

**USC SERIES**

85°C Standard

\*Load Life : 85°C 3000 hours.



◆SPECIFICATIONS

Items	Characteristics																									
Category Temperature Range	-40~+85°C	-25~+85°C																								
Rated Voltage Range	10~250Vdc	315~450Vdc																								
Capacitance Tolerance	±20% (20°C, 120Hz)																									
Leakage Current(MAX)	$I=3\sqrt{CV}$ (After 5 minutes application of rated voltage) I=Leakage Current(µA)      C=Capacitance(µF)      V=Rated Voltage(Vdc)																									
Dissipation Factor(MAX) (tanδ)	<table border="1"> <thead> <tr> <th>Rated Voltage (Vdc)</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>80</th> <th>100</th> <th>160~400</th> <th>420~450</th> <th>(20°C, 120Hz)</th> </tr> </thead> <tbody> <tr> <td>tanδ</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> </tbody> </table>		Rated Voltage (Vdc)	10	16	25	35	50	63	80	100	160~400	420~450	(20°C, 120Hz)	tanδ	0.55	0.50	0.45	0.40	0.35	0.30	0.25	0.20	0.15	0.25	
Rated Voltage (Vdc)	10	16	25	35	50	63	80	100	160~400	420~450	(20°C, 120Hz)															
tanδ	0.55	0.50	0.45	0.40	0.35	0.30	0.25	0.20	0.15	0.25																
Endurance	After applying rated voltage with rated ripple current for 3000 hours at 85°C, the capacitors shall meet the following requirements. <table border="1"> <tbody> <tr> <td>Capacitance Change</td> <td>Within ±20% of the initial value.</td> </tr> <tr> <td>Dissipation Factor</td> <td>Not more than 200% of the specified value.</td> </tr> <tr> <td>Leakage Current</td> <td>Not more than the specified value.</td> </tr> </tbody> </table>		Capacitance Change	Within ±20% of the initial value.	Dissipation Factor	Not more than 200% of the specified value.	Leakage Current	Not more than the specified value.																		
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Low Temperature Stability Impedance Ratio(MAX)	<table border="1"> <thead> <tr> <th>Rated Voltage (Vdc)</th> <th>10~250</th> <th>315~400</th> <th>420~450</th> <th>(120Hz)</th> </tr> </thead> <tbody> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>3</td> <td>8</td> <td>12</td> <td></td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>12</td> <td>-</td> <td>-</td> <td></td> </tr> </tbody> </table>		Rated Voltage (Vdc)	10~250	315~400	420~450	(120Hz)	Z(-25°C)/Z(20°C)	3	8	12		Z(-40°C)/Z(20°C)	12	-	-										
Rated Voltage (Vdc)	10~250	315~400	420~450	(120Hz)																						
Z(-25°C)/Z(20°C)	3	8	12																							
Z(-40°C)/Z(20°C)	12	-	-																							

◆MULTIPLIER FOR RIPPLE CURRENT

Frequency (Hz)		60 (50)	120 (100)	300	500	1k	10k≦
Coefficient	10~100Vdc	0.90	1.00	1.03	1.05	1.10	1.15
	160~250Vdc	0.80	1.00	1.15	1.20	1.30	1.50
	315~450Vdc	0.80	1.00	1.15	1.20	1.25	1.40

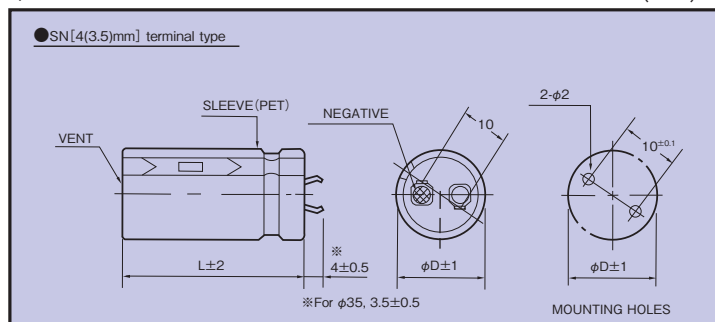
◆OPTION

	Code
PET Sleeve without plate	EFC

◆PART NUMBER

□□□ / USC / □□□□□ / M / □□□ / SN / DXL  
 Rated Voltage      Series      Capacitance      Capacitance Tolerance      Option      Terminal Code      Case Size

