

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

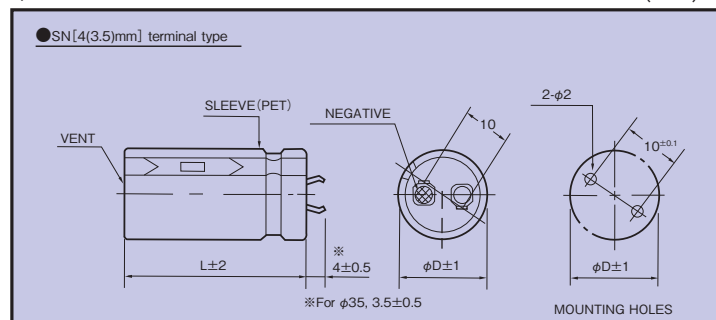
	Code
PET Sleeve without plate	EFC

◆ PART NUMBER

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

◆ DIMENSIONS

(mm)



**◆ 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			20x40: 3.70	22x35: 3.70	25x25: 3.70		
18000		20x40: 3.31	22x35: 3.22	25x30: 3.08				22x40: 3.98	25x30: 3.98		
22000			22x40: 3.79	25x30: 3.66	30x25: 3.58			22x45: 4.52	25x35: 4.52	30x25: 4.52	
27000			22x45: 4.04	25x35: 4.04	30x30: 3.99			22x50: 4.98	25x40: 4.98	30x30: 4.98	
33000			22x50: 4.58	25x40: 4.56	30x30: 4.58				25x45: 5.49	30x35: 5.49	35x30: 5.49
39000				25x45: 5.29	30x35: 5.21	35x30: 5.05			25x50: 6.11	30x40: 6.11	35x35: 6.11
47000				25x50: 5.78	30x40: 5.78	35x35: 5.55				30x45: 6.80	35x35: 6.80
56000					30x45: 6.59	35x35: 6.40				30x50: 7.62	35x40: 7.62
68000					30x50: 7.50	35x40: 7.48					35x45: 8.45
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				20x40: 2.52	22x35: 2.52	25x25: 2.52		
3300		20x35: 2.41	22x30: 2.41					22x40: 2.69	25x30: 2.69		
3900		20x40: 2.72	22x30: 2.72	25x25: 2.72				22x45: 3.10	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  $\phi$ DxL(mm)

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[LKMD1401H221MF](#) [B41888G6108M000](#) [EKMA160ETD470MF07D](#) [UHW1J102MHD6](#) [EKMG500ETD221MJC5S](#) [LKMK2502W101MF](#)  
[LKMD1401H181MF](#) [LKMI2502G820MF](#) [LKMJ2001J122MF](#) [LKML2501C472MF](#) [LKMJ4002C681MF](#) [450MXH330MEFCSN25X45](#)  
[450MXK330MA2RFC22X50](#) [63ZLH560MEFCG412.5X30](#) [ELH2DM331O25KT](#) [ELH2DM471P30KT](#)