

# ALUMINUM ELECTROLYTIC CAPACITORS

**>SE** General Purpose Series

- Features: 105°C 1000 hours
- Recommended Applications: For general purpose coupling, decoupling, by pass, and filtering circuit in entertainment electronics
- Corresponding product to RoHS

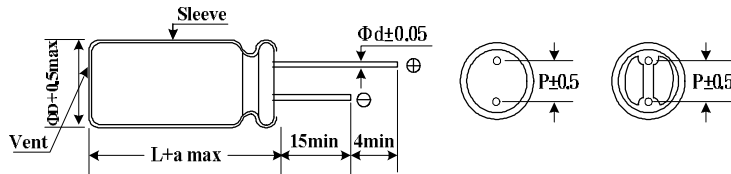
ISH  
↑  
Long Life  
**LSE**



## Specifications

Item	Characteristics									
Operating Temperature Range	-40~+105°C			-40~+105°C				-25~+105°C		
Rated Voltage Range	6.3 ~ 100VDC			160 ~ 250VDC				350 ~ 450VDC		
Rated Capacitance Range	0.47 ~ 15000µF			0.47 ~ 470µF				0.47 ~ 150µF		
Capacitance Tolerance	± 20 % at 120Hz, 20°C									
Leakage Current (MAX)(20°C)	I=0.01CV or 3(µA), whichever is greater.					I=0.03CV+10(µA)				
	(After rated voltage applied for 2 minutes)									
Dissipation Factor (MAX) (tan δ) (120Hz, 20°C)	WV	6.3	10	16	25	35	50	63~100	160~250	350~450
	tan δ	0.26	0.22	0.18	0.16	0.14	0.12	0.10	0.15	0.20
When nominal capacitance is over 1000uF · tan δ shall be added 0.02 to the listed value with increase of every 1000uF ·										
Low Temperature Stability Impedance Ratio (MAX)	WV	6.3	10	16	25	35~100	160~250	315~350	400~450	
	Z(120Hz)									
	Z-25°C / Z+20°C	8	6	5	3	3	7	10	15	
	Z-40°C / Z+20°C	10	8	6	4	3	7	—	—	
Endurance	After applying rated voltage for 1000 hours at 105°C the capacitors shall meet the following requirements.									
	Capacitance Change	Within ± 20 % of initial value								
	Dissipation Factor	Not more than 200% of the specified value								
	Leakage Current	initial specified value or less								
Shelf Life	After leaving capacitors under no load at 105°C for 500 hours. the capacitors shall meet the same requirement as Endurance.									

## Diagram of Dimensions



φ D	5	6.3	8	10	13	16	18	22
P	2.0	2.5	3.5	5.0		7.5		10.0
φ d	0.5	0.5	0.6	0.6		0.8		0.8
a	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0

## Multiplier for Ripple Current

Frequency coefficient

Frequency (Hz)	120	300	1K	10K
6.3 ~ 100V Below 68 µF	1.00	1.20	1.30	1.45
6.3 ~ 100V 100 ~ 680 µF	1.00	1.10	1.15	1.25
6.3 ~ 100V 1000 ~ 22000 µF	1.00	1.05	1.10	1.15
160 ~ 450V ALL Cap (µF)	1.00	1.05	1.10	1.50

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## ■ Dimensions, Rated Ripple Current

