REB L88−07(LSR LSH LSX)

LARGE CAN TYPE ALUMINUM ELECTROLYTIC CAPACITORS

■LSR,LSH,LSX SERIES [Computer Grade Large Capacitance]

Rubycon's "Screw Terminal Electrolytic Capacitors" are the high reliability products for the long life operation under a high ripple current,for which a new electrolyte and high stability electrode foils have been employed to accommodate the trend for higher performance and higher reliability of electronics equipment. Three series have been made available to meet the diversified applications that include electronic computers, inverters, high power audio amplifiers, etc.

- ●LSR Series···General Purpose Screw Terminal Electrolytic Capacitors made more compact.
- ●LSH Series···High Ripple Current Withstanding Capacitors
- ●LSX Series···High Temperature(+105℃) Long Life Capacitors

■SPECIFICATION TABLE

1	SERIES	LSR SERIES		LSH SERIES		LSX SERIES	
2	OPERATING TEMPERATURE RANGE(℃)	−40～+85	−25～+85	−40～+85	−25～+85	−40～+105	−25～+105
3	RATED VOLTAGE RANGE(V)	6.3～250	315～450	6.3～250	315～450	6.3～250	315～350
4	CAPACITANCE TOLERANCE(120Hz)	−10%～+50% (20℃)					
5	DISSIPATION FACTOR (max) (tan δ)	WV \ φD: 35.8 / 51.6 / 64.3 / 77.0 6.3: 1.0 / 1.3 / 1.5 / 2.0 10: 0.75 / 1.0 / 1.3 / 1.5 16: 0.6 / 0.7 / 0.8 / 1.0 25: 0.4 / 0.5 / 0.7 / 0.8 35: 0.3 / 0.5 / 0.6 / 0.7 50: 0.25 / 0.3 / 0.5 / 0.6 63: 0.2 / 0.25 / 0.3 / 0.4 80: 0.2 / 0.2 / 0.25 / 0.3 100: 0.15 / 0.2 / 0.25 / 0.25 160～250: 0.15 / 0.15 / 0.2 / 0.2 315～450: 0.2 / 0.2 / 0.25 / 0.25 (20℃,120Hz)					
6	LEAKAGE CURRENT(μA max) (After applied rated voltage for 5 minutes)	I =0.02CV or 5mA, whichever is smaller I =LEAKAGE CURRENT(μA) C =NOMINAL CAPACITANCE(μF) V =RATED VOLTAGE					
7	MAXIMUM R.M.S.RIPPLE CURRENT	The maximum R.M.S. ripple current at 20℃, 120Hz is as per LIST OF STANDARD PRODUCTS. For conversion,following multiplier is to be used on figures in table below.					

TEMPERATURE COEFFICIENT

Series \ Temperature	20℃	30℃	45℃	70℃	85℃	105℃
LSR	1.0	0.9	0.8	0.5	0.38	—
LSH	1.0	0.93	0.84	0.64	0.45	—
LSX	1.0	0.93	0.84	0.64	0.45	0.24

FREQUENCY COEFFICIENT

Series \ Frequency	60Hz	120Hz	400Hz	1KHz	10KHz
6.3～50	0.8	1.0	1.03	1.05	1.08
63～100	0.8	1.0	1.05	1.07	1.10
160～450	0.8	1.0	1.10	1.13	1.18

8	LOAD LIFE TEST	LSR series···After applied rated voltage D.C for 1000 hours at 85℃ LSH series···After applied rated voltage D.C for 2000 hours at 85℃ LSX series···After applied rated voltage D.C for 1000 hours at 105℃ CAPACITANCE CHANGE: Within±15%of the initial value DF (tan δ): Less than 175%of the value given in colunm 5 LEAKAGE CURRENT: Less than the value given in column 6
9	SHELF LIFE TEST	LSR series···Storage without voltage applied for 500 hours at 85℃. LSH series···Storage without voltage applied for 500 hours at 85℃. LSX series···Storage without voltage applied for 500 hours at 105℃. CAPACITANCE CHANGE: Within±15%of the initial value DF (tan δ): Less than 150%of the value given in column 5 LEAKAGE CURRENT: Less than the value given in column 6 (After voltage treatment of the JIS C-5102)
10	OTHERS	Comply with JIS-C-5141 characteristic B

