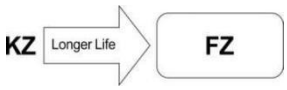
FZ Series

Long life with extra lower impedance

- Extra Low Impedance with temperature range -55 ~ +105℃
- Load life of 2000~5000 hours
- Impedance 5~25% less than KZ series
- RoHS Compliance



■ SPECIFICATIONS

Item	Characteristics
Operation Temperature Range	-55 ~ +105℃
Voltage Range	6.3 ~ 100V
Capacitance Range	3.3 ~ 4700μF
Capacitance Tolerance	± 20 % (at 120Hz , 20℃)

Leakage Current

WV(V)	6.3 ~ 100	
Size	Φ4 ~ 10	Φ12.5 ~ 16
Time	After 2 minutes (application of rated voltage)	After 1 minutes (application of rated voltage)
L.C.	I≤0.01CV or 3μA , whichever is greater	I≤0.03CV or 4μA , whichever is greater

Dissipation Factor (MAX) (tanδ) (at 120Hz ,20℃)

WV		6.3	10	16	25	35	50	63~80	100
tanδ	Φ4~10	0.26	0.19	0.16	0.14	0.12	0.10	0.08	0.07
	Φ12.5~16	0.26	0.19	0.18	0.16	0.14	0.10	0.08	0.07

Low Temp.Impedance Stability at 120Hz

WV(V)	6.3 ~ 16	25 ~ 100
Z(-25℃)/ Z(+20℃)	2	2
Z(-40)℃/ Z(+20℃)	3	3
Z(-55℃)/ Z(+20℃)	4	3

Load Life

After 5000hrs. (2000hrs. for Φ4~Φ6.3x5.8) application of the rated voltage at 105℃, they meet the characteristics listed below.

Capacitance change	Within ±30% of initial value
Dissipation Factor	200% or less of initial specified value
Leakage Current	initial specified value or less

Shelf Life

After leaving capacitors under no load at 105℃ for 1000 hours, they meet the specified value for load life characteristics listed above.

Resistance to Soldering Heat

After reflow soldering and restored at room temperature, they meet the characteristics listed below.

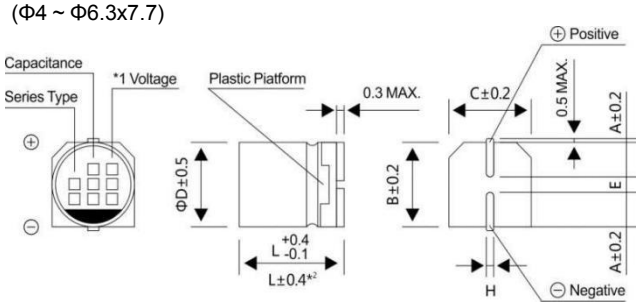
Capacitance change	Within ±10% of initial value
Dissipation Factor	initial specified value or less
Leakage Current	initial specified value or less

Marking

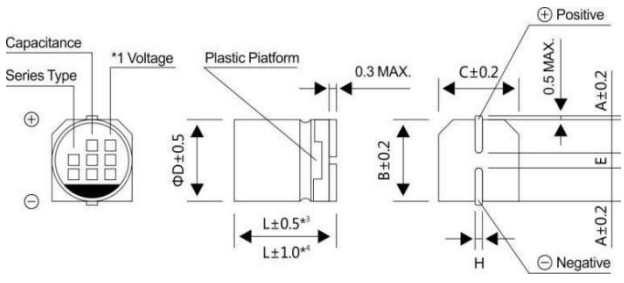
Black print on the case top

■ DRAWING (Unit: mm)

(Φ4 ~ Φ6.3x7.7)



Φ8x10.5 ~ Φ16



*1 Voltage mark for 6.3V is 【6V】

*2 Applicable to Φ6.3x7.7

*3 Applicable to Φ8x10.5 ~ Φ10

*4 Applicable to Φ12.5 ~ Φ16

ELCON

Surface Mount Aluminum Electrolytic Capacitors

FZ Series

■ DIMENSIONS (Unit:mm)

