25x40	2.41	160	290
180	680	30x30	2.41	160	290
180	680	35x25	2.41	160	290
180	820	25x45	2.71	130	240
180	820	30x35	2.71	130	240
180	820	35x30	2.71	130	240
180	1000	25x50	3.51	110	200
180	1000	30x40	3.51	110	200
180	1200	30x45	3.92	94	170
180	1200	35x35	3.92	94	170
180	1500	35x45	4.61	72	130
180	1800	35x50	4.11	61	110
200	220	22x25	1.21	500	900
200	270	22x25	1.32	410	740
200	330	22x25	1.54	330	600
200	330	22x30	1.61	330	600
200	330	25x25	1.64	330	600
200	390	22x30	1.75	280	510
200	390	25x25	1.68	280	510
200	390	25x30	1.87	280	510
200	390	30x25	2.06	280	510
200	470	22x30	1.95	230	420
200	470	22x35	2.00	230	420
200	470	25x25	1.95	230	420
200	470	25x30	2.05	230	420

VV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (Arms/85°C /120Hz)	Typ. ESR 20°C 120Hz (mΩ)	MAX ESR 20°C 120Hz (mΩ)
200	470	30x25	2.28	230	420
200	560	22x35	2.25	200	360
200	560	22x40	2.32	200	360
200	560	25x30	2.24	200	360
200	560	25x35	2.34	200	360
200	560	30x25	2.34	200	360
200	560	30x30	2.59	200	360
200	560	35x25	2.58	200	360
200	680	22x40	2.60	160	290
200	680	22x45	2.57	160	290
200	680	25x35	2.49	160	290
200	680	25x40	2.68	160	290
200	680	30x25	2.42	160	290
200	680	30x30	2.87	160	290
200	680	35x25	2.90	160	290
200	820	22x45	2.99	130	240
200	820	25x35	2.76	130	240
200	820	25x40	2.99	130	240
200	820	25x45	3.06	130	240
200	820	30x30	2.99	130	240
200	820	30x35	3.28	130	240
200	820	35x25	3.06	130	240
200	820	35x30	3.30	130	240
200	1000	25x45	3.63	110	200
200	1000	25x50	3.80	110	200
200	1000	30x30	3.51	110	200
200	1000	30x35	3.63	110	200
200	1000	30x40	4.00	110	200
200	1000	35x25	3.51	110	200
200	1000	35x30	4.10	110	200
200	1200	25x50	4.03	94	170
200	1200	30x45	4.53	94	170
200	1200	35x35	4.53	94	170
200	1500	30x50	5.26	72	130
200	1500	35x35	4.80	72	130
200	1500	35x40	5.26	72	130
200	1800	30x50	5.31	61	110
200	1800	30x55	5.67	61	110
200	1800	35x40	5.31	61	110
200	1800	35x45	5.77	61	110
200	2200	35x45	5.81	50	90
200	2200	35x50	5.91	50	90
200	2700	35x55	6.03	41	74
200	2700	35x60	6.19	41	74
200	2700	40x50	6.19	41	74
200	3300	35x80	7.50	33	60
200	3300	40x60	7.50	33	60
200	3900	40x80	8.00	28	51
250	100	22x25	0.73	1110	1990
250	150	22x25	0.93	740	1330
250	180	22x25	1.12	620	1110
250	220	22x30	1.29	500	900
250	220	25x25	1.29	500	900
250	270	22x30	1.47	410	740
250	270	25x25	1.54	410	740
250	330	22x30	1.67	330	600
250	330	22x35	1.70	330	600
250	330	25x25	1.63	330	600
250	330	25x30	1.79	330	600
250	390	22x35	1.91	280	510

