



大形アルミニウム電解コンデンサ

LARGE CAN TYPE ALUMINUM ELECTROLYTIC CAPACITORS

USR

USR シリーズ
SERIES

基板自立形85 標準品
85 Standard, Snap-in Terminal Type

特長 FEATURES

- 85 3000時間品。
Load Life : 85 3000 hours.
- 従来のUSRシリーズを更に小形化・高リップル化。
Smaller size with higher ripple current endurance than USP series.



規格表 SPECIFICATIONS

項目 Items	特性 Characteristics																									
カテゴリ温度範囲 Category Temperature Range	- 40 ~ + 85	- 25 ~ + 85																								
定格電圧範囲 Rated Voltage Range	10 ~ 250V.DC	315 ~ 450V.DC																								
静電容量許容差 Capacitance Tolerance	± 20% (20 , 120Hz)																									
漏れ電流 Leakage Current(MAX)	$I = 3\sqrt{CV}$ (定格電圧印加5分後) $I = 3\sqrt{CV}$ (After 5 minutes application of rated voltage) $I =$ 漏れ電流 (μA) $V =$ 定格電圧 (V) $C =$ 定格静電容量 (μF) Leakage Current Rated Voltage Rated Capacitance																									
損失角の正接 (tan) Dissipation Factor(MAX)	<table border="1"> <tr> <td>定格電圧(V) Rated Voltage</td> <td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>80</td><td>100</td><td>160~400</td><td>420~450</td> <td>(20 , 120Hz)</td> </tr> <tr> <td>tan</td> <td>0.55</td><td>0.50</td><td>0.45</td><td>0.40</td><td>0.35</td><td>0.30</td><td>0.25</td><td>0.20</td><td>0.15</td><td>0.25</td> <td></td> </tr> </table>		定格電圧(V) Rated Voltage	10	16	25	35	50	63	80	100	160~400	420~450	(20 , 120Hz)	tan	0.55	0.50	0.45	0.40	0.35	0.30	0.25	0.20	0.15	0.25	
定格電圧(V) Rated Voltage	10	16	25	35	50	63	80	100	160~400	420~450	(20 , 120Hz)															
tan	0.55	0.50	0.45	0.40	0.35	0.30	0.25	0.20	0.15	0.25																
インピーダンス比 Impedance Ratio(MAX)	<table border="1"> <tr> <td>定格電圧(V) Rated Voltage</td> <td>10 ~ 250</td><td>315 ~ 400</td><td>420 ~ 450</td> <td>(120Hz)</td> </tr> <tr> <td>Z(-25)Z(20)</td> <td>3</td><td>4</td><td>12</td> <td></td> </tr> <tr> <td>Z(-40)Z(20)</td> <td>12</td><td></td><td></td> <td></td> </tr> </table>		定格電圧(V) Rated Voltage	10 ~ 250	315 ~ 400	420 ~ 450	(120Hz)	Z(-25)Z(20)	3	4	12		Z(-40)Z(20)	12												
定格電圧(V) Rated Voltage	10 ~ 250	315 ~ 400	420 ~ 450	(120Hz)																						
Z(-25)Z(20)	3	4	12																							
Z(-40)Z(20)	12																									
耐久 Endurance	85 中で3000時間定格電圧 (リプル重畳) 印加後、下記項目を満足すること After applying rated voltage with rated ripple current for 3000hrs at 85 , the capacitors shall meet the following requirements. <table border="1"> <tr> <td>静電容量変化率 Capacitance Change</td> <td>初期値の ± 20% 以内 Within ± 20% of the initial value.</td> </tr> <tr> <td>損失角の正接 Dissipation Factor</td> <td>規格値の200%以下 Not more than 200% of the specified value.</td> </tr> <tr> <td>漏れ電流 Leakage Current</td> <td>規格値以下 Not more than the specified value.</td> </tr> </table>		静電容量変化率 Capacitance Change	初期値の ± 20% 以内 Within ± 20% of the initial value.	損失角の正接 Dissipation Factor	規格値の200%以下 Not more than 200% of the specified value.	漏れ電流 Leakage Current	規格値以下 Not more than the specified value.																		
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漏れ電流 Leakage Current	規格値以下 Not more than the specified value.																									