Capacitance ( $\mu$ F)	Rated (Surge) Voltage														
	6.3 (8)		10 (13)		16 (20)		25 (32)		35 (44)		50 (63)		63 (79)		
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	
0.47												5x11	7	5x11	8
1.0												5x11	12	5x11	13
2.2												5x11	18	5x11	20
3.3												5x11	25	5x11	27
4.7							5x11	20	5x11	25	5x11	30	5x11	34	
6.8							5x11	25	5x11	30	5x11	32	5x11	37	
10					5x11	25	5x11	30	5x11	40	5x11	50	5x11	55	
15					5x11	40	5x11	45	5x11	50	5x11	60	5x11	65	
22			5x11	45	5x11	55	5x11	60	5x11	65	5x11	75	6.3x11	90	
33			5x11	60	5x11	70	5x11	75	5x11	85	5x11	95	6.3x11	110	
47	5X11	60	5x11	75	5x11	85	5x11	90	5x11	95	6.3x11	105	8x11	155	
68	5x11	75	5x11	80	5x11	100	6.3x11	125	6.3x11	125	8x11	159			
100	5x11	100	5x11	110	5x11	110	6.3x11	145	6.3x11	150	8x11	160	8X15	230	
													10x12.5	260	
150	5x11	120	5x11	110	6.3x11	175	8x11	200	8x11	200	10x12.5	289	10x15	330	
220	5x11	140	6.3x11	180	6.3x11	180	8x11	200	8x11	230	10x12.5	340	10x15	400	
	6.3x11	165							10x12.5	315			10x20	460	
330	6.3x11	160	6.3x11	205	8x11	285	8x11	265	8X15	345	10x20	535	10x20	520	
							8X15	320	10x12.5	380					
470	6.3x11	220	6.3x11	245	8x11	310	8X15	365	10x15	415	10x20	580	13x20	700	
			8x11	305							13x20	730			
680	8x11	255	8x11	335	10x12.5	455	10x15	650	10x20	680	13x25	860	13x25	840	
			10x12.5	420											
1000	8x11	370	8X15	450	8x20	600	10x20	680	13x20	850	13x25	930	16x25	1020	
	10x12.5	470	10x12.5	490	10x15	590									
1500	10x15	600	10x20	750	10x20	680	13x20	880	13x25	935	16x25	1220	16x32	1300	
2200	10x20	740	10x20	800	13x20	990	13x25	1030	16x25	1230	16x36	1360	18x36	1455	
3300	13x20	1100	10x25	950	13x25	1140	16x25	1230	16x36	1470	18x36	1540			
			13x20	1050											
4700	13x25	1100	13x25	1190	16x25	1330	16x32	1420	18x36	1580					
6800	13x25	1250	16x25	1370	16x32	1580	18x36	1850							
10000	16x25	1560	16x36	1760	18x36	2150									
15000	18x32	2100	18x36	2150											

☆ Size: D  $\phi$  x L (mm) ☆ Ripple Current: (mA/rms). 105°C, 120Hz

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## ■ Dimensions, Rated Ripple Current

Capacitance ( $\mu$ F)	Rated (Surge) Voltage													
	100 (125)		160 (200)		200 (250)		250 (300)		350 (400)		400 (450)		450 (500)	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
0.47	5x11	10	5x11	12	5x11	14	5x11	14	5x11	14	6.3x11	14	6.3x11	14
1.0	5x11	15	5x11	17	5x11	19	6.3x11	19	6.3x11	20	6.3x11	16	6.3x11	16
											8x11	20	8x11	20
2.2	5x11	22	6.3x11	25	6.3x11	22	6.3x11	23	8x11	35	6.3x11	20	8x11	28
											8x11	28	10x12.5	35
3.3	5x11	29	6.3x11	30	6.3x11	32	8x11	33	8x11	37	8x11	38	10x12.5	49
4.7	5x11	37	6.3x11	34	8x11	40	8x11	41	8x11	47	8x11	40	10x12.5	55
											10x12.5	49		
6.8	5x11	46	8x11	50	8x11	56	8x11	57			8x15	50	10x15	65
											10x12.5	52		
10	5x11	55	8x11	56	10x12.5	69	10x12.5	78	10x15	95	10x15	65	10x20	75
	6.3x11	65												
15	6.3x11	72	10x12.5	80	10x15	110	10x15	120	10x20	140	10x20	100	13x20	125
22	8x11	115	10x15	130	10x15	140	10x20	155	13x20	165	13x20	150	13x25	160
33	8x11	120	10x20	180	10x20	190	13x20	170	13x25	220	13x25	190	16x25	210
											16x20	195		
47	10x12.5	180	10x20	230	13x20	240	13x25	330	16x25	340	16x25	280	16x32	270
											18x20	275		
68	10x15	241	13x20	270	13x25	330	13x25	340			16x32	320	18x32	305
											18x25	305		
100	10x20	385	13x25	330	16x25	410	16x25	415	18x32	430	18x32	430	18x36	380
120											18x32	440		
150	13x20	414	16x25	410	16x32	430	16x32	435	18x40	480	18x36	450		
											18x40	460		
180											18x45	480		
220	13x25	590	16x32	550	16x36	520	18x36	600						
					18x32	520								
330	13x25	600	18x36	770	18x36	705								
470	16x25	740	18x40	800										
680	16x36	1200												
1000	18x40	1340												

☆ Size: D  $\phi$  x L (mm)    ☆ Ripple Current: (mA/rms). 105°C, 120Hz