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Rubycon® capacitors

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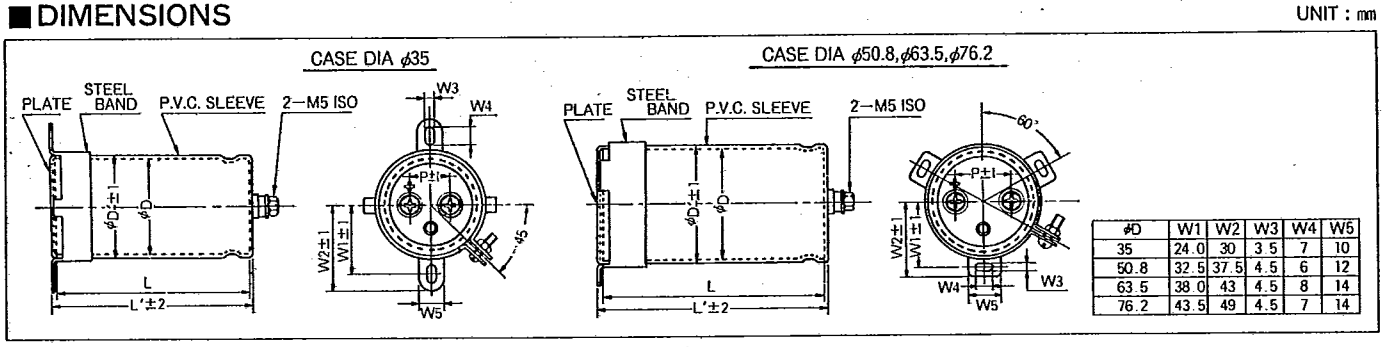
■DIMENSIONS

UNIT : mm



φD	W1	W2	W3	W4	W5
35	24.0	30	3.5	7	10
50.8	32.5	37.5	4.5	6	12
63.5	38.0	43	4.5	8	14
76.2	43.5	49	4.5	7	14

■CASE CODE AND DIMENSIONS

UNIT : mm

Case Code	D	L	D'	L'	P	Case Code	D	L	D'	L'	P	Case Code	D	L	D'	L'	P
A 5	35	49	35.8	50.3	13.5	C 10	50.8	97	51.6	98.3	22	E 12	76.2	120	77.0	121.3	31.8
A 8	35	82	35.8	83.3	13.5	C 12	50.8	117	51.6	118.3	22	E 14	76.2	140	77.0	141.3	31.8
A 10	35	97	35.8	98.3	13.5	D 10	63.5	98	64.3	99.3	28.6	E 15	76.2	150	77.0	151.3	31.8
A 12	35	117	35.8	118.3	13.5	D 12	63.5	118	64.3	119.3	28.6						
C 8	50.8	82	51.6	83.3	22	E 10	76.2	100	77.0	101.3	31.8						

■PART NUMBER

□□□	LSR	□□□	□□
Rated Voltage	Series Number	Nominal Capacitance	Case Code

■LIST OF STANDARD PRODUCTS(LSR)

Cap (μF) \ WV	6.3		10		16		25		35		50		63		80	
2200															A 5	6.4
3300													A 5	6.1	A 5	7.9
4700											A 5	7.3	A 5	7.3	A 8	12.7
6800									A 5	8.0	A 5	8.8	A 8	11.0	A 10	13.8
10000							A 5	9.0	A 5	9.7	A 8	12.8	A 8	13.3	C 8	14.7
15000					A 5	9.7	A 5	11.0	A 8	14.9	A 10	16.1	C 8	18.1	C 10	19.4
22000	A 5	9.5	A 5	11.5	A 5	11.8	A 8	16.7	A 10	19.5	A 12	21.3	C 8	20.0	D 10	22.9
33000	A 5	11.6	A 5	13.7	A 8	18.1	A 10	22.1	A 12	24.1	C 10	24.4	D 10	25.8	D 12	30.3
47000	A 8	17.3	A 8	20.5	A 10	23.3	C 8	25.3	C 10	29.1	D 10	30.4	D 10	30.9	E 12	36.0
68000	A 8	20.8	A 10	25.4	C 8	25.9	C 10	29.3	C 12	33.5	D 12	35.6	E 12	38.2	E 15	44.6
100000	A 10	22.8	A 12	28.7	C 10	30.9	D 10	36.0	D 12	40.9	E 12	43.6	E 15	48.4		
150000	C 8	28.3	C 10	33.4	D 12	38.6	E 10	43.7	E 12	44.6						
220000	C 12	35.6	D 10	38.7	D 12	48.0	E 12	53.2								
330000	D 10	39.6	E 10	45.8	E 12	56.4										
470000	E 10	46.5														