◆DIMENSIONS



**◆ STANDARD SIZE**

Cap ( $\mu$ F)	Vdc $\phi$ D	10					16						
		$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35		
8200							20x25	2.56					
10000		20x25	2.22				20x30	2.85	22x25	2.85			
12000		20x30	2.44	22x25	2.41		20x35	3.20	22x30	3.20			
15000		20x35	2.90	22x30	2.88	25x25	2.88						
18000		20x40	3.31	22x35	3.22	25x30	3.08						
22000			22x40	3.79	25x30	3.66	30x25	3.58					
27000			22x45	4.04	25x35	4.04	30x30	3.99					
33000			22x50	4.58	25x40	4.56	30x30	4.58					
39000				25x45	5.29	30x35	5.21	35x30	5.05				
47000				25x50	5.78	30x40	5.78	35x35	5.55				
56000						30x45	6.59	35x35	6.40		30x45	6.80	
68000						30x50	7.50	35x40	7.48		30x50	7.62	
82000								35x50	8.50			35x50	9.14

Cap ( $\mu$ F)	Vdc $\phi$ D	25					35								
		$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35				
3300							20x25	2.14							
3900							20x30	2.28							
4700							20x35	2.46	22x25	2.46					
5600		20x25	2.33				20x40	2.79	22x30	2.79	25x25	2.79			
6800		20x30	2.56	22x25	2.56			22x35	2.89	25x30	2.89				
8200		20x35	2.91	22x30	2.91			22x40	3.47	25x30	3.47	30x25	3.47		
10000		20x40	3.18	22x35	3.18	25x25	3.18		22x45	3.59	25x35	3.59	30x30	3.59	
12000			22x40	3.53	25x30	3.53			22x50	4.51	25x40	4.51	30x30	4.51	
15000			22x45	4.08	25x35	4.08	30x25	4.08		25x45	4.80	30x35	4.80	35x30	4.80
18000			22x50	4.68	25x40	4.68	30x30	4.68				30x40	5.70	35x35	5.70
22000				25x45	5.19	30x35	5.19	35x30	5.19			30x45	6.38	35x40	6.38
27000				25x50	6.02	30x40	6.02	35x35	6.02				35x45	6.90	
33000						30x45	6.75	35x40	6.75				35x50	7.49	
39000						30x50	7.56	35x45	7.56						
47000								35x50	8.30						

Cap ( $\mu$ F)	Vdc $\phi$ D	50					63								
		$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35				
1500							20x25	1.69							
1800							20x30	2.04	22x25	2.04					
2200		20x25	2.07				20x35	2.40	22x30	2.40					
2700		20x30	2.21	22x25	2.21			22x40	2.69	25x25	2.52				
3300		20x35	2.41	22x30	2.41			22x45	3.10	25x30	2.69				
3900		20x40	2.72	22x30	2.72	25x25	2.72		22x50	3.49	25x35	3.10	30x25	3.10	
4700			22x35	3.01	25x30	3.01			22x50	3.49	25x40	3.49	30x30	3.49	
5600			22x40	3.43	25x35	3.43	30x25	3.43		25x45	3.81	30x35	3.81		
6800			22x45	3.94	25x35	3.94	30x30	3.94		25x50	4.41	30x40	4.41	35x30	4.41
8200				25x40	4.37	30x35	4.37					30x45	4.90	35x35	4.90
10000				25x50	5.02	30x40	5.02	35x30	5.02			30x50	5.49	35x40	5.49
12000						30x45	5.60	35x35	5.60				35x45	6.30	
15000						30x50	6.44	35x40	6.44						
18000								35x45	6.71						

Cap ( $\mu$ F)	Vdc $\phi$ D	80					100								
		$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35				
680							20x25	1.66							
820							20x30	1.86	22x25	1.86					
1000		20x25	1.56				20x30	2.02	22x30	2.02					
1200		20x30	1.80	22x25	1.80			20x35	2.12	22x30	2.12	25x25	2.12		
1500		20x30	2.10	22x30	2.10			20x40	2.45	22x35	2.45	25x30	2.45		
1800		20x35	2.30	22x30	2.30	25x25	2.30		22x40	2.77	25x30	2.77	30x25	2.77	
2200		20x40	2.53	22x35	2.53	25x30	2.53		22x45	3.12	25x35	3.12	30x30	3.12	
2700			22x40	2.93	25x35	2.93	30x25	2.93		25x40	3.61	30x30	3.61		
3300			22x45	3.25	25x35	3.25	30x30	3.25		25x50	4.06	30x35	4.06	35x30	4.06
3900				25x40	3.62	30x35	3.62					30x40	4.60	35x35	4.60
4700				25x45	4.28	30x40	4.28	35x30	4.28			30x45	5.13	35x40	5.13
5600						30x45	4.55	35x35	4.55				35x45	5.75	
6800						30x45	5.83	35x40	5.83				35x50	6.01	
8200								35x45	6.40						
10000								35x50	7.03						

