

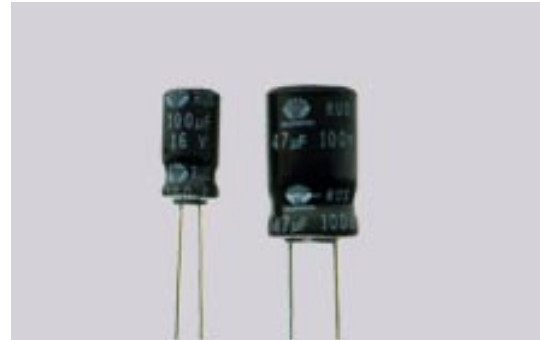
# RUS SERIES

# ALUMINUM ELECTROLYTIC CAPACITORS

105°C Standard, Radial Leads

## n Features

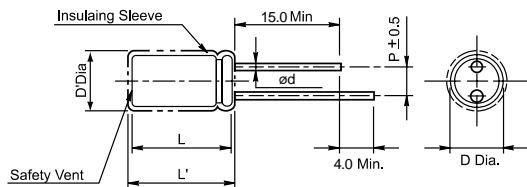
- 105°C Standard, Radial
- Wide operating temperature range
- High and stable quality
- Very high CV capacity per unit volume
- Load life of 1000 hours at 105°C
- Possible cleaning by Freon TE (to 100V : 3 min )



## n Specifications

Item	Performance Characteristics										
Operating temperature range	-40°C ~ +105°C			-40°C ~ +105°C				-25°C ~ +105°C			
Rated working voltage range	6.3V ~ 100V			160V ~ 250V				350 V ~ 450V			
Nominal capacitance range	0.1µF ~ 15000 µF, -20% (at 20°C, 120Hz)										
D.C Leakage current (at 20°C)	The following specifications shall be satisfied when the rated voltage is applied for the required time.										
	1 ± 0.01CV + 3µF (2min)			1 ± 0.01CV + 20µA (5min)				1 ± 0.02CV + 30µA (5min)			
	Where I = Leakage current (µA) C= Nominal capacitance (µF) V= Rated voltage (V)										
Tan δ (max., at 20°C, 120Hz)	W.V(V)	6.3	10	16	25	35	50	63	100	160~250	350~450
	Tan δ	0.24	0.20	0.17	0.15	0.12	0.10	0.10	0.08	0.12	0.20
	When capacitance is over 1000µF, δTan shall be added 0.02 to the listed value with increase of every each 1000 µF.										
Characteristics at low temperature (max.) (impedance ratio at 120Hz)	W.V (V)	6.3	10	16	25	35	50~100	160~250	350~450		
	Z-25°C/Z20°C	4	3	2	2	2	2	2	6		
Load life	Z-40°C/Z20°C	8	6	4	3	3	3	3	3	-	
	After applying rated working voltage for 1000 hours at +105°C and then being stabilized at +20°C, capacitors shall meet following limits.										
	Capacitance change value (6.3V-16V)	Within - 25% of initial measured value					Within - 20% of initial measured value (25V-)				
	Tan δ	↑ 150% of initial specified value									
Shelf life	Leakage current	↑ Initial specified value									
	After storage for 1000 hours at +105°C with no voltage applied and then being stabilized at + 20°C, capacitors shall meet following limits.										
	Capacitance change	Within - 20% of initial measured value									
	Tan δ	↑ 200% of initial specified value									
Leakage current	↑ 200% of initial specified value										

## n Case sizes and Dimensions



### • Standard lead style

øD	5.0	6.3	8.0	10.0	13.0	16.0	18.0
P	2.0	2.5	3.5	5.0	7.5		
øD	0.5		0.6			0.8	

D = [D + 0.5] Max. L = [L + 1.0] Max. at D ≠ 8.0  
 L = [L + 1.5] Max. at D ≠ 10.0

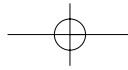
## n Ripple current coefficient

### • Frequency

Cap(µF)	Freq(Hz)	50	120	400	1K	10K	50-100K
Cap ≤ 10		0.8	1	1.30	1.45	1.65	1.70
10 < Cap ≤ 100		0.8	1	1.23	1.36	1.48	1.53
100 < Cap ≤ 1000		0.8	1	1.16	1.25	1.35	1.38
1000 < Cap		0.8	1	1.11	1.17	1.25	1.28