VV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (Arms/85°C /120Hz)	Typ. ESR 20°C 120Hz (mΩ)	MAX ESR 20°C 120Hz (mΩ)
250	390	22x40	1.94	280	510
250	390	25x30	1.86	280	510
250	390	25x35	2.02	280	510
250	390	30x25	2.15	280	510
250	470	22x40	2.19	230	420
250	470	22x45	2.22	230	420
250	470	25x30	2.06	230	420
250	470	25x35	2.23	230	420
250	470	30x30	2.45	230	420
250	560	22x40	2.46	200	360
250	560	22x50	2.54	200	360
250	560	25x35	2.46	200	360
250	560	25x40	2.53	200	360
250	560	30x30	2.70	200	360
250	560	35x25	2.73	200	360
250	680	22x50	2.90	160	290
250	680	25x40	2.72	160	290
250	680	25x45	2.90	160	290
250	680	30x35	3.09	160	290
250	680	35x25	2.90	160	290
250	680	35x30	3.35	160	290
250	820	25x45	3.28	130	240
250	820	25x50	3.36	130	240
250	820	25x55	3.48	130	240
250	820	30x35	3.30	130	240
250	820	30x40	3.39	130	240
250	820	35x30	3.44	130	240
250	820	35x35	3.81	130	240
250	1000	25x50	3.80	110	200
250	1000	30x40	4.00	110	200
250	1000	30x45	4.29	110	200
250	1000	35x30	4.10	110	200
250	1000	35x35	4.29	110	200
250	1000	35x40	4.38	110	200
250	1200	30x45	4.62	94	170
250	1200	30x50	4.74	94	170
250	1200	35x35	4.62	94	170
250	1200	35x40	4.76	94	170
250	1500	35x40	5.38	72	130
250	1500	35x45	5.48	72	130
250	1800	35x45	5.78	61	110
250	1800	35x55	6.35	61	110
250	2200	35x55	6.45	50	90
250	2200	35x65	6.80	50	90
315	100	22x25	0.73	1110	1990
315	120	22x30	0.76	920	1660
315	150	22x30	0.94	740	1330
315	150	25x25	0.94	740	1330
315	180	22x35	1.12	620	1110
315	180	25x30	1.12	620	1110
315	220	22x40	1.32	500	900
315	220	25x35	1.32	500	900
315	220	30x25	1.32	500	900
315	270	22x45	1.61	410	740
315	270	25x40	1.61	410	740
315	270	30x30	1.61	410	740
315	270	35x25	1.61	410	740
315	330	25x45	1.76	330	600
315	330	30x35	1.76	330	600
315	390	25x50	2.21	280	510

VV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (Arms/85°C /120Hz)	Typ. ESR 20°C 120Hz (mΩ)	MAX ESR 20°C 120Hz (mΩ)
315	390	30x40	2.21	280	510
315	390	35x30	2.21	280	510
315	470	30x45	2.45	230	420
315	470	35x35	2.45	230	420
315	560	30x50	2.85	200	360
315	560	35x40	2.85	200	360
315	680	35x45	2.31	160	290
350	82	22x25	0.65	1350	2430
350	100	22x25	0.73	1110	1990
350	120	22x30	0.83	920	1660
350	120	25x25	0.83	920	1660
350	150	22x35	0.95	740	1330
350	150	25x30	0.95	740	1330
350	180	22x40	1.12	620	1110
350	180	30x25	1.12	620	1110
350	220	22x45	1.42	500	900
350	220	25x35	1.42	500	900
350	220	30x30	1.42	500	900
350	220	35x25	1.51	500	900
350	270	25x40	1.72	410	740
350	270	30x35	1.72	410	740
350	330	25x45	1.83	330	600
350	330	30x40	1.83	330	600
350	330	35x30	1.83	330	600
350	390	30x40	2.34	280	510
350	390	35x35	2.34	280	510
350	470	30x45	2.49	230	420
350	470	35x40	2.49	230	420
350	560	35x45	3.22	200	360
350	680	35x45	3.70	160	290
350	820	35x50	4.50	130	240
350	1000	35x55	5.20	110	200
350	1200	35x60	5.50	94	170
350	1200	40x50	5.60	94	170
350	1500	40x60	8.50	72	130
350	1800	40x70	7.90	61	110
350	2200	40x80	8.70	50	90
400	68	22x25	0.63	1630	2930
400	82	22x25	0.79	1350	2430
400	100	22x25	0.87	1110	1990
400	100	22x30	0.91	1110	1990
400	100	25x25	1.05	1110	1990
400	120	22x30	0.99	920	1660
400	120	22x35	1.10	920	1660
400	120	25x25	1.10	920	1660
400	120	25x30	1.20	920	1660
400	150	22x30	1.15	740	1330
400	150	22x35	1.19	740	1330
400	150	25x25	1.15	740	1330
400	150	25x30	1.22	740	1330
400	150	30x25	1.24	740	1330
400	180	22x35	1.31	620	1110
400	180	22x40	1.37	620	1110
400	180	25x30	1.30	620	1110
400	180	25x35	1.46	620	1110
400	180	30x30	1.46	620	1110
400	220	22x40	1.53	500	900
400	220	22x50	1.76	500	900
400	220	25x35	1.50	500	900
400	220	25x40	1.76	500	900