Case Code

Ripple Current Arms/120Hz,20℃(1000hours)

Cap(μF) \ WV	100		160		200		250		315		350		400		450	
220													A 5	2.5	A 8	2.5
330							A 5	3.0	A 5	3.0	A 8	3.5	A 8	3.8	A 10	3.3
470					A 5	3.4	A 5	3.6	A 8	4.5	A 8	4.5	A 10	4.9	A 12	4.4
680			A 5	4.4	A 5	4.4	A 8	5.5	A 10	5.9	A 10	5.9	A 12	6.4	C 8	4.9
1000			A 5	5.3	A 8	6.6	A 10	7.2	C 8	7.4	C 8	7.4	C 8	7.4	C 12	6.4
1500	A 5	6.5	A 8	8.2	A 10	8.0	C 8	8.2	C 10	8.8	D 10	10.1	D 10	10.1	D 10	7.7
2200	A 5	7.9	A 10	9.7	C 8	10.0	C 10	10.3	D 10	10.7	D 10	11.4	D 12	13.4	E 10	9.5
3300	A 8	9.9	A 12	12.2	C 12	12.5	D 10	12.8	D 12	13.1	E 10	13.5	E 12	14.5		
4700	A 8	11.8	C 10	14.0	D 10	14.9	E 10	16.1								
6800	A 10	13.8	D 10	15.5	E 10	19.3										
10000	C 8	14.7	E 10	20.5												
15000	D 10	20.7	E 12	21.9												
22000	D 10	25.0														
33000	E 10	33.0														
47000	E 12	38.9														

REB L88−07(LSR LSH LSX)

LARGE CAN TYPE ALUMINUM ELECTROLYTIC CAPACITORS

■LIST OF STANDARD PRODUCTS(LSH)

Cap (μF) \ WV	6.3		10		16		25		35		50		63		80	
680															A 5	3.8
1000															A 8	5.9
1500											A 5	5.0	A 5	5.7	A 8	7.2
2200											A 5	6.0	A 8	8.7	A10	9.4
3300									A 5	6.0	A 8	9.2	A 8	9.2	C 8	11.9
4700							A 5	7.2	A 8	9.0	A 8	9.9	A12	13.0	C10	15.5
6800					A 5	8.0	A 5	8.7	A 8	10.8	C 8	13.4	C 8	15.0	D10	17.1
10000			A 5	9.1	A 5	9.7	A 8	12.2	A10	14.2	C 8	16.2	C10	17.5	E10	22.1
15000			A 8	13.9	A 8	14.9	A10	16.1	C 8	18.2	C10	19.5	D10	22.8	E14	28.3
22000	A 8	12.8	A 8	16.8	A10	18.3	C 8	20.4	C10	21.9	D10	25.1	D12	27.3		
33000	A10	16.9	A12	21.8	C 8	23.3	C10	26.9	D10	28.6	E10	30.4	E12	33.2		
47000	A12	22.0	C 8	26.3	C10	30.0	C12	32.6	D12	37.0	E12	39.7	E15	43.7		
68000	C10	27.3	C10	32.3	D10	34.3	D12	37.2	E12	42.1	E15	46.4				
100000	C12	30.1	D10	38.1	D12	41.2	E12	46.2	E15	53.3						
150000	D12	39.1	E10	42.9	E12	47.9	E15	57.3								
220000	E12	50.8	E14	54.3	E15	59.0										

Case Code

Ripple Current Arms/120Hz,20℃(2000hours)

Cap (μF) \ WV	100		160		200		250		315		350		400		450	
220			A 5	2.5	A 5	2.7	A 8	3.3	A 8	3.1	A 8	3.3	A10	3.6	C 8	3.1
330			A 8	3.2	A 8	3.8	A 8	4.1	A10	4.2	A10	4.4	C 8	4.6	C10	4.1
470			A 8	4.5	A 8	4.9	A10	5.3	C10	5.5	C10	5.8	C10	6.0	C10	4.9
680	A 5	4.7	A10	6.4	A12	7.0	C10	7.2	C10	6.8	C10	7.2	D10	7.6	D10	6.2
1000	A 8	7.2	C 8	8.1	C10	8.7	C10	8.7	D10	9.0	D10	9.3	E10	10.0	E10	9.1
1500	A10	9.5	C10	10.0	D10	10.8	D10	11.3	E10	11.5	E10	12.2	E12	13.2	E14	12.9
2200	C 8	11.0	D10	12.5	E10	12.9	E10	13.5	E12	16.0	E14	17.1	E15	17.7		
3300	C10	14.5	E10	14.8	E12	15.8	E14	17.1	E14	21.0	E15	21.6				
4700	D10	16.4	E14	20.5	E15	21.1										
6800	E10	21.3	E15	23.1												
10000	E14	25.8														