### • Temperature

Temperature	↑ 70°C	85°C	105°C
Factor	1.95	1.65	1.0



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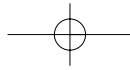
## Dimensions & Maximum permissible ripple current [mA(rms) at 105°C, 120Hz]

∅ D x L (mm)

W.V(V) Cap(μF)	6.3(0J)		10(1A)		16(1C)		25(1E)		35(1V)		50(1H)		63(1J)		100(2A)	
	SIZE	I <sub>r</sub>	SIZE	I <sub>r</sub>	SIZE	I <sub>r</sub>	SIZE	I <sub>r</sub>	SIZE	I <sub>r</sub>	SIZE	I <sub>r</sub>	SIZE	I <sub>r</sub>	SIZE	I <sub>r</sub>
0.1											5x11	3			5x11	3
0.22											5x11	5			5x11	5
0.33											5x11	6			5x11	6
0.47											5x11	9			5x11	9
1.0											5x11	14			5x11	15
2.2											5x11	21			5x11	23
3.3											5x11	26			5x11	32
4.7											5x11	32			5x11	37
10											5x11	48	5x11	51	6.3x11	60
22									5x11	66	5x11	73	6.3x1	85	8x11.5	103
33							5x11	77	5x11	84	6.3x1	98	1	109	10x12.5	148
47					5x11	91	5x11	98		110	1	120	6.3x1	147	10x16	191
100	5 x 11	96	5 x 11	105	6.3x11	142	6.3x11	147	6.3x11	180	6.3x1	198	1	255	13x20	343
220	6.3x11	168	6.3 x	179	8x11.5	231	8x11.5	252		329	1	382	8x11.5	460	16x25	623
330	6.3x11	207	11	255	8x11.5	290	10x12.5	366	8x11.5	430	8x11.5	521	10x12.	637	16x25	799
470	8 x11.5	280	8 x 11.5	316	10x12.5	385	10x16	510		550	10x16	685	5	815	16x31.5	102
1000	10 x12.5	483	8 x 11.5	570	10x20	714	13x20	854	10x12.5	102	10x20	125	10x20	129		0
2200	13 x20	868	10 x 16	927	13x25	1115	16x25	128	10x16	5	13x20	0	13x20	0		
3300	13 x20	1025	13 x 20	1180	16x25	1370	16x31.5	0	10x20	142	16x25	176	13x25			
4700	16 x25	1390	13 x 25	1480	16x31.5	1740	18x35.5	159	13x25	0	18x35.	0	16x31.			
6800	16 x25	1595	16 x 25	1795	18x35.5	2090		0	16x31.5	185	5		5			
10000	16 x31.5	1930	16 x 31.5	2210				195	18x35.5	0						
15000	18 x35.5	2290	18 x 35.5					0								

W.V(V) Cap(μF)	160(2C)		200(2D)		250(2E)		350(2V)		400(2G)		450(2W)	
	SIZE	I <sub>r</sub>	SIZE	I <sub>r</sub>	SIZE	I <sub>r</sub>	SIZE	I <sub>r</sub>	SIZE	I <sub>r</sub>	SIZE	I <sub>r</sub>
1.0	6.3 x 11	14	6.3 x 11	14	6.3 x 11	14	8 x 11.5	16	8 x 11.5	16	8x11.5	16
2.2	6.3 x 11	22	6.3 x 11	22	8 x 11.5	26	10 x 12.5	30	10 x 12.5	30	10x12.5	30
3.3	8 x 11.5	32	8 x 11.5	31	10 x 12.5	37	10 x 12.5	38	10 x 16	39	10x16	39
4.7	8 x 11.5	36	10 x 12.5	42	10 x 16	45	10 x 16	48	10 x 16	48	10x20	48
10	10 x 16	66	10 x 16	66	10 x 20	72	10 x 20	77	13 x 20	85	13x20	85
22	10 x 20	110	10 x 20	110	13 x 20	133	13 x 25	142	16 x 25	148	16x25	148
33	13 x 20	161	13 x 25	168	13 x 25	172	16 x 25	181	16 x 31.5	200	16x35.5	200
47	13 x 25	195	13 x 25	198	16 x 25	214	16 x 35.5	248	16 x 35.5	262	18 x 40	265
100	16 x 25	340	16 x 31.5	361	18 x 35.5	384	18 x 40	424				
220	18 x 35.5	596	18 x 40	615								