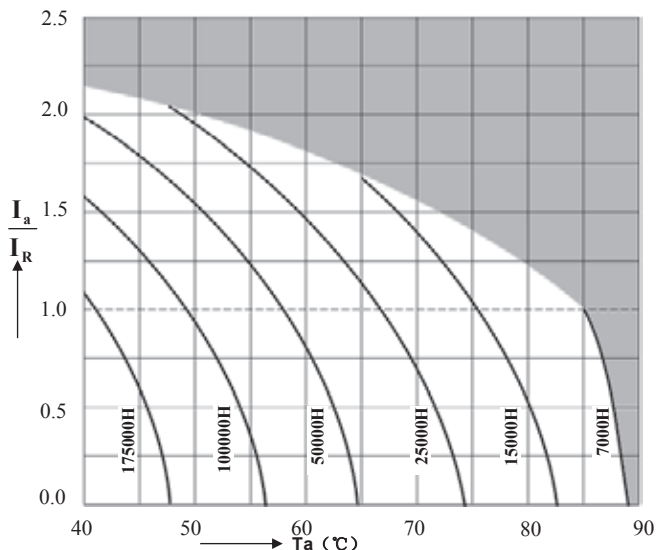
VV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (Arms/85°C /120Hz)	Typ. ESR 20°C 120Hz (mΩ)	MAX ESR 20°C 120Hz (mΩ)
400	220	30x25	1.53	500	900
400	220	30x30	1.78	500	900
400	220	35x25	1.81	500	900
400	220	35x30	1.86	500	900
400	270	22x45	1.79	410	740
400	270	25x40	1.83	410	740
400	270	25x45	1.97	410	740
400	270	30x30	1.89	410	740
400	270	30x35	2.04	410	740
400	270	35x25	2.17	410	740
400	270	35x30	2.04	410	740
400	330	25x45	2.03	330	600
400	330	25x50	2.20	330	600
400	330	30x35	2.15	330	600
400	330	30x40	2.47	330	600
400	330	35x30	2.37	330	600
400	390	25x50	2.33	280	510
400	390	30x35	2.35	280	510
400	390	30x45	2.59	280	510
400	390	35x30	2.32	280	510
400	390	35x35	2.55	280	510
400	470	25x55	2.66	230	420
400	470	30x40	2.61	230	420
400	470	30x50	2.75	230	420
400	470	35x35	2.58	230	420
400	470	35x40	2.79	230	420
400	560	30x55	3.36	200	360
400	560	35x35	3.15	200	360
400	560	35x45	3.43	200	360
400	560	40x40	3.48	200	360
400	680	30x55	3.50	160	290
400	680	35x40	3.85	160	290
400	680	35x50	3.93	160	290
400	680	35x55	4.16	160	290
400	680	40x50	4.38	160	290
400	820	35x50	4.50	130	240
400	820	35x55	4.60	130	240
400	820	40x50	4.60	130	240
400	1000	35x65	5.20	110	200
400	1000	40x60	5.30	110	200
400	1000	45x50	5.30	110	200
400	1200	35x70	5.90	94	170
400	1200	40x60	5.90	94	170
400	1500	40x70	6.70	72	130
400	1800	45x80	7.40	61	110
420	100	22x30	1.08	1470	2650
420	100	25x25	1.08	1470	2650
420	120	25x30	1.23	1230	2210
420	150	22x40	1.19	980	1770
420	150	25x35	1.24	980	1770
420	180	25x35	1.46	820	1470
420	180	30x30	1.46	820	1470
420	220	25x40	1.82	670	1210
420	220	30x35	1.87	670	1210
420	270	25x55	2.07	540	980
420	270	30x35	2.07	540	980
420	270	35x30	2.07	540	980
420	330	30x45	2.40	440	800
420	330	35x35	2.40	440	800
420	390	30x50	2.66	380	680

VV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (Arms/85°C /120Hz)	Typ. ESR 20°C 120Hz (mΩ)	MAX ESR 20°C 120Hz (mΩ)
420	470	30x55	2.84	310	560
420	470	35x45	2.89	310	560
420	560	35x50	3.45	260	470
420	680	35x60	4.01	220	390
420	820	35x65	4.61	180	320
420	1000	35x80	5.61	150	270
420	1500	40x80	7.21	100	180
420	1800	45x80	7.81	83	150
450	47	22x25	0.53	3130	5640
450	56	22x25	0.61	2630	4740
450	68	22x30	0.69	2170	3900
450	68	25x25	0.72	2170	3900
450	82	25x25	0.82	1790	3230
450	82	25x30	0.93	1790	3230
450	100	22x35	1.10	1470	2650
450	100	25x30	1.12	1470	2650
450	100	30x25	1.13	1470	2650
450	120	22x40	1.24	1230	2210
450	120	25x30	1.24	1230	2210
450	120	30x25	1.24	1230	2210
450	150	22x45	1.33	980	1770
450	150	25x30	1.20	980	1770
450	150	25x35	1.30	980	1770
450	150	30x30	1.36	980	1770
450	150	35x25	1.43	980	1770
450	180	25x35	1.46	820	1470
450	180	25x40	1.48	820	1470
450	180	30x35	1.70	820	1470
450	180	35x25	1.55	820	1470
450	180	35x30	1.72	820	1470
450	220	22x50	1.84	670	1210
450	220	25x40	1.82	670	1210
450	220	25x50	1.93	670	1210
450	220	30x35	1.87	670	1210
450	220	30x40	1.93	670	1210
450	220	35x25	1.88	670	1210
450	220	35x30	1.94	670	1210
450	270	25x45	2.11	540	980
450	270	25x55	2.22	540	980
450	270	30x35	2.10	540	980
450	270	30x40	2.22	540	980
450	270	35x30	2.05	540	980
450	270	35x35	2.22	540	980
450	330	25x50	2.24	440	800
450	330	30x40	2.24	440	800
450	330	30x45	2.40	440	800
450	330	35x30	2.35	440	800
450	330	35x40	2.53	440	800
450	390	30x45	2.64	380	680
450	390	30x55	2.74	380	680
450	390	35x35	2.63	380	680
450	390	35x45	2.83	380	680
450	470	30x50	2.75	310	560
450	470	35x40	2.79	310	560
450	470	35x50	3.22	310	560
450	470	40x40	3.22	310	560
450	560	30x55	3.63	260	470
450	560	35x45	3.43	260	470
450	560	35x55	3.63	260	470
450	560	40x50	3.63	260	470

