

CLF Long life General Industrial Electronics

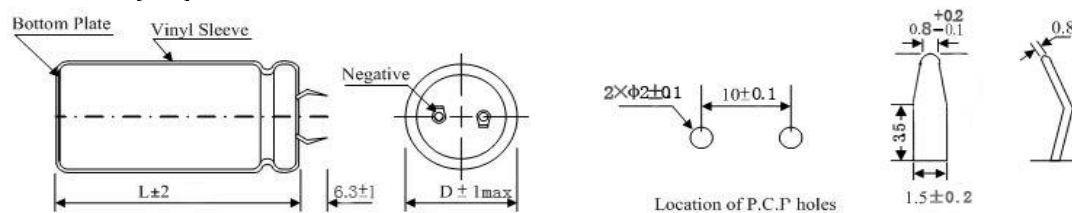
- Endurance: 85℃ 5000 hours
- High Ripple Current
- Long Life General Industrial Electronics
- Corresponding product to RoHS



■ SPECIFICATIONS

Item	Characteristics									
Category Temperature Range	-40 ~ +85℃	-25 ~ +85℃								
Rated Voltage Range	10 ~ 100V	160 ~ 500V								
Rated Capacitance Range	68~ 22000μF									
Capacitance Tolerance	± 20 % (120Hz , 20℃)									
Leakage Current (20℃)	I =3√Cr* Vr (μA) (After rated voltage applied for 5 minutes) I: Max. leakage current (μA), Cr : Nominal capacitance (μF), Vr : Rated voltage (V)									
Dissipation Factor(MAX) (tanδ) (120Hz ,20℃)	Rated voltage(V)	10~16	25	35	50	63	80~100	160~250	315~450	500
	tanδ	0.60	0.50	0.40	0.35	0.30	0.25	0.15	0.20	0.25
Low Temperature Stability Impedance Ratio (MAX)	Measurement frequency : 120Hz									
	Rated voltage(V)	10~16	25~50	63~100	160~250	315~450	500			
	Z-25℃ / Z+20℃	8	6	4	4	8	10			
	Z-40℃ / Z+20℃	16	12	10	—	—	—			
Endurance	After applying rated voltage with rated Ripple current for 5000hrs at 85℃,Restore them to room temperature for 16 hours before testing,the capacitor shall meet the following requirements.									
	Capacitance change		Within ± 20% of the initial value							
	D.F. (tanδ)		Not more than 200% of the specified value							
	Leakage current		Not more than the specified value							
Shelf Life	After storage for 1000 hours at 85℃,UR to be applied for 30 minutes and then Restore them to room temperature for 16 hours before testing,the capacitor shall meet the following requirements.									
	Capacitance change		Within ± 20% of the initial value							
	D.F. (tanδ)		Not more than 200% of the specified value							
	Leakage current		Not more than 200% of the specified value							

■ Dimensions [mm]



■ Multiplier for Ripple Current

Freq. (Hz)	50/60	120	300	1K	10K	≥50K
≤100V	0.88	1.00	1.13	1.15	1.17	1.18
160~250	0.82	1.00	1.17	1.32	1.43	1.45
315~500V	0.77	1.00	1.15	1.30	1.41	1.43