■LIST OF STANDARD PRODUCTS(LSX)

Cap (μF) \ WV	6.3		10		16		25		35		50		63		80	
2200													A 5	7.0	A 5	7.0
3300											A 5	7.4	A 8	9.2	A 8	9.4
4700											A 8	9.9	A 8	11.0	A 8	12.8
6800									A 5	8.7	A 8	11.9	A10	14.3	A12	15.6
10000							A 5	9.7	A 8	13.2	A10	15.6	A12	17.0	C10	19.3
15000					A 5	11.2	A 8	14.9	A10	17.4	A12	19.0	C10	21.2	C12	23.0
22000	A 5	10.2	A 8	16.9	A 8	16.9	A10	19.5	A12	23.0	C10	23.4	D10	25.1	D10	27.5
33000	A 8	15.7	A 8	19.5	A10	22.4	A12	26.1	C10	26.6	D10	28.4	D12	31.4	E12	39.3
47000	A 8	18.7	A10	25.2	A12	29.1	C12	29.7	D10	34.0	D12	36.8	E12	39.7	E14	45.8
68000	A10	24.3	C 8	29.7	C10	31.9	D10	34.2	D12	39.1	E12	42.1				
100000	C 8	25.4	C10	32.7	C12	38.4	D12	42.8	E12	48.4						
150000	C12	36.4	D10	40.1	D10	41.1	E12	52.0								
220000	D10	38.1	D12	47.1	E12	53.5										
330000	E10	40.7	E12	56.8												
470000	E14	56.1														

Case Code

Ripple Current Arms/120Hz,20℃(1000hours)

Cap (μF) \ WV	100		160		200		250		315		350	
220							A 5	2.5	A 5	2.7	A 5	2.7
330					A 5	3.3	A 8	3.5	A 8	3.7	A 8	4.1
470			A 5	3.9	A 8	4.5	A 8	4.5	A10	5.0	A10	5.3
680			A 8	5.9	A 8	5.9	A10	6.4	A12	6.5	C 8	6.7
1000	A 5	5.7	A 8	6.6	A12	6.8	C 8	7.4	C10	7.7	C10	7.9
1500	A 5	7.0	A 8	8.0	C 8	9.1	C10	9.7	C12	10.0	D10	10.4
2200	A 8	9.5	A12	9.8	C10	10.1	C12	10.5	D10	10.7	D12	14.9
3300	A10	11.8	C10	12.8	D10	13.8	D12	14.9	E12	15.8	E12	16.0
4700	A12	15.0	C12	16.6	E10	17.7	E12	19.1				
6800	C10	18.4	D12	21.4	E14	24.6						
10000	C12	21.0	E12	27.9								
15000	D10	25.4										
22000	E12	32.1										