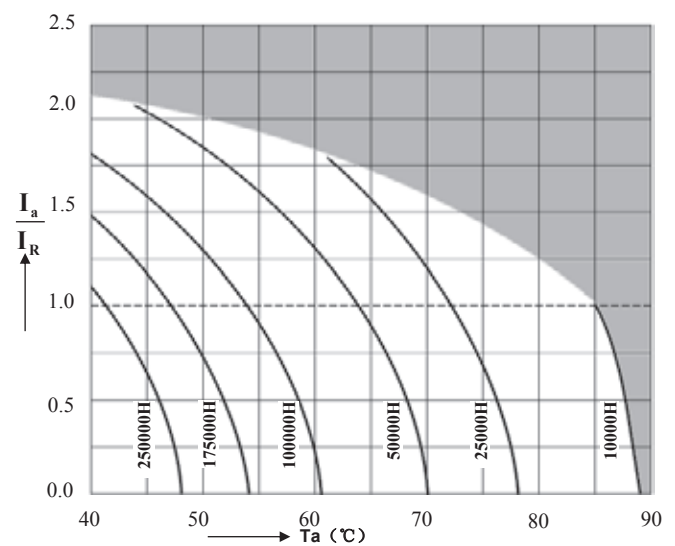
WV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (Arms/85°C /120Hz)	Typ. ESR 20°C 120Hz (mΩ)	MAX ESR 20°C 120Hz (mΩ)
450	680	35x50	3.49	220	390
450	680	35x60	3.52	220	390
450	680	40x50	3.51	220	390
450	820	35x65	4.61	180	320
450	820	40x55	4.61	180	320
450	1000	35x70	5.71	150	270
450	1000	40x60	5.21	150	270
450	1200	35x80	5.91	120	220
450	1200	40x65	5.91	120	220
450	1500	40x80	7.31	100	180
450	1800	45x80	7.91	83	150
500	47	22x25	0.56	3130	5640
500	56	25x25	0.62	2630	4740
500	68	22x30	0.70	2170	3900
500	68	25x25	0.75	2170	3900
500	82	25x30	0.83	1790	3230
500	100	25x30	0.96	1470	2650
500	100	30x25	0.99	1470	2650
500	120	25x35	1.12	1230	2210
500	120	30x30	1.13	1230	2210
500	120	35x25	1.15	1230	2210
500	150	25x40	1.30	980	1770
500	150	30x30	1.32	980	1770

WV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (Arms/85°C /120Hz)	Typ. ESR 20°C 120Hz (mΩ)	MAX ESR 20°C 120Hz (mΩ)
500	150	35x25	1.36	980	1770
500	180	25x45	1.58	820	1470
500	180	30x35	1.60	820	1470
500	180	35x30	1.63	820	1470
500	220	25x55	1.76	670	1210
500	220	30x40	1.73	670	1210
500	220	35x35	1.80	670	1210
500	270	30x45	2.15	540	980
500	270	35x35	2.15	540	980
500	330	30x50	2.41	440	800
500	330	35x40	2.32	440	800
500	390	35x45	2.71	380	680
500	470	35x55	2.99	310	560
500	560	35x60	3.11	260	470
500	560	40x50	3.13	260	470
500	680	35x70	3.21	220	390
500	680	40x60	3.22	220	390
500	820	35x80	4.61	180	320
500	820	40x70	4.43	180	320
500	1000	40x80	5.91	150	270
500	1200	40x80	5.98	120	220
500	1500	40x100	6.31	100	180

Useful life



depending on ambient temperature T_a versus under ripple current operating conditions $VR \leq 100V$



depending on ambient temperature T_a versus under ripple current operating conditions $VR \geq 160V$