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■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tanδ	Ripple current (A/rms85°C) (120Hz)	Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tanδ	Ripple current (A/rms85°C) (120Hz)	
10(13)	10000	22x25	0.60	2.50	50(63)	3900	22x35	0.35	2.10	
	12000	22x25	0.60	2.70			25x30	0.35	2.10	
	15000	22x30	0.60	3.20			30x25	0.35	2.40	
		25x25	0.60	3.10		4700	22x40	0.35	2.40	
	18000	22x35	0.60	3.60			25x35	0.35	2.40	
		25x30	0.60	3.60			22x50	0.35	2.50	
	22000	22x40	0.60	4.00		25x40	0.35	2.50		
25x35		0.60	4.10	30x30		0.35	2.50			
16(20)	8200	22x25	0.60	2.20		6800	25x45	0.35	2.80	
	10000	22x30	0.60	2.60			30x35	0.35	2.80	
		25x25	0.60	2.60			25x50	0.35	3.20	
	12000	22x35	0.60	2.90			8200	30x40	0.35	3.00
		25x30	0.60	3.30				10000	30x45	0.35
	30x25	0.60	3.40	35x35			0.35		3.40	
	15000	22x45	0.60	3.80			12000		30x50	0.35
		25x35	0.60	3.74				35x40	0.35	3.80
	22000	22x50	0.60	4.20			15000	35x50	0.35	4.50
25x40		0.60	4.20	1500	22x25	0.30	1.60			
30x30		0.60	4.20	1800	22x25	0.30	1.80			
35x25		0.60	4.40	2200	22x30	0.30	2.00			
25(32)	5600	22x25	0.50	2.00	63(79)	2700	25x25	0.30	2.00	
	6800	22x30	0.50	2.30			22x35	0.30	2.20	
		25x25	0.50	2.30			25x30	0.30	2.30	
	8200	22x35	0.50	2.60		3300	22x40	0.30	2.30	
		22x40	0.50	2.90			25x35	0.30	2.30	
	10000	25x30	0.50	2.80			30x25	0.30	2.30	
		25x35	0.50	3.20		3900	25x40	0.30	2.60	
		30x30	0.50	3.40			30x30	0.30	2.60	
	15000	25x40	0.50	3.70		4700	30x30	0.30	2.90	
		35x25	0.50	3.90			5600	25x45	0.30	3.10
	18000	25x50	0.50	4.30		30x35		0.30	3.20	
		30x35	0.50	4.20		35x30		0.30	3.30	
35x30		0.50	4.40	6800		30x40	0.30	3.60		
22000	30x40	0.50	4.80			35x35	0.30	3.70		
	35x35	0.50	5.00	8200		30x50	0.30	3.70		
35(44)	3300	22x25	0.40			1.80	35x40	0.30	3.80	
	3900	22x30	0.40	2.10		10000	35x45	0.30	4.30	
	4700	25x25	0.40	2.20		1000	22x25	0.25	1.30	
		22x35	0.40	2.30		1200	22x30	0.25	1.50	
	5600	25x30	0.40	2.30	1500	25x25	0.25	1.70		
		22x40	0.40	2.90	1800	22x35	0.25	1.90		
		25x35	0.40	2.60		25x30	0.25	1.90		
	6800	30x25	0.40	2.70	2200	22x40	0.25	2.10		
		22x50	0.40	2.80		25x35	0.25	2.20		
		25x40	0.40	2.80		30x25	0.25	2.20		
	8200	30x30	0.40	2.80	2700	22x50	0.25	2.50		
		25x45	0.40	3.10		25x40	0.25	2.50		
30x35		0.40	3.20	30x30		0.25	2.50			
10000	25x50	0.40	3.50	3300	25x45	0.25	2.80			
	30x40	0.40	3.50		30x35	0.25	2.80			
	35x30	0.40	3.60	3900	25x50	0.25	3.10			
15000	30x45	0.40	4.10		30x40	0.25	3.20			
	35x35	0.40	4.1		35x30	0.25	3.20			
18000	30x50	0.40	4.60	4700	30x45	0.25	3.60			
	35x40	0.40	4.70		35x35	0.25	3.60			
	22000	35x45	0.40	5.30	5600	30x50	0.25	3.80		
50(63)	2200	22x25	0.35	1.70	35x40	0.25	3.80			
	2700	22x30	0.35	1.90	6800	35x50	0.25	4.10		
		25x25	0.35	1.90	100(125)	680	22x25	0.25	1.10	
	3300	22x30	0.35	2.00	820	22x30	0.25	1.20		

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Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tanδ	Ripple current (A/rms85°C) (120Hz)	Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tanδ	Ripple current (A/rms85°C) (120Hz)
	1000	25x25	0.25	1.40		270	22x25	0.15	1.20