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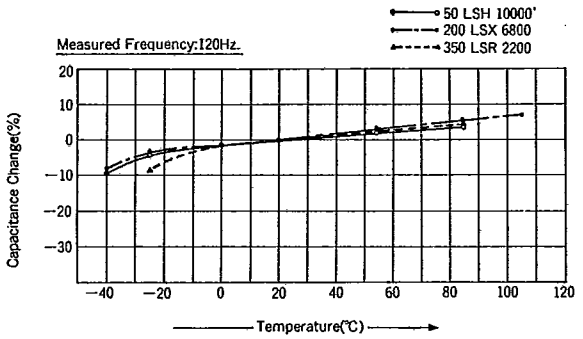
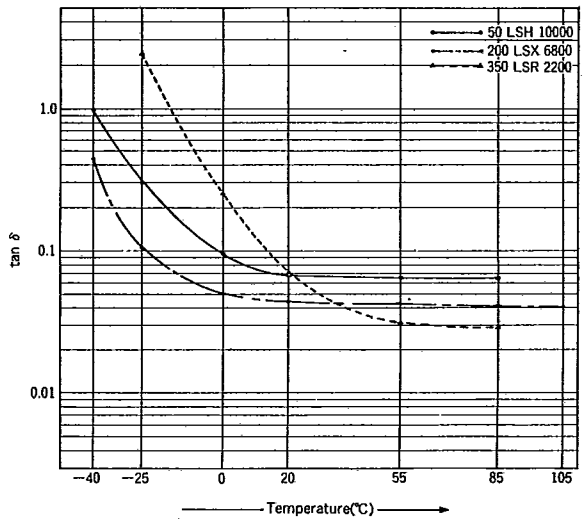
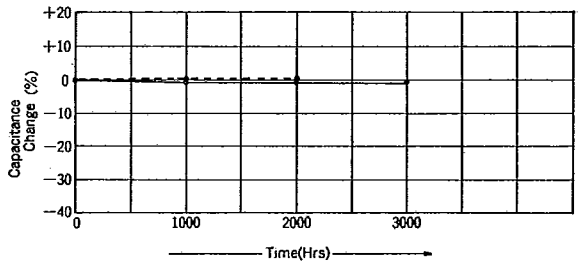
LARGE CAN TYPE ALUMINUM ELECTROLYTIC CAPACITORS

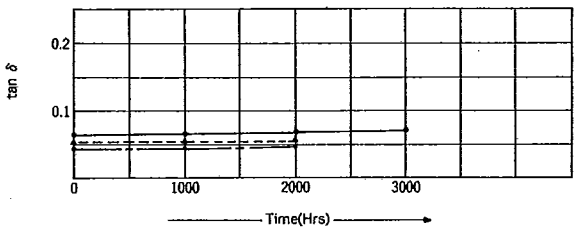
■Temperature characteristic

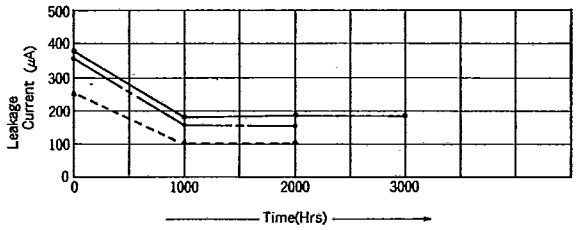




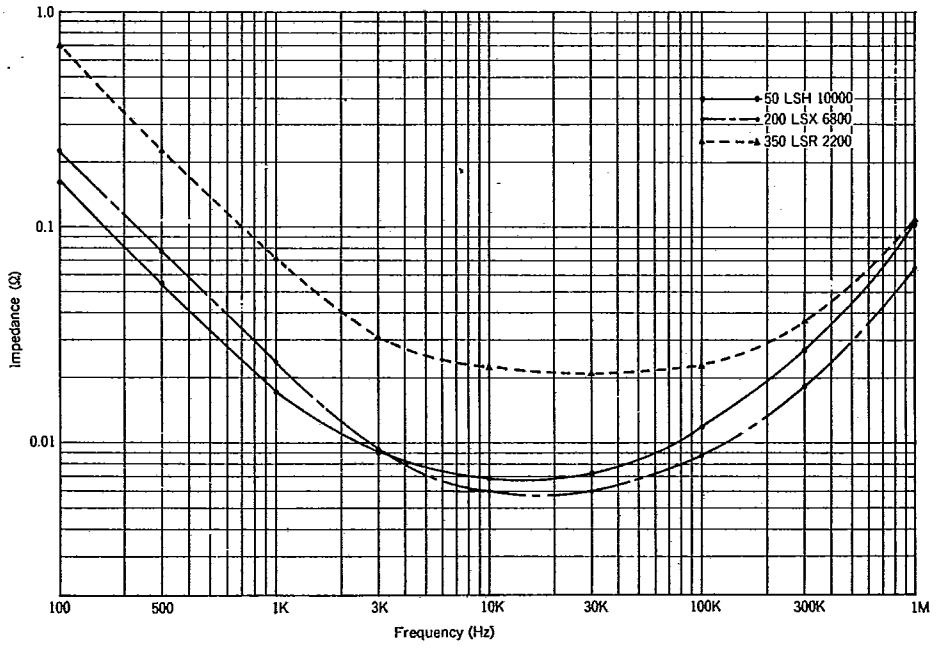
■Load Life







■Frequency Characteristics



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