

FL Series Long Life 105°C

Features

- ◆ Specially designed for electronic ballast , energy-save lamp and LED driving power
- ◆ Endurance 8000~12000 hrs at 105°C
- ◆ Safety vent construction design.
- ◆ RoHS Compliant

FK **long life** → FL



Specifications

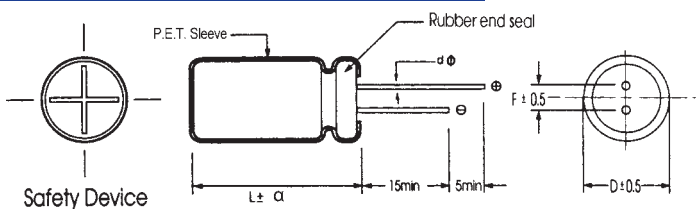
Item	Performance Characteristics									
Operating Temperature Range	-40 to +105°C (160~450Vdc)	-25 to +105°C (500Vdc)								
Rated Voltage Range	160 to 500 VDC									
Capacitance Range	1.0 to 680 µF									
Capacitance Tolerance	±20%(120Hz,+20°C)									
Leakage Current (+20°C,max.)	(CV ≤ 1000)	(CV > 1000)	After 1minute with rated working voltage applied. C: rated Capacitance (µF) · V: working voltage(V)							
	1 ≤ 0.1CV+40(µA)	1 ≤ 0.04CV+100(µA)								
Dissipation Factor (tan δ , at 20°C , 120Hz)	Working Voltage(VDC)	160	200	250	350	400	420	450	500	
	D.F.(%)max.	15	15	15	20	20	20	20	24	
Low Temperature Characteristics (at 120Hz)	Impedance ratio max									
	Working Voltage(VDC)	160	200	250	350	400	420	450	500	
	Z-25°C / Z+20°C	3	3	3	5	5	6	6	6	
	Z-40°C / Z+20°C	6	6	6	6	6	-	-	-	
Endurance	Test condition	:As right							D φ	Life (hours)
	Duration time	:+105°C							6.3 φ, 8 φ	8000
	Ambient temperature	:Rated DC working voltage							10 φ	10000
	Applied voltage	: with ±20% of the initial measured value							≥ 13 φ	12000
	After test requirement at +20°C	: ≤ 200% of the initial specified value								(500V:10000)
	Capacitance change	: ≤ The initial specified value								
	Dissipation factor									
	Leakage current									
Shelf Life	Test condition	:1000Hrs								
	Duration time	:+105°C								
	Ambient temperature	:None								
	Applied voltage									
	After test requirement at +20°C:Same limits as Endurance.									
	Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes.									

Radial

Multiplier for Ripple Current vs. Frequency

Frequency(Hz) \ CAP(µF)	120	1K	10K	100KHz
1~82	1.00	1.75	2.25	2.50
≥ 100	1.00	1.67	2.05	2.25

Diagram of Dimensions:(unit:mm)



φD	8	10	13	16	18	20	22
F	3.5	5.0	5.0	7.5	7.5	10	10
φd	L < 20	L ≥ 20	0.6	0.8			
	0.5	0.6					
α	D < 16	D = 16		D = 18		D > 18	
	1.5	L:25~35.5	L < 25 and L ≥ 40	L:25~31.5	L < 25 and L ≥ 35.5	1.5	2.0

Case Size

VV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (mArms/105°C /120Hz)	Rated Ripple current (mArms/105°C /100KHz)
160	1	6.3x11	18	46
160	1.5	6.3x11	20	51
160	2.2	6.3x11	25	62
160	3.3	6.3x11	37	93
160	4.7	8x11.5	38	95
160	5.6	8x11.5	40	100
160	6.8	8x11.5	50	125
160	6.8	8x16	59	148
160	10	8x11.5	72	180
160	15	8x16	100	250
160	15	10x12.5	100	260
160	22	10x16	140	350
160	22	10x20	150	380
160	33	10x16	190	480
160	33	10x20	210	520
160	39	10x16	240	600
160	47	10x20	300	760
160	56	10x20	310	770
160	68	13x20	480	1190
160	68	13x25	520	1310
160	82	10x25	440	1100
160	82	13x20	510	1280
160	100	13x20	590	1330
160	100	13x25	630	1420
160	100	16x20	630	1420
160	150	13x25	730	1650
160	150	16x20	770	1740
160	150	16x25	820	1850
160	180	16x20	870	1950
160	220	16x25	1020	2300
160	220	18x20	1000	2250
160	220	18x25	1040	2350
160	330	16x31.5	1350	3040
160	330	18x31.5	1380	3100
160	390	16x35.5	1510	3400
160	470	16x40	1710	3850
160	470	18x35.5	1720	3860
160	560	18x40	1910	4290
160	680	18x45	2130	4800
200	1	6.3x11	26	65
200	1.5	6.3x11	28	70
200	2.2	6.3x11	34	85
200	3.3	6.3x11	46	115
200	4.7	8x11.5	64	160
200	5.6	8x11.5	66	166
200	6.8	8x11.5	70	175
200	6.8	10x12.5	76	190
200	10	8x16	92	230
200	10	10x16	100	260
200	12	10x12.5	100	260
200	15	8x20	140	350
200	22	10x16	180	450
200	22	10x20	200	500
200	27	10x16	200	510
200	33	10x20	260	660
200	33	13x20	300	750
200	47	10x20	310	770
200	47	13x20	400	990