100(125)	1200	22x35	0.25	1.60	180(225)	330	22x30	0.15	1.40
		25x30	0.25	1.60		390	25x25	0.15	1.50
	1500	22x40	0.25	1.80		470	22x35	0.15	1.70
		25x35	0.25	1.70			25x30	0.15	1.70
		30x25	0.25	1.80			30x25	0.15	1.80
	1800	22x50	0.25	2.10		560	22x40	0.15	1.90
		25x40	0.25	2.00			25x35	0.15	2.00
		30x30	0.25	2.10		680	22x50	0.15	2.30
		35x25	0.25	2.20			25x40	0.15	2.20
	2200	25x45	0.25	2.20			30x30	0.15	2.30
		30x30	0.25	2.30			35x25	0.15	2.20
		35x25	0.25	2.50		820	25x45	0.15	2.50
	2700	25x50	0.25	2.60			30x35	0.15	2.60
		30x40	0.25	2.70			35x30	0.15	2.50
	3300	30x45	0.25	3.00		1000	25x50	0.15	2.90
		30x40	0.25	2.70			30x40	0.15	2.90
	3900	30x50	0.25	3.40		1200	30x45	0.15	3.30
		35x40	0.25	3.40			35x35	0.15	3.10
	4700	35x50	0.25	4.00		1500	35x45	0.15	3.60
160(200)	220	22x25	0.15	1.00	200(250)	1800	35x50	0.15	4.10
	270	22x25	0.15	1.10		220	22x25	0.15	1.10
	330	22x25	0.15	1.30		270	22x25	0.15	1.20
	390	22x30	0.15	1.50		330	22x30	0.15	1.40
		25x25	0.15	1.50			25x25	0.15	1.40
	470	25x25	0.15	1.70		390	22x35	0.15	1.60
	560	25x35	0.15	1.90			25x30	0.15	1.60
		25x30	0.15	1.90		470	22x40	0.15	1.80
		30x25	0.15	2.00			30x25	0.15	1.90
	680	22x40	0.15	2.10		560	22x45	0.15	2.00
		25x35	0.15	2.20			25x35	0.15	2.00
	820	22x50	0.15	2.50			30x30	0.15	2.10
		25x40	0.15	2.40			35x25	0.15	2.00
		30x30	0.15	2.50		680	25x40	0.15	2.30
		35x25	0.15	2.40			30x35	0.15	2.40
	1000	25x45	0.15	2.70		820	25x50	0.15	2.60
		30x35	0.15	2.80			30x40	0.15	2.70
		35x30	0.15	2.70			35x30	0.15	2.50
	1200	25x50	0.15	3.10		1000	30x45	0.15	3.10
		30x40	0.15	3.20			35x35	0.15	2.80
		35x35	0.15	3.00		1200	30x50	0.15	3.40
	1500	30x45	0.15	3.70			35x40	0.15	3.20
		35x40	0.15	3.50	250(300)	1500	35x50	0.15	3.80
	1800	35x45	0.15	3.90		180	22x25	0.15	0.94
	2200	35x50	0.15	4.50		220	22x30	0.15	1.10