品番呼称方法 EXPLANATION OF PART NUMBER

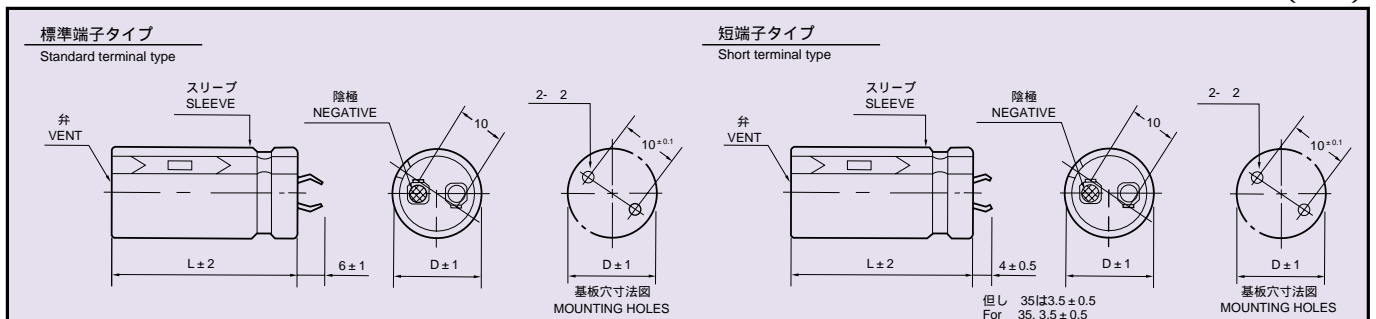
USR						D x L
定格電圧 Rated Voltage	シリーズ名 Series	定格静電容量 Rated Capacitance	静電容量許容差 Capacitance Tolerance	副記号 Option	端子記号 Terminal Code	ケースサイズ Case Size

端子記号 Terminal Code

	記号 Code
標準端子 Standard Terminal	なし Blank
短端子 Short Terminal	ST

寸法図 DIMENSIONS

(mm)





大形アルミニウム電解コンデンサ

LARGE CAN TYPE ALUMINUM ELECTROLYTIC CAPACITORS

USR

寸法一覧表, 定格リップル電流一覧表 STANDARD SIZE, RATED RIPPLE CURRENT

Cap (μ F)	WV D	10					16					
		20	22	25	30	35	20	22	25	30	35	
6800							20 x 25; 2.33					
8200							20 x 30; 2.56	22 x 25; 2.56				
10000		20 x 25; 2.22					20 x 35; 2.85	22 x 30; 2.81				
12000		20 x 30; 2.44	22 x 25; 2.41				20 x 40; 3.20	22 x 30; 3.13	25 x 25; 2.96			
15000		20 x 35; 2.90	22 x 30; 2.88	25 x 25; 2.88				22 x 35; 3.69	25 x 30; 3.64	30 x 25; 3.73		
18000		20 x 40; 3.31	22 x 35; 3.22	25 x 30; 3.08				22 x 40; 3.98	25 x 35; 3.98	30 x 30; 3.88		
22000			22 x 40; 3.79	25 x 30; 3.66	30 x 25; 3.53			22 x 50; 4.52	25 x 40; 4.44	30 x 30; 4.38		
27000			22 x 45; 4.04	25 x 35; 4.04	30 x 30; 3.99				25 x 45; 4.98	30 x 35; 4.82	35 x 30; 4.82	
33000			22 x 50; 4.58	25 x 40; 4.56	30 x 30; 4.58				25 x 50; 5.49	30 x 40; 5.38	35 x 35; 5.33	
39000				25 x 45; 5.29	30 x 35; 5.21	35 x 30; 5.05				30 x 45; 6.11	35 x 35; 6.01	
47000				25 x 50; 5.78	30 x 40; 5.78	35 x 35; 5.55				30 x 50; 6.80	35 x 40; 6.80	
56000						30 x 45; 6.59	35 x 35; 6.40					35 x 45; 7.62
68000					30 x 50; 7.50	35 x 40; 7.48						
82000						35 x 50; 8.50						