↑ Ripple Current (A r.m.s./120Hz, 85°C)  
↑ Case Size  $\phi$ D×L(mm)

**◆ STANDARD SIZE**

Cap ( $\mu$ F)	Vdc $\phi$ D	160					180					
		$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	
270		20x25: 1.28					20x25: 1.29					
330		20x25: 1.55					20x30: 1.77	22x25: 1.49				
390		20x30: 1.63	22x25: 1.63				20x30: 1.84	22x25: 1.84				
470		20x30: 1.90	22x30: 1.86	25x25: 1.86			20x35: 1.91	22x30: 1.91	25x25: 2.08			
560		20x35: 2.14	22x30: 2.15	25x25: 2.15			20x40: 2.15	22x35: 2.25	25x25: 2.25			
680		20x40: 2.35	22x35: 2.35	25x30: 2.33	30x25: 2.33			22x35: 2.48	25x30: 2.50	30x25: 2.46		
820			22x40: 2.68	25x30: 2.65	30x25: 2.64			22x40: 2.86	25x35: 2.75	30x25: 2.69		
1000			22x45: 3.02	25x35: 3.00	30x30: 2.96			22x50: 3.10	25x40: 3.06	30x30: 3.10		
1200				25x40: 3.43	30x30: 3.41	35x30: 3.40			25x45: 3.63	30x35: 3.55	35x30: 3.49	
1500				25x50: 3.96	30x35: 3.96	35x30: 3.94				30x40: 4.10	35x35: 4.02	
1800					30x40: 4.31	35x35: 4.28				30x45: 4.55	35x35: 4.54	
2200					30x50: 4.96	35x40: 4.96					35x40: 4.83	
2700						35x45: 5.57					35x50: 5.30	

Cap ( $\mu$ F)	Vdc $\phi$ D	200					220					
		$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	
220		20x25: 1.19					20x25: 1.23					
270		20x25: 1.39	22x25: 1.37				20x30: 1.46	22x25: 1.42				
330		20x30: 1.56	22x25: 1.51				20x35: 1.64	22x30: 1.59				
390		20x35: 1.74	22x30: 1.73	25x25: 1.71			20x35: 1.79	22x30: 1.80	25x25: 1.75			
470		20x35: 2.03	22x30: 1.97	25x25: 1.95			20x40: 2.12	22x35: 2.06	25x30: 2.08			
560		20x40: 2.18	22x35: 2.18	25x30: 2.15	30x25: 2.15			22x40: 2.22	25x35: 2.38	30x25: 2.18		
680			22x40: 2.48	25x30: 2.48	30x25: 2.48			22x45: 2.62	25x35: 2.56	30x30: 2.52		
820			22x45: 2.81	25x35: 2.79	30x30: 2.75				25x45: 2.91	30x35: 2.84	35x30: 2.79	
1000			22x50: 3.28	25x40: 3.28	30x35: 3.15					30x35: 3.36	35x30: 3.29	
1200				25x45: 3.61	30x35: 3.61	35x30: 3.57				30x40: 3.72	35x35: 3.68	
1500					30x45: 4.13	35x35: 4.06				30x50: 4.18	35x40: 4.10	
1800					30x50: 4.60	35x40: 4.59					35x45: 4.52	
2200						35x45: 5.25						

Cap ( $\mu$ F)	Vdc $\phi$ D	250					315					
		$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	
150							20x30: 1.00					
180		20x25: 1.20					20x35: 1.13	22x30: 1.29	25x25: 1.38			
220		20x25: 1.26	22x25: 1.24				20x35: 1.29	22x30: 1.41	25x25: 1.47			
270		20x30: 1.42	22x25: 1.50					22x35: 1.68	25x30: 1.70			
330		20x35: 1.68	22x30: 1.66	25x25: 1.61				22x40: 1.91	25x35: 1.94	30x25: 1.98		
390		20x40: 1.92	22x35: 1.88	25x30: 1.88				22x45: 2.07	25x40: 2.11	30x30: 2.15		
470			22x35: 2.15	25x35: 2.15	30x25: 2.04				25x50: 2.31	30x35: 2.38	35x30: 2.36	
560			22x40: 2.48	25x35: 2.35	30x25: 2.35					30x35: 2.63	35x30: 2.69	
680				25x40: 2.67	30x30: 2.71					30x45: 2.80	35x35: 3.05	
820				25x45: 3.01	30x35: 2.98	35x30: 2.96				30x50: 3.28	35x40: 3.45	
1000					30x40: 3.56	35x35: 3.48					35x45: 3.57	
1200					30x45: 3.99	35x35: 3.84						
1500						35x40: 4.33						
1800						35x50: 4.54						