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250(300)	220	25x25	0.15	1.10	400(450)	68	22x25	0.20	0.55
	270	22x35	0.15	1.20		82	22x25	0.20	0.60
	330	22x40	0.15	1.40		100	22x30	0.20	0.70
		25x30	0.15	1.40			25x25	0.20	0.70
		30x25	0.15	1.50		120	22x35	0.20	0.79
	390	22x45	0.15	1.60		150	22x40	0.20	0.90
		25x35	0.15	1.60			25x30	0.20	0.89
		25x40	0.15	1.80			22x45	0.20	1.00
	470	30x30	0.15	1.80		180	25x35	0.20	1.00
		25x45	0.15	2.00			30x30	0.20	1.10
		30x35	0.15	2.00		220	22x50	0.20	1.10
	680	30x40	0.15	2.30			25x40	0.20	1.20
		35x30	0.15	2.40			30x35	0.20	1.20
	820	30x45	0.15	2.60		270	25x45	0.20	1.30
		35x35	0.15	2.60			30x40	0.20	1.40
	1000	35x40	0.15	3.00			35x30	0.20	1.60
		35x45	0.15	3.40			30x45	0.20	1.60
315(365)	100	22x25	0.20	0.67		330	35x35	0.20	1.70
	120	22x30	0.20	0.75		390	30x50	0.20	1.80
		22x30	0.20	0.85			35x40	0.20	1.80
	150	25x25	0.20	0.85		470	35x45	0.20	2.10
		22x35	0.20	0.96		560	35x50	0.20	2.30
	180	25x30	0.20	0.96		680	35x55	0.20	2.70
		22x40	0.20	1.10		820	35x25	0.20	3.10
		25x35	0.20	1.10		1000	35x70	0.20	3.80
	220	30x25	0.20	1.10	420(470)	68	22x25	0.20	0.56
		22x45	0.20	1.20		82	22x30	0.20	0.62
		25x40	0.20	1.30		100	22x35	0.20	0.71
		30x30	0.20	1.30		120	22x40	0.20	0.80
	330	35x25	0.20	1.30			25x30	0.20	0.81
		25x45	0.20	1.40		150	22x45	0.20	0.92
		30x35	0.20	1.40			25x35	0.20	0.93
	390	25x50	0.20	1.60			25x40	0.20	1.10
		30x40	0.20	1.60		180	30x30	0.20	1.10
		35x30	0.20	1.60			25x45	0.20	1.20
	470	30x45	0.20	1.80		220	30x35	0.20	1.30
		35x35	0.20	1.80			25x50	0.20	1.30
		30x50	0.20	2.00		270	30x40	0.20	1.40
	560	35x40	0.20	2.00			30x45	0.20	1.60
		35x45	0.20	2.30			35x35	0.20	1.60
350(400)	82	22x25	0.20	0.64		390	30x50	0.20	1.90
	100	22x25	0.20	0.72		470	35x45	0.20	2.20
		22x30	0.20	0.82		560	35x50	0.20	2.40
	120	25x25	0.20	0.81		680	35x55	0.20	2.80
		22x35	0.20	0.94		820	35x60	0.20	3.20
	150	25x30	0.20	0.94	450(500)	68	22x30	0.20	0.57
		22x40	0.20	1.10		82	22x35	0.20	0.64
	180	25x35	0.20	1.10		100	22x35	0.20	0.72
		22x45	0.20	1.20			25x30	0.20	0.73
	220	25x35	0.20	1.20		120	22x40	0.20	0.80
		30x30	0.20	1.20			25x35	0.20	0.83
		25x45	0.20	1.40		150	22x50	0.20	0.95
	270	30x35	0.20	1.40			25x40	0.20	0.95
		25x50	0.20	1.60			25x45	0.20	1.10
	330	30x30	0.20	1.60		180	30x35	0.20	1.10
		30x40	0.20	1.70			35x25	0.20	1.20
		35x35	0.20	1.80		220	25x50	0.20	1.20
	470	30x45	0.20	2.00			30x40	0.20	1.30
		35x40	0.20	2.00			35x30	0.20	1.30
		35x45	0.20	2.30		270	30x45	0.20	1.40
	680	35x50	0.20	2.60			35x35	0.20	1.50

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Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tanδ	Ripple current (A/rms85°C) (120Hz)	Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tanδ	Ripple current (A/rms85°C) (120Hz)
	330	30x50	0.20	1.70		180	30x40	0.25	1.40

450(500)	390	35x45	0.20	1.90	500(550)	100	35x30	0.25	1.30
	470	35x50	0.20	2.20		220	30x45	0.25	1.60
	560	35x55	0.20	2.40			35x35	0.25	1.50
	680	35x60	0.20	2.80		270	30x50	0.25	1.80
	820	35x65	0.20	3.20			35x40	0.25	1.70
500(550)	100	25x30	0.25	0.90		330	30x50	0.25	2.00
		30x25	0.25	0.88			35x45	0.25	1.90
	120	25x35	0.25	1.00		390	30x60	0.25	2.20
		30x30	0.25	1.00			35x50	0.25	2.30
		35x25	0.25	0.95		470	35x60	0.25	2.50
		25x40	0.25	1.20		560	35x65	0.25	2.80
	150	30x35	0.25	1.20		680	35x70	0.25	3.20