Cap (μ F)	WV D	25					35					
		20	22	25	30	35	20	22	25	30	35	
2700							20 x 25; 1.76					
3300							20 x 30; 2.14					
3900							20 x 30; 2.28	22 x 25; 2.22				
4700		20 x 25; 2.18					20 x 35; 2.46	22 x 30; 2.46	25 x 25; 2.43			
5600		20 x 30; 2.33	22 x 25; 2.31					22 x 35; 2.79	25 x 30; 2.75			
6800		20 x 35; 2.56	22 x 30; 2.56					22 x 40; 2.89	25 x 30; 2.89	30 x 25; 3.09		
8200		20 x 40; 2.91	22 x 35; 2.81	25 x 25; 2.78				22 x 45; 3.47	25 x 35; 3.33	30 x 30; 3.29		
10000			22 x 35; 3.18	25 x 30; 3.16				22 x 50; 3.59	25 x 40; 3.59	30 x 30; 3.61		
12000			22 x 40; 3.53	25 x 35; 3.48	30 x 25; 3.53				25 x 45; 4.01	30 x 35; 4.01	35 x 30; 4.02	
15000			22 x 50; 4.08	25 x 40; 4.00	30 x 30; 4.00					30 x 40; 4.80	35 x 35; 4.80	
18000				25 x 45; 4.68	30 x 35; 4.66	35 x 30; 4.68				30 x 45; 5.18	35 x 40; 5.71	
22000					30 x 40; 5.19	35 x 35; 5.20					35 x 45; 6.38	
27000					30 x 45; 6.02	35 x 40; 6.02					35 x 50; 6.90	
33000						35 x 45; 6.75						
39000						35 x 50; 7.56						

Cap (μ F)	WV D	50					63					
		20	22	25	30	35	20	22	25	30	35	
1500							20 x 25; 1.69					
1800		20 x 25; 1.70					20 x 30; 2.04	22 x 25; 1.90				
2200		20 x 30; 2.07	22 x 25; 1.93				20 x 35; 2.40	22 x 30; 2.35	25 x 25; 2.30			
2700		20 x 35; 2.21	22 x 30; 2.21				20 x 40; 2.52	22 x 35; 2.50	25 x 30; 2.49			
3300		20 x 40; 2.41	22 x 30; 2.41	25 x 25; 2.38				22 x 40; 2.69	25 x 30; 2.69	30 x 25; 2.78		
3900			22 x 35; 2.72	25 x 30; 2.68				22 x 45; 3.10	25 x 35; 3.09	30 x 30; 3.09		
4700			22 x 40; 3.01	25 x 30; 3.03	30 x 25; 3.01			22 x 50; 3.49	25 x 40; 3.37	30 x 30; 3.37		
5600			22 x 45; 3.43	25 x 35; 3.37	30 x 30; 3.43				25 x 45; 3.80	30 x 35; 3.81	35 x 30; 3.75	
6800			22 x 50; 3.94	25 x 40; 3.87	30 x 35; 3.87				25 x 50; 4.41	30 x 40; 4.41	35 x 35; 4.33	
8200				25 x 45; 4.37	30 x 35; 4.42	35 x 30; 4.41				30 x 45; 4.90	35 x 35; 4.80	
10000					30 x 40; 5.02	35 x 35; 4.92				30 x 50; 5.49	35 x 40; 5.47	
12000					30 x 50; 5.60	35 x 40; 5.60					35 x 50; 6.30	
15000						35 x 45; 6.44						
18000						35 x 50; 6.71						

