

# ALUMINUM ELECTROLYTIC CAPACITORS

# SP

## Miniature and long life Series

- Features: High temperature and long life at 105°C for 8000 to 10000 hours
- Recommended Applications: Applicable for Electronic Ballast
- Corresponding product to RoHS

**SP**

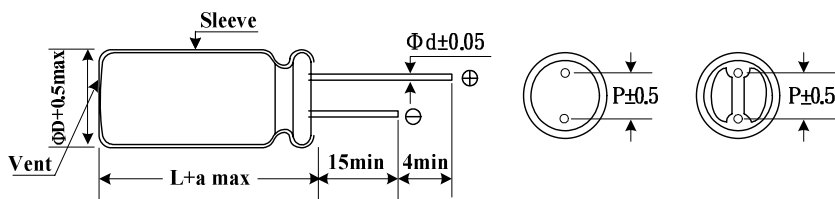
↑ Long Life  
SG



## Specifications

Item	Characteristics				
Operating Temperature Range	-40~+105°C		-25~+105°C		
Rated Voltage Range	160 ~ 400VDC		450VDC		
Rated Capacitance Range	3.3 ~ 330μF				
Capacitance Tolerance	± 20 % at 120Hz , 20°C				
Leakage Current(MAX)(20°C)	I=0.04CV + 100(μA) ,(After rated voltage applied for 2 minutes )				
Dissipation Factor (MAX) (tan δ) (120Hz ,20°C)	WV	160	200	400	450
	tan δ	0.20	0.20	0.24	0.24
Low Temperature Stability Impedance Ratio (MAX)	Z(120Hz)	160	200	400	450
	Z-25°C / Z+20°C	3	3	5	6
	Z-40°C / Z+20°C	6	6	6	—
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the max ripple current is applies for 10000 hours (8000 hours for φ 10) at 105°C.				
	Capacitance Change	Within ± 20 % of initial value			
	Dissipation Factor	Not more than 200% of the specified value			
Shelf Life	After placed at 105°C without voltage applied for 1000 hours, the capacitors shall meet the same requirement as Endurance.				

## Diagram of Dimensions



φD	10	12.5	13	16	18
P	5.0	5.0		7.5	7.5
φd	0.6	0.6		0.8	0.8
a	1.5	2.0		2.0	2.0

## Multiplier for Ripple Current

Frequency coefficient

Frequency (Hz)	120	1K	10K	100K
Coefficient	1.0	1.6	1.8	2.0

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**Miniature and long life  
Series**

## ■ Dimensions, Rated Ripple Current

Capacitance (μF)	Rated ( Surge ) Voltage					
	160 (200)			200 (250)		
	Size	Ripple		Size	Ripple	
120Hz		100KHz	120Hz		100KHz	
22				10x20	220	440
33	10x20	250	500	10x20	260	520
				12.5x20	290	580
47	10x20	290	580	13x20	330	660
	12.5x20	330	660			
68	13x25	360	720	13x25	360	720
	16x20	380	760	16x20	380	760
100	13x25	485	970	16x25	560	1120
	16x20	560	1120			
	16x25	560	1120			
	18x20	560	1120			
150	16x25	600	1200	16x32	640	1280
	16x32	650	1300			
	18x25	650	1300			
220	16x32	650	1300			
	18x25	650	1300			
330	18x36	690	1380			

Capacitance (μF)	Rated ( Surge ) Voltage					
	400 (450)			450 (500)		
	Size	Ripple		Size	Ripple	
120Hz		100KHz	120Hz		100KHz	
3.3				10x16	50	100
4.7				10x20	70	140
6.8	10x20	75	150	10x20	75	150
				12.5x20	90	180
10	10x20	90	180	12.5x20	155	310
22	16x20	150	300	16x25	280	560
				18x20	275	550
33	16x25	260	520	16x32	310	620
				18x25	295	590
47	16x32	350	700	16x36	440	880
				18x32	440	880
68	18x32	435	870			

☆ Size : D φ x L (mm) ☆ Ripple Current: (mA/rms), 105°C