



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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USG SERIES

85°C Standard

*Load Life : 85°C 3000 hours.

RoHS compliance



◆SPECIFICATIONS

Items	Characteristics																			
Category Temperature Range	-40~+85°C	-25~+85°C																		
Rated Voltage Range	10~250Vdc	400~450Vdc																		
Capacitance Tolerance	±20% (20°C, 120Hz)																			
Leakage Current(MAX)	I=3√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>100~450</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> </tr> </tbody> </table> (20°C, 120Hz)		Rated Voltage (Vdc)	10	16	25	35	50	63	80	100~450	tanδ	0.55	0.50	0.45	0.40	0.35	0.30	0.25	0.20
Rated Voltage (Vdc)	10	16	25	35	50	63	80	100~450												
tanδ	0.55	0.50	0.45	0.40	0.35	0.30	0.25	0.20												
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>10~100</th> <th>160~250</th> <th>400</th> <th>420~450</th> </tr> </thead> <tbody> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>3</td> <td>4</td> <td>8</td> <td>12</td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>12</td> <td>12</td> <td>-</td> <td>-</td> </tr> </tbody> </table> (120Hz)		Rated Voltage (Vdc)	10~100	160~250	400	420~450	Z(-25°C)/Z(20°C)	3	4	8	12	Z(-40°C)/Z(20°C)	12	12	-	-			
Rated Voltage (Vdc)	10~100	160~250	400	420~450																
Z(-25°C)/Z(20°C)	3	4	8	12																
Z(-40°C)/Z(20°C)	12	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
	400~450Vdc	0.80	1.00	1.15	1.20	1.25	1.40

◆OPTION

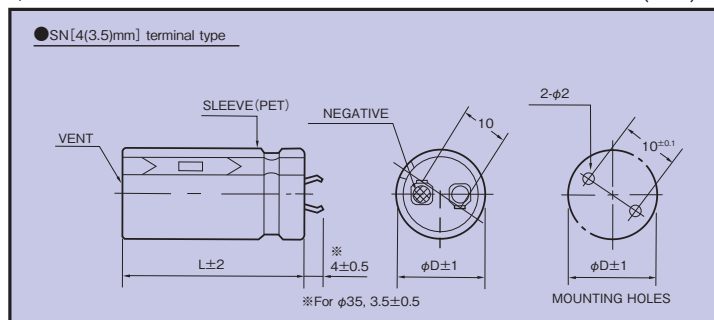
	Code
PET Sleeve without plate	EFC

◆PART NUMBER

□□□ / USG / □□□□□ / M / □□□ / SN / DxL
 Rated Voltage Series Capacitance Capacitance Tolerance Option Terminal Code Case Size

◆DIMENSIONS

(mm)



◆ STANDARD SIZE

Cap (μ F)	Vdc ϕ D	10					16				
		ϕ 20	ϕ 22	ϕ 25	ϕ 30	ϕ 35	ϕ 20	ϕ 22	ϕ 25	ϕ 30	ϕ 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 (μ F)	Vdc ϕ D	25					35				
		ϕ 20	ϕ 22	ϕ 25	ϕ 30	ϕ 35	ϕ 20	ϕ 22	ϕ 25	ϕ 30	ϕ 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 (μ F)	Vdc ϕ D	50					63				
		ϕ 20	ϕ 22	ϕ 25	ϕ 30	ϕ 35	ϕ 20	ϕ 22	ϕ 25	ϕ 30	ϕ 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					

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

◆ STANDARD SIZE

Cap (μ F)	Vdc ϕ D	80					100				
		ϕ 20	ϕ 22	ϕ 25	ϕ 30	ϕ 35	ϕ 20	ϕ 22	ϕ 25	ϕ 30	ϕ 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					

Cap (μ F)	Vdc ϕ D	160					180				
		ϕ 20	ϕ 22	ϕ 25	ϕ 30	ϕ 35	ϕ 20	ϕ 22	ϕ 25	ϕ 30	ϕ 35
390		20x25: 1.19					20x25: 1.84				
470		20x30: 1.76	22x25: 1.76				20x30: 2.08	22x25: 2.08			
560		20x30: 2.25	22x25: 2.25				20x35: 2.25	22x30: 2.25			
680		20x35: 2.50	22x30: 2.50	25x25: 2.50			20x40: 2.50	22x35: 2.50	25x25: 2.50		
820		20x40: 2.75	22x35: 2.75	25x30: 2.75			20x45: 2.75	22x40: 2.75	25x30: 2.75		
1000			22x40: 3.00	25x30: 3.00	30x25: 3.00			22x45: 3.00	25x35: 3.00	30x25: 3.00	
1200			22x45: 3.25	25x35: 3.25	30x30: 3.25			22x50: 3.31	25x40: 3.31	30x30: 3.31	35x25: 3.31
1500				25x45: 3.73	30x35: 3.73				25x50: 3.83	30x35: 3.83	35x30: 3.83
1800				25x50: 4.20	30x35: 4.20	35x30: 4.20				30x40: 4.32	35x35: 4.32
2200					30x45: 4.78	35x35: 4.78				30x50: 4.92	35x40: 4.92
2700					30x50: 5.45	35x40: 5.45					35x45: 5.52
3300						35x45: 5.75					