Cap (μ F)	WV D	80					100					
		20	22	25	30	35	20	22	25	30	35	
680							20 x 25; 1.66					
820							20 x 30; 1.85	22 x 25; 1.86				
1000		20 x 25; 1.56					20 x 35; 2.02	22 x 30; 2.02				
1200		20 x 30; 1.80	22 x 25; 1.77				20 x 40; 2.12	22 x 30; 2.12	25 x 25; 2.10			
1500		20 x 35; 2.10	22 x 30; 2.01					22 x 35; 2.45	25 x 30; 2.43			
1800		20 x 40; 2.30	22 x 35; 2.25	25 x 25; 2.26				22 x 40; 2.77	25 x 35; 2.77	30 x 25; 2.65		
2200			22 x 40; 2.53	25 x 30; 2.53	30 x 25; 2.50			22 x 45; 3.12	25 x 40; 3.20	30 x 30; 3.10		
2700			22 x 45; 2.93	25 x 35; 2.93	30 x 30; 2.91				25 x 45; 3.61	30 x 35; 3.60	35 x 30; 3.71	
3300			22 x 50; 3.25	25 x 40; 3.25	30 x 30; 3.23				25 x 50; 4.06	30 x 40; 4.05	35 x 35; 4.07	
3900				25 x 45; 3.62	30 x 35; 3.62					30 x 45; 4.60	35 x 35; 4.50	
4700				25 x 50; 4.28	30 x 40; 4.15	35 x 30; 4.10				30 x 50; 5.13	35 x 40; 5.12	
5600					30 x 45; 4.55	35 x 35; 4.51					35 x 45; 5.75	
6800					30 x 50; 5.18	35 x 40; 5.14					35 x 50; 6.01	
8200						35 x 45; 5.83						

↑ リップル電流 Ripple Current A r.m.s./120Hz-85
 ↑ ケースサイズ Case Size D^{±1} × L^{±2}(mm)



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寸法一覧表, 定格リップル電流一覧表 STANDARD SIZE, RATED RIPPLE CURRENT

Cap (μ F)	WV D	160					180					
		20	22	25	30	35	20	22	25	30	35	
270		20 x 25; 1.22					20 x 25; 1.23					
330		20 x 30; 1.48					20 x 30; 1.48	22 x 25; 1.42				
390		20 x 30; 1.55	22 x 25; 1.55				20 x 30; 1.58	22 x 30; 1.61				
470		20 x 35; 1.81	22 x 30; 1.77	25 x 25; 1.77			20 x 35; 1.82	22 x 30; 1.80	25 x 25; 1.80			
560		20 x 40; 2.04	22 x 35; 2.05	25 x 30; 2.05			20 x 40; 2.04	22 x 35; 2.09	25 x 30; 2.05			
680			22 x 40; 2.24	25 x 30; 2.22	30 x 25; 2.22			22 x 40; 2.36	25 x 35; 2.34	30 x 25; 2.27		
820			22 x 45; 2.55	25 x 35; 2.52	30 x 30; 2.51			22 x 45; 2.72	25 x 35; 2.58	30 x 30; 2.56		
1000			22 x 50; 2.88	25 x 40; 2.86	30 x 30; 2.82				25 x 45; 2.91	30 x 35; 2.95		
1200				25 x 45; 3.27	30 x 35; 3.25	35 x 30; 3.24			25 x 50; 3.46	30 x 40; 3.38	35 x 30; 3.32	
1500					30 x 40; 3.77	35 x 35; 3.75				30 x 45; 3.90	35 x 35; 3.83	
1800					30 x 45; 4.10	35 x 35; 4.08				30 x 50; 4.33	35 x 40; 4.32	
2200						35 x 45; 4.72					35 x 45; 4.60	
2700						35 x 50; 5.30					35 x 50; 5.05	