I<sub>r</sub> : Maximum permissible ripple current [mA(rms) at 105°C, 120Hz]

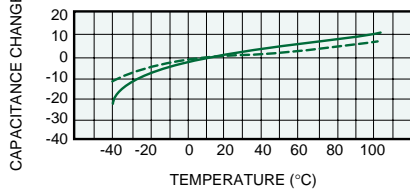


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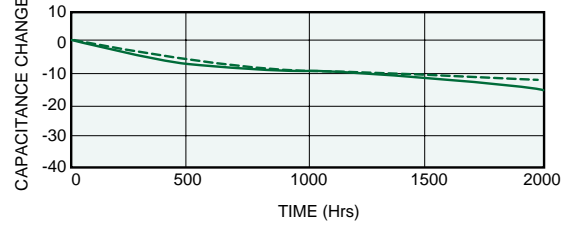
## PERFORMANCE CURVES

—— 16V-470 $\mu$ F  
 - - - - 250V-47 $\mu$ F

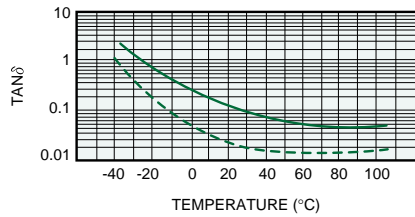
Capacitance-Temperature Characteristics (120 Hz)



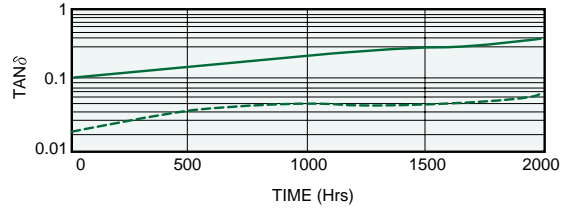
Capacitance-Endurance Characteristic [105°C (221°F), 120 Hz]



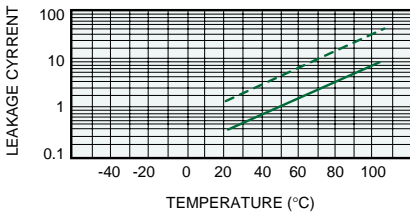
Tan $\delta$  -Temperature Characteristics (120 Hz)



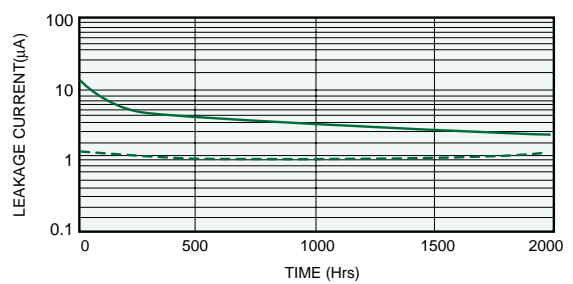
Tan $\delta$  -Endurance Characteristic [105°C (221°F), 120 Hz]



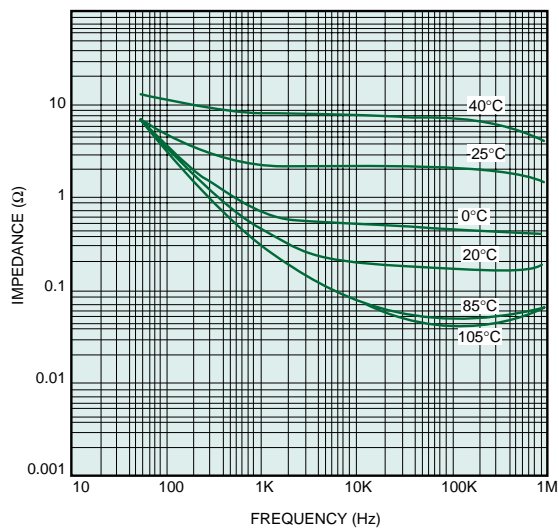
Leakage Current-Temperature Characteristics



Leakage Current-Endurance Characteristics [105°C (221°F)]



Impedance-Frequency Characteristics



ESR-Frequency Characteristics