ΦDxL	4x5.8	5x5.8	6.3x5.8	6.3x7.7	8x10.5	10x10.5	10x13.5	12.5x13.5	12.5x16	16x16.5
A	2.0	2.2	2.6	2.6	3.0	3.3	3.3	4.9	4.9	5.8
B	4.3	5.3	6.6	6.6	8.4	10.4	10.4	13.0	13.0	17.0
C	4.3	5.3	6.6	6.6	8.4	10.4	10.4	13.0	13.0	17.0
E±0.2	1.0	1.4	1.9	1.9	3.1	4.7	4.7	4.7	4.7	6.4
L	5.8	5.8	5.8	7.7	10.5	10.5	13.5	13.5	16.0	16.5

■ DIMENSIONS&MAXIMUM PERMISSIBLE RIPPLE CURRENT & IMPEDANCE

WV / μF / Code	6.3 / 0J			10 / 1A			16 / 1C		
10 / 100							4x5.8	1.35	90
15 / 150							4x5.8	1.35	90
22 / 220	4x5.8	1.35	90	4x5.8	1.35	90	5x5.8	0.76	160
33 / 330	5x5.8	0.76	160	5x5.8	0.76	160	6.3x5.8	0.44	240
	(4x5.8)	(1.35)	(90)						
47 / 470	5x5.8	0.76	160	6.3x5.8	0.44	240	6.3x5.8	0.44	240
	(4x5.8)	(1.35)	(90)				(5x5.8)	(0.76)	(160)
56 / 560	5x5.8	0.76	160	6.3x5.8	0.44	240	6.3x5.8	0.44	240
68 / 680	6.3x5.8	0.44	240	6.3x5.8	0.44	240	6.3x7.7	0.34	300
							(6.3x5.8)	(0.44)	(240)
100 / 101	6.3x5.8	0.44	240	6.3x7.7	0.34	300	6.3x7.7	0.34	300
							(6.3x5.8)	(0.44)	(240)
150 / 151	6.3x5.8	0.44	240	6.3x7.7	0.34	300	6.3x7.7	0.34	300
220 / 221	6.3x7.7	0.34	300	6.3x7.7	0.34	300	8x10.5	0.17	600
	(6.3x5.8)	(0.44)	(240)				(6.3x7.7)	(0.34)	(300)
330 / 331	8x10.5	0.17	600	10x10.5	0.09	850	10x10.5	0.08	850
				(8x10.5)	(0.17)	(600)	(8x10.5)	(0.17)	(600)
470 / 471	8x10.5	0.17	600	10x10.5	0.09	850	10x10.5	0.08	850
				(8x10.5)	(0.17)	(600)	(8x10.5)	(0.17)	(600)
680 / 681	10x10.5	0.09	850	10x10.5	0.09	850	10x13.5	0.07	950
	(8x10.5)	(0.17)	(600)				(10x10.5)	(0.09)	(850)
1000 / 102	10x10.5	0.09	850	10x13.5	0.07	950	16x16.5	0.05	1450
	(8x10.5)	(0.17)	(600)	(10x10.5)	(0.09)	(850)	（12.5x16）	(0.055)	(1200)
							（12.5x13.5	(0.06)	(1100)
1500 / 152	10x13.5	0.09	950	12.5x13.5	0.06	1100	16x16.5	0.05	1450
2200 / 222	12.5x13.5	0.06	1100	12.5x16	0.055	1200			
3300 / 332	12.5x16	0.055	1200	16x16.5	0.05	1450	Case size	Impedance	Ripple current
4700 / 472	16x16.5	0.05	1450						