Cap (μ F)	WV D	200					220					
		20	22	25	30	35	20	22	25	30	35	
180							20 x 25; 1.09					
220		20 x 25; 1.13					20 x 30; 1.15	22 x 25; 1.09				
270		20 x 30; 1.32	22 x 25; 1.30				20 x 30; 1.38	22 x 25; 1.31				
330		20 x 30; 1.49	22 x 25; 1.44				20 x 35; 1.51	22 x 30; 1.58	25 x 25; 1.49			
390		20 x 35; 1.66	22 x 30; 1.65	25 x 25; 1.63			20 x 40; 1.73	22 x 35; 1.69	25 x 30; 1.71			
470		20 x 40; 1.93	22 x 35; 1.88	25 x 30; 1.86				22 x 40; 1.99	25 x 30; 1.95	30 x 25; 1.89		
560			22 x 40; 2.08	25 x 30; 2.05	30 x 25; 2.05			22 x 45; 2.28	25 x 35; 2.22	30 x 30; 2.19		
680			22 x 45; 2.36	25 x 35; 2.36	30 x 30; 2.36			22 x 50; 2.46	25 x 40; 2.40	30 x 30; 2.39		
820			22 x 50; 2.68	25 x 40; 2.66	30 x 30; 2.62				25 x 45; 2.81	30 x 35; 2.70	35 x 30; 2.62	
1000				25 x 45; 3.12	30 x 35; 3.00	35 x 30; 2.96			25 x 50; 3.13	30 x 40; 3.08	35 x 35; 3.05	
1200				25 x 50; 3.44	30 x 40; 3.44	35 x 35; 3.40				30 x 45; 3.60	35 x 40; 3.51	
1500					30 x 50; 3.93	35 x 40; 3.87					35 x 45; 3.92	
1800						35 x 45; 4.37						
2200						35 x 50; 5.00						

Cap (μ F)	WV D	250					315					
		20	22	25	30	35	20	22	25	30	35	
120												
150							20 x 30; 0.95					
180		20 x 25; 1.14					20 x 35; 1.08	22 x 30; 1.23	25 x 25; 1.31			
220		20 x 30; 1.20	22 x 25; 1.18				20 x 40; 1.23	22 x 35; 1.34	25 x 30; 1.40			
270		20 x 30; 1.35	22 x 30; 1.43					22 x 40; 1.60	25 x 30; 1.62			
330		20 x 35; 1.60	22 x 30; 1.58	25 x 25; 1.53				22 x 45; 1.82	25 x 35; 1.85	30 x 30; 1.89		
390		20 x 40; 1.83	22 x 35; 1.79	25 x 30; 1.79				22 x 50; 1.97	25 x 40; 2.01	30 x 30; 2.05		
470			22 x 40; 2.05	25 x 35; 2.05	30 x 25; 1.94				25 x 45; 2.20	30 x 35; 2.27	35 x 30; 2.25	
560			22 x 45; 2.36	25 x 35; 2.24	30 x 30; 2.24					30 x 40; 2.50	35 x 35; 2.56	
680				25 x 40; 2.54	30 x 35; 2.58					30 x 45; 2.67	35 x 40; 2.90	
820				25 x 50; 2.87	30 x 35; 2.84	35 x 30; 2.82				30 x 50; 3.12	35 x 45; 3.29	
1000					30 x 45; 3.39	35 x 35; 3.31					35 x 50; 3.40	
1200					30 x 50; 3.80	35 x 40; 3.66						
1500						35 x 45; 4.12						
1800						35 x 50; 4.31						

Cap (μ F)	WV D	350					385					
		20	22	25	30	35	20	22	25	30	35	
68							20 x 25; 0.60					
82							20 x 30; 0.67	22 x 25; 0.70				
100							20 x 30; 0.80	22 x 30; 0.82				
120		20 x 30; 0.91	22 x 25; 0.99				20 x 35; 0.89	22 x 30; 0.91	25 x 25; 0.95			
150		20 x 35; 1.05	22 x 30; 1.14	25 x 25; 1.16			20 x 40; 1.05	22 x 35; 1.04	25 x 30; 1.08			
180		20 x 40; 1.18	22 x 35; 1.28	25 x 30; 1.30				22 x 40; 1.18	25 x 35; 1.20	30 x 25; 1.28		
220			22 x 40; 1.40	25 x 35; 1.46	30 x 25; 1.47			22 x 45; 1.33	25 x 35; 1.44	30 x 30; 1.40		
270			22 x 45; 1.62	25 x 35; 1.65	30 x 30; 1.71				25 x 40; 1.56	30 x 35; 1.62		
330			22 x 50; 1.78	25 x 40; 1.88	30 x 35; 1.93				25 x 50; 1.80	30 x 40; 1.85	35 x 30; 1.85	
390				25 x 45; 2.04	30 x 35; 2.12	35 x 30; 2.19				30 x 40; 2.04	35 x 35; 2.06	
470					30 x 40; 2.41	35 x 35; 2.43				30 x 50; 2.27	35 x 40; 2.30	
560					30 x 45; 2.60	35 x 35; 2.62					35 x 45; 2.57	
680						35 x 40; 3.00					35 x 50; 2.80	
820						35 x 50; 3.30						