Cap (μ F)	Vdc ϕ D	200					220				
		ϕ 20	ϕ 22	ϕ 25	ϕ 30	ϕ 35	ϕ 20	ϕ 22	ϕ 25	ϕ 30	ϕ 35
270							20x25: 1.42				
330		20x25: 1.44					20x30: 1.58	22x25: 1.58			
390		20x30: 1.68	22x25: 1.68				20x35: 1.75	22x30: 1.75			
470		20x35: 1.93	22x30: 1.93	25x25: 1.93			20x35: 1.99	22x30: 1.99	25x25: 1.99		
560		20x35: 2.43	22x30: 2.43	25x25: 2.43			20x40: 2.28	22x35: 2.28	25x30: 2.28		
680		20x40: 2.68	22x35: 2.68	25x30: 2.68	30x25: 2.68			22x40: 2.46	25x30: 2.46	30x25: 2.46	
820			22x40: 2.93	25x30: 2.93	30x25: 2.93			22x45: 2.81	25x35: 2.81	30x30: 2.81	
1000			22x45: 3.25	25x35: 3.25	30x30: 3.25	35x25: 3.25			25x45: 3.29	30x30: 3.29	
1200				25x45: 3.50	30x35: 3.50	35x30: 3.50			25x50: 3.60	30x35: 3.60	35x30: 3.60
1500				25x50: 3.87	30x40: 3.87	35x30: 3.87				30x45: 3.92	35x35: 3.92
1800					30x45: 4.32	35x35: 4.32				30x50: 4.30	35x40: 4.30
2200					30x50: 4.92	35x40: 4.92					35x50: 4.95
2700						35x50: 5.45					

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

◆ STANDARD SIZE

Cap (μ F)	Vdc ϕ D	250					400				
		ϕ 20	ϕ 22	ϕ 25	ϕ 30	ϕ 35	ϕ 20	ϕ 22	ϕ 25	ϕ 30	ϕ 35
82							20x25: 0.80				
100							20x30: 0.94	22x25: 0.94			
120							20x30: 1.08	22x25: 1.08			
150							20x35: 1.21	22x30: 1.21	25x25: 1.21		
180							20x40: 1.45	22x35: 1.45	25x25: 1.45		
220		20x25: 1.23						22x40: 1.58	25x30: 1.58	30x25: 1.58	
270		20x30: 1.31	22x25: 1.31					22x45: 1.67	25x35: 1.67	30x25: 1.67	
330		20x30: 1.75	22x25: 1.75					22x50: 1.90	25x40: 1.90	30x30: 1.90	35x25: 1.90
390		20x35: 1.91	22x30: 1.91	25x25: 1.91					25x45: 2.13	30x35: 2.13	35x30: 2.13
470		20x40: 2.11	22x35: 2.11	25x25: 2.11					25x50: 2.39	30x40: 2.39	35x30: 2.39
560			22x40: 2.25	25x30: 2.25	30x25: 2.25					30x45: 2.69	35x35: 2.69
680			22x45: 2.50	25x35: 2.50	30x30: 2.50						35x40: 2.96
820				25x40: 2.77	30x30: 2.77	35x25: 2.77					35x50: 3.25
1000				25x45: 3.32	30x35: 3.32	35x30: 3.32					
1200					30x40: 3.84	35x35: 3.84					
1500					30x50: 4.25	35x40: 4.25					
1800						35x45: 4.55					

Cap (μ F)	Vdc ϕ D	420					450				
		ϕ 20	ϕ 22	ϕ 25	ϕ 30	ϕ 35	ϕ 20	ϕ 22	ϕ 25	ϕ 30	ϕ 35
68							20x25: 0.66				
82		20x25: 0.83					20x25: 0.83				
100		20x30: 0.97	22x25: 0.97				20x30: 0.93	22x25: 0.93			
120		20x30: 1.08	22x25: 1.08				20x35: 1.04	22x30: 1.04	25x25: 1.04		
150		20x35: 1.30	22x30: 1.30	25x25: 1.30			20x40: 1.29	22x35: 1.29	25x25: 1.29		
180		20x40: 1.48	22x35: 1.48	25x30: 1.48				22x40: 1.40	25x30: 1.40	30x25: 1.40	
220			22x40: 1.65	25x35: 1.65	30x25: 1.65			22x45: 1.66	25x35: 1.66	30x25: 1.66	
270			22x50: 1.94	25x35: 1.94	30x30: 1.94			22x50: 1.81	25x40: 1.81	30x30: 1.81	35x25: 1.81
330				25x45: 2.17	30x35: 2.17	35x30: 2.17			25x45: 2.10	30x35: 2.10	35x30: 2.10
390				25x50: 2.27	30x35: 2.27	35x30: 2.27				30x40: 2.32	35x35: 2.32
470					30x40: 2.61	35x35: 2.61				30x45: 2.66	35x40: 2.66
560					30x50: 2.82	35x40: 2.82					35x40: 2.82
680						35x45: 3.11					35x50: 3.00

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