Cap ( $\mu$ F)	Vdc $\phi$ D	350					385					
		$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	
68							20x25: 0.68					
82							20x30: 0.74	22x25: 0.76				
100							20x30: 0.86	22x30: 0.89				
120		20x30: 0.96	22x25: 1.04					20x35: 0.96	22x30: 0.98	25x25: 1.02		
150		20x30: 1.10	22x30: 1.20	25x25: 1.22				20x35: 1.10	22x35: 1.12	25x30: 1.14		
180		20x35: 1.24	22x30: 1.34	25x25: 1.37				20x40: 1.27	22x35: 1.27	25x30: 1.30	30x25: 1.37	
220			22x35: 1.47	25x30: 1.53	30x25: 1.54				22x40: 1.42	25x35: 1.48	30x30: 1.49	
270			22x40: 1.70	25x35: 1.73	30x25: 1.80				22x50: 1.60	25x40: 1.61	30x30: 1.64	
330			22x45: 1.87	25x35: 1.97	30x30: 2.03					25x45: 1.80	30x35: 1.85	35x30: 1.87
390				25x40: 2.14	30x35: 2.23	35x30: 2.30				25x50: 2.04	30x40: 2.05	35x35: 2.07
470				25x50: 2.55	30x35: 2.53	35x30: 2.55					30x45: 2.26	35x35: 2.26
560					30x40: 2.73	35x35: 2.75					30x50: 2.57	35x40: 2.59
680					30x50: 3.15	35x40: 3.15						35x45: 2.80
820						35x45: 3.47						
1000						35x50: 3.60						

↑ Ripple Current (A r.m.s./120Hz, 85°C)  
↑ Case Size  $\phi$ D×L(mm)

**◆ STANDARD SIZE**

Cap ( $\mu$ F)	Vdc $\phi$ D	400					420					
		$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	
68		20x25; 0.75					20x25; 0.70					
82		20x30; 0.82	22x25; 0.84				20x30; 0.80	22x25; 0.85				
100		20x30; 0.95	22x30; 0.99				20x35; 0.90	22x30; 0.97	25x25; 0.98			
120		20x35; 1.07	22x30; 1.09	25x25; 1.13			20x35; 1.04	22x30; 1.07	25x25; 1.08			
150		20x40; 1.22	22x35; 1.24	25x30; 1.27			20x40; 1.17	22x35; 1.21	25x30; 1.26	30x25; 1.30		
180			22x40; 1.41	25x30; 1.44	30x25; 1.52			22x40; 1.33	25x35; 1.42	30x25; 1.48		
220			22x45; 1.58	25x35; 1.64	30x30; 1.66			22x45; 1.55	25x35; 1.58	30x30; 1.65		
270				25x40; 1.79	30x30; 1.82				25x40; 1.74	30x35; 1.90	35x30; 1.94	
330				25x45; 2.00	30x35; 2.05	35x30; 2.05			25x50; 2.20	30x35; 1.98	35x35; 2.17	
390					30x40; 2.26	35x35; 2.28				30x40; 2.22	35x35; 2.27	
470					30x45; 2.51	35x40; 2.54				30x45; 2.50	35x40; 2.61	
560					30x50; 2.85	35x40; 2.85					35x45; 2.95	
680						35x50; 3.10						

Cap ( $\mu$ F)	Vdc $\phi$ D	450				
		$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35
56		20x25; 0.61				
68		20x30; 0.70	22x25; 0.71			
82		20x35; 0.80	22x25; 0.86			
100		20x35; 0.88	22x30; 0.95	25x25; 0.97		
120		20x40; 0.99	22x35; 1.07	25x30; 1.09	30x25; 1.12	
150			22x40; 1.18	25x30; 1.25	30x25; 1.29	
180			22x45; 1.32	25x35; 1.40	30x30; 1.45	
220				25x40; 1.59	30x30; 1.64	35x30; 1.66
270				25x45; 1.73	30x35; 1.89	35x30; 1.90
330				25x50; 2.12	30x40; 2.12	35x35; 2.15
390					30x45; 2.35	35x40; 2.38
470					30x50; 2.65	35x45; 2.68
560						35x50; 2.88

↑ Ripple Current (A r.m.s./120Hz, 85°C)  
 ↑ Case Size  $\phi$ D×L(mm)