↑ ↑ リプル電流 Ripple Current A r.m.s./120Hz-85
 ケースサイズ Case Size D^{±1} × L^{±2}(mm)



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寸法一覧表, 定格リップル電流一覧表 STANDARD SIZE, RATED RIPPLE CURRENT

Cap (μ F)	WV D	400					420										
		20	22	25	30	35	20	22	25	30	35						
68	20 x 25	0.71					20 x 25	0.65									
82	20 x 30	0.78	22 x 25	0.80			20 x 30	0.73	22 x 25	0.75							
100	20 x 30	0.90	22 x 30	0.94			20 x 35	0.85	22 x 30	0.87	25 x 25	0.92					
120	20 x 35	1.02	22 x 30	1.04	25 x 25	1.08	20 x 35	0.99	22 x 30	1.01	25 x 25	1.03					
150	20 x 40	1.16	22 x 35	1.18	25 x 30	1.21	20 x 45	1.15	22 x 35	1.19	25 x 30	1.19	30 x 25	1.14			
180			22 x 40	1.34	25 x 35	1.37	30 x 25	1.45		22 x 45	1.36	25 x 35	1.37	30 x 25	1.35		
220			22 x 45	1.50	25 x 35	1.56	30 x 30	1.58		22 x 50	1.69	25 x 40	1.58	30 x 30	1.56		
270					25 x 40	1.70	30 x 35	1.73				25 x 45	1.83	30 x 35	1.72	35 x 30	1.76
330					25 x 50	1.90	30 x 40	1.95	35 x 30	1.95		25 x 50	2.18	30 x 40	1.98	35 x 35	2.04
390							30 x 40	2.15	35 x 35	2.17				30 x 45	2.34	35 x 35	2.26
470							30 x 50	2.39	35 x 40	2.42				30 x 50	2.67	35 x 40	2.60
560									35 x 45	2.71						35 x 45	2.93
680									35 x 50	2.95							

Cap (μ F)	WV D	450								
		20	22	25	30	35				
56	20 x 25	0.58								
68	20 x 30	0.67	22 x 25	0.68						
82	20 x 35	0.76	22 x 30	0.82						
100	20 x 35	0.84	22 x 35	0.90	25 x 25	0.92				
120	20 x 40	0.94	22 x 35	1.02	25 x 30	1.04	30 x 25	1.07		
150			22 x 40	1.12	25 x 35	1.19	30 x 30	1.23		
180			22 x 50	1.26	25 x 40	1.33	30 x 30	1.38		
220					25 x 45	1.51	30 x 35	1.56	35 x 30	1.58
270					25 x 50	1.65	30 x 40	1.80	35 x 35	1.81
330							30 x 45	2.02	35 x 35	2.05
390							30 x 50	2.24	35 x 40	2.27
470									35 x 45	2.55

↑ ↑ リプル電流 Ripple Current A r.m.s./120Hz-85
 ケースサイズ Case Size D^{≠1} × L^{≠2}(mm)

リップル電流補正係数 MULTIPLIER FOR RIPPLE CURRENT

(1) 温度係数 Temperature coefficient

周囲温度() Ambient Temperature()	85	65
係数 Coefficient	1.0	1.3

(2) 周波数係数 Frequency coefficient

周波数(Hz) Frequency		60(50)	120	500	1k	10k
係数 Coefficient	10 ~ 100WV	0.90	1.00	1.05	1.10	1.15
	160 ~ 250WV	0.80	1.00	1.20	1.30	1.50
	315 ~ 450WV	0.80	1.00	1.05	1.10	1.15