VV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (mArms/105°C /120Hz)	Rated Ripple current (mArms/105°C /100KHz)
200	56	10x25	380	950
200	68	13x20	470	1180
200	68	13x25	520	1300
200	68	16x20	520	1300
200	82	16x20	560	1400
200	100	13x25	640	1450
200	100	16x20	670	1500
200	100	16x25	690	1550
200	100	18x20	710	1600
200	120	16x20	720	1620
200	150	16x20	790	1780
200	150	16x25	840	1900
200	150	18x25	890	2000
200	180	16x25	910	2050
200	180	18x20	910	2050
200	220	18x25	1050	2370
200	220	18x31.5	1160	2600
200	270	16x35.5	1250	2820
200	330	16x40	1430	3210
200	330	18x31.5	1400	3140
200	330	18x35.5	1440	3230
200	390	18x35.5	1520	3420
200	470	18x40	1750	3930
200	470	18x45	1820	4100
220	27	10x16	200	510
220	39	10x20	270	670
220	68	13x20	480	1190
220	150	16x25	850	1910
220	220	16x31.5	1110	2500
220	270	18x31.5	1260	2840
220	330	16x45	1450	3270
220	390	18x45	1620	3650
220	470	18x50	1840	4150
250	1	6.3x11	26	65
250	1.5	6.3x11	28	70
250	2.2	6.3x11	34	85
250	3.3	6.3x11	46	115
250	3.3	8x11.5	60	150
250	4.7	8x11.5	68	170
250	5.6	8x11.5	76	190
250	6.8	8x16	96	240
250	6.8	10x12.5	96	240
250	8.2	8x20	120	290
250	10	8x16	120	300
250	10	10x16	130	330
250	15	8x20	150	380
250	22	10x16	200	490
250	22	10x20	220	540
250	22	13x20	250	620
250	33	10x20	270	680
250	33	13x16	270	680
250	33	13x20	320	800
250	47	13x20	400	990
250	47	13x25	410	1020
250	47	16x20	450	1120
250	56	13x20	430	1070
250	68	13x25	500	1240
250	68	16x20	530	1320

WV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (mArms/105°C /120Hz)	Rated Ripple current (mArms/105°C /100KHz)
250	68	16x25	570	1420
250	68	18x20	570	1420
250	82	13x25	570	1420
250	82	16x20	580	1450
250	100	16x25	760	1700
250	100	16x31.5	800	1800
250	100	18x20	720	1630
250	100	18x25	780	1750
250	120	16x25	780	1750
250	120	18x20	780	1750
250	150	18x25	890	2000
250	150	18x31.5	980	2200
250	180	16x31.5	1020	2300
250	180	18x25	980	2200
250	220	16x35.5	1130	2550
250	220	18x31.5	1130	2550
250	270	16x40	1290	2900
250	270	18x35.5	1310	2950
250	330	18x40	1460	3290
350	1	8x11.5	30	75
350	1.5	8x11.5	32	80
350	2.2	10x12.5	44	110
350	3.3	10x12.5	60	150
350	4.7	10x16	80	200
350	6.8	10x16	100	260
350	10	10x20	130	330
350	15	10x20	160	400
350	18	10x20	180	450
350	22	10x20	200	500
350	22	13x20	260	650
350	27	10x25	260	650
350	33	13x20	330	830
350	33	13x25	360	900
350	33	16x20	380	940
350	47	13x25	430	1070
350	47	16x20	440	1100
350	47	18x20	470	1180
350	56	16x20	480	1200
350	68	16x25	570	1420
350	68	16x31.5	620	1550
350	68	18x20	570	1420
350	68	18x25	620	1550
350	82	16x25	620	1560
350	82	18x25	640	1600
350	100	16x31.5	800	1800
350	100	18x25	780	1750
350	120	16x35.5	860	1930
350	120	18x31.5	870	1950
350	150	16x40	1020	2300
350	150	18x35.5	1020	2300
350	180	18x40	1080	2440
400	1	8x9	26	65
400	1	8x11.5	30	75
400	1.5	8x9	30	76
400	1.5	8x11.5	36	91
400	1.5	8x16	40	101
400	2.2	8x11.5	40	100
400	2.2	8x16	56	140
400	3.3	8x11.5	52	130
400	3.3	8x16	60	150