WV / μF / Code	25 / 1E			35 / 1V			50 / 1H		
4.7 / 4R7				4x5.8	1.35	90	5x5.8	1.52	85
10.0 / 100.0	4x5.8	1.35	90	5x5.8	0.76	160	5x5.8	1.35	115
							(6.3x5.8)	(0.88)	(165)
15 / 150	5x5.8	0.76	160	5x5.8	0.76	160	6.3x5.8	0.88	165
22 / 220	6.3x5.8	0.44	240	6.3x5.8	0.44	240	6.3x7.7	0.68	195
	(5x5.8)	(0.76)	(160)				(6.3x5.8)	(0.88)	(165)
33 / 330	6.3x5.8	0.44	240	6.3x5.8	0.44	240	6.3x7.7	0.68	195
47 / 470	6.3x7.7	0.26	300	6.3x7.7	0.26	300	8x10.5	0.34	350
	(6.3x5.8)	(0.44)	(240)	(6.3x5.8)	(0.88)	(165)	(6.3x7.7)	(0.68)	(195)
56 / 560	6.3x7.7	0.26	300	6.3x7.7	0.3	300	8x10.5	0.34	350
68 / 680	6.3x7.7	0.34	300	8x10.5	0.17	600	8x10.5	0.34	350
100 / 101	8x10.5	0.16	600	8x10.5	0.17	600	10x10.5	0.18	670
	(6.3x7.7)	(0.34)	(300)				(8x10.5)	(0.34)	(350)
150 / 151	8x10.5	0.16	600	10x10.5	0.09	850	10x13.5	0.14	780
	(6.3x7.7)	(0.34)	(300)				(10x10.5)	(0.18)	(670)
220 / 221	8x10.5	0.17	600	10x10.5	0.08	850	10x10.5	0.26	750
				(8x10.5)	(0.16)	(600)	(10x13.5)	(0.14)	(780)
330 / 331	10x10.5	0.08	850	10x10.5	0.10	850	12.5x13.5	0.12	900
	(8x10.5)	(0.17)	(600)	(10x13.5)	(0.07)	(950)			
470 / 471	10x13.5	0.07	950	12.5x13.5	0.06	1100	16x16.5	0.08	1250
	(10x10.5）	0.09	(850)	10x13.5	0.07	(1000)	(12.5x16)	(0.10)	(1050)
				(10x10.5）	(0.10)	(950)	12.5x13.5	0.08	(1100)
680 / 681	12.5x13.5	0.06	1100	12.5x16	0.055	1200			
				12.5x13.5	0.06	1100			

1000	102	16x16.5 12.5x13.5 (12.5x16)	0.05 0.06 (0.055)	1450 1100 (1200)	16x16.5	0.05	1450	Case size	Impedance	Ripple current
1500	152	16x16.5	0.05	1450						

■ DIMENSIONS&MAXIMUM PERMISSIBLE RIPPLE CURRENT & IMPEDANCE

WV / μF		63			80			100		
		1J			1K			2A		
3.3	3R3				5x5.8	5.0	25			
4.7	4R7	5x5.8	3.00	50	6.3x5.8	3.0	40			
10	100	6.3x7.7 (6.3x5.8)	1.20 (1.50)	120 (80)	6.3x7.7	2.4	60	8x10.5	1.30	130.00
22	220	8x10.5 (6.3x7.7)	0.65 (1.20)	250 (120)	8x10.5	1.3	130	10x10.5 (8x10.5)	0.70 (1.30)	200 (160)
33	330	8x10.5	0.65	250	10x10.5	0.7	200	10x13.5	0.70	200
47	470	10x10.5 (8x10.5)	0.50 (0.65)	300 (250)	10x13.5	0.45	300	12.5x13.5	0.32	500
68	680	12.5x13.5 (10x10.5)	0.16 (0.50)	800 (300)	12.5x13.5	0.32	500	12.5x13.5	0.32	500
100	101	12.5x13.5 (10x13.5) (10x10.5)	0.16 (0.25) (0.50)	800 (400) (300)	12.5x13.5 (10x13.5)	0.32 (0.18)	500 (750)	16x16.5 (12.5x16) (12.5x13.5)	0.2 (0.26) (0.32)	795 (550) (500)
150	151	12.5x13.5 (10x13.5)	0.16 (0.25)	800 (650)	12.5x13.5	0.32	500			
220	221	12.5x13.5	0.16	800	12.5x16 12.5x13.5	0.26 0.12	550 900	Case size	Impedance	Ripple current
330	331	16x16.5	0.082	1400	16x16.5	0.17	795			

·Case size ΦDxL (mm), Impedance (Ω) at 20℃, 100KHz, Ripple current (mA rms) at 105℃, 100KHz

■ FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT

Frequency			50Hz	120Hz	300Hz	1KHz	10KHz~
Coefficient	Φ4~Φ10	4.7~68μF	0.35	0.50	0.64	0.83	1.00
		100~1500μF	0.40	0.55	0.70	0.85	1.00
	Φ12.5~Φ16	~68μF	0.40	0.55	0.70	0.85	1.00
		100~680μF	0.45	0.65	0.80	0.90	1.00
		1000~4700μF	0.65	0.85	0.95	1.00	1.00