WV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (mArms/105°C /120Hz)	Rated Ripple current (mArms/105°C /100KHz)
400	3.3	8x20	61	153
400	3.3	10x12.5	60	151
400	3.3	10x16	73	182
400	3.9	8x16	66	165
400	4.7	8x11.5	72	180
400	4.7	8x20	92	230
400	4.7	10x16	96	240
400	5.6	8x20	100	250
400	5.6	10x16	100	250
400	5.6	10x20	110	280
400	6.8	8x20	120	290
400	6.8	10x16	120	300
400	8.2	10x16	120	300
400	8.2	10x20	130	320
400	10	10x16	130	330
400	10	10x20	140	350
400	15	10x20	180	460
400	15	13x20	200	500
400	22	13x20	280	690
400	22	13x25	310	770
400	22	16x20	320	790
400	27	13x20	300	750
400	33	13x25	330	820
400	33	16x20	340	840
400	39	13x25	390	980
400	47	16x25	480	1200
400	47	16x31.5	530	1320
400	47	18x20	470	1180
400	47	18x25	510	1270
400	56	16x25	500	1260
400	56	18x20	500	1250
400	68	16x25	580	1440
400	68	18x25	630	1570
400	68	18x31.5	700	1740
400	82	16x31.5	660	1660
400	82	18x25	650	1620
400	82	18x31.5	710	1770
400	100	16x35.5	760	1720
400	100	18x31.5	770	1740
400	120	16x40	870	1950
400	120	18x35.5	870	1960
400	150	18x40	1020	2300
400	180	18x45	1100	2480
420	6.8	10x16	120	300
420	12	10x20	150	380
420	15	10x25	190	470
420	22	13x20	290	720
420	27	13x25	340	850
420	33	16x20	390	970
420	47	16x25	500	1260
420	47	18x20	500	1260
420	68	16x31.5	650	1620
420	68	18x25	620	1550
420	82	16x35.5	730	1830
420	82	18x31.5	730	1830
420	100	16x40	830	1870
420	100	18x35.5	840	1890
420	120	18x40	930	2100
420	120	18x45	950	2130
420	150	18x50	1060	2390

WV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (mAmps/105°C /120Hz)	Rated Ripple current (mAmps/105°C /100KHz)
450	1	8x9	26	65
450	1	8x11.5	33	83
450	1.5	8x11.5	37	92
450	1.5	10x9	37	93
450	1.8	8x11.5	39	97
450	1.8	10x9	39	98
450	2.2	8x16	56	141
450	3.3	8x16	61	153
450	4.7	10x16	92	230
450	5.6	10x16	100	260
450	6.8	10x16	130	320
450	6.8	10x20	140	350
450	8.2	10x20	140	350
450	10	10x20	140	360
450	10	10x25	160	400
450	10	13x16	150	380
450	15	10x25	190	470
450	15	13x20	200	500
450	18	13x20	260	640
450	22	13x25	290	720
450	22	16x20	300	750
450	22	18x20	320	790
450	27	13x25	340	850
450	33	16x20	390	970
450	33	16x25	420	1050
450	33	16x31.5	460	1160
450	33	18x20	420	1040
450	33	18x25	450	1120

WV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (mAmps/105°C /120Hz)	Rated Ripple current (mAmps/105°C /100KHz)
450	39	18x20	440	1110
450	47	16x25	500	1260
450	47	16x31.5	560	1390
450	47	18x25	540	1340
450	47	18x31.5	590	1480
450	56	16x31.5	590	1470
450	56	18x25	560	1400
450	56	18x31.5	630	1570
450	68	16x35.5	660	1650
450	68	18x31.5	660	1660
450	82	16x40	750	1880
450	82	18x31.5	720	1790
450	82	18x35.5	750	1880
450	100	18x35.5	840	1890
450	100	18x40	900	2020
450	120	18x45	950	2130
450	150	18x50	1070	2400
500	10	13x20	130	330
500	12	13x20	140	350
500	15	13x25	180	450
500	15	16x20	180	450
500	22	16x25	230	570
500	22	18x20	220	560
500	33	16x31.5	290	720
500	33	18x25	280	700
500	47	18x31.5	360	890
500	56	18x35.5	390	970
500	68	18x40	420	1060