

SMD Aluminum Electrolytic Capacitor – JCF

FEATURES

- Endurance : 105°C 2000~5000H
- Extra Low Impedance
- Designed for reflow soldering
- Designed for surface mounting on high-density PCB



Fig 1

Fig 2

Fig 3

Note: Fig 1 & 2: Diameter 4 ~10mm

Fig 3 : Diameter: ≥12.5mm

SPECIFICATIONS

Operating Temperature -55°C ~ +105°C
 Voltage Range 6.3V ~ 100V.DC
 Capacitance Tolerance ±20% at 120Hz, 20°C
 Leakage Current The greater value of either 0.01CV or 3μA
 Condition: μA/after 2minutes (max)
 Dissipation Factor (Tan δ) Measurement Frequency: 120Hz, Temperature: 20°C

Rated Voltage (V)	6.3	10	16	25	35	50	63	80	100
Surge voltage (V)	7.3	11.5	18.4	28.8	40.3	57.5	72.5	92	115
Tanδ (MAX)	Ø4~Ø10	0.28	0.24	0.20	0.16	0.14	0.12	0.12	0.12
	Ø12.5~Ø16	0.34	0.29	0.22	0.20	0.16	0.12	0.14	0.14

Impedance ratio at low temperature

Based on the value at 120Hz, +20°C

Rated Voltage (V)	6.3, 10, 16	25, 35, 50	63, 80, 100
Impedance Ratio Z (-25°C) / Z(20°C)	4	2	2
ZT / Z20 (Max.) Z (-55°C) / Z(20°C)	8	4	3

Endurance

After applying rated working voltage for 2000/3000/5000 hours at +105°C±2°C, and then being stabilized at +20°C, capacitors shall meet the following limits

Test	ΦD x L ≅ 6.3x 5.7Lmm: 2000H, 6.3φx7.7L, 8φx 6.5L, 10φx7.7L: 3000H, ΦD ≅ 8mm: 5000H
Capacitance Change	Within ± 30% of initial value
Dissipation Factor	Less than 300% of the specified value
Leakage Current	Within the initial limit

Shelf Life

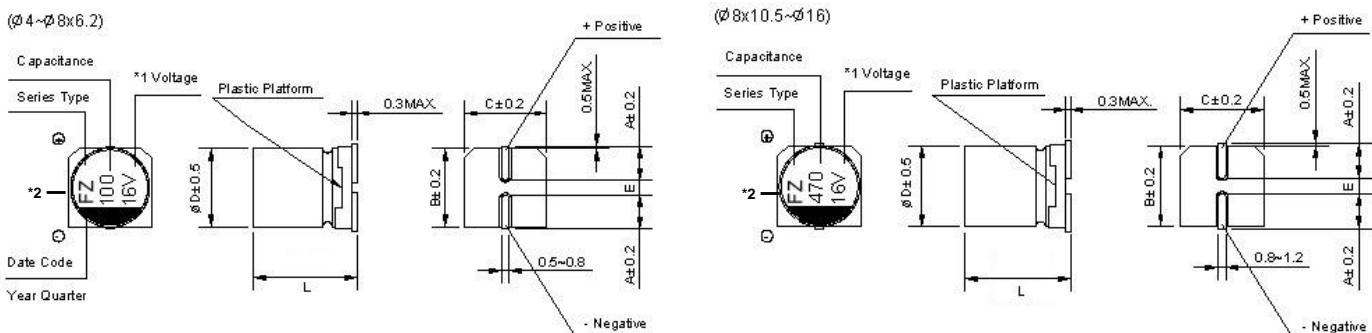
After storage for 1000h at + 105°C±2°C with no voltage applied and then being stabilized at +20°C, capacitors shall meet the limits specified in endurance.

Resistance to Soldering Heat

After reflow soldering and then being stabilized at +20°C, capacitors shall meet the following limits

Capacitance Change	Within ±10% of initial value
Dissipation Factor	Within the initial limit
Leakage Current	Within the initial limit

DRAWING (Unit: mm)



*1 Voltage mark for 6.3V is [6V] or [6.3V]

*2 Surface Marking Types: jbF, jF, FZ

ØDxL	4x5.8	5x5.□	6.3x5.8/7.7	8 x6.5/10.5	10x7.7	10x10.5/13.5	12.5 x13.5/16	16 x16.5
A	1.8	2.1	2.4	3.3	3.2	3.2	4.7	5.5
B	4.3	5.3	6.6	8.3	10.3	10.3	13	17
C	4.3	5.3	6.6	8.3	10.3	10.3	13	17
E	1.0	1.3	2.2	3.1	4.4	4.4	4.4	6.4
L	5.8±0.6	5.8±0.6	5.8/7.7±0.6	6.5/10.5±0.6	7.7±0.6	10.5/13.5±1.0	13.5/16±1.0	16.5±1.0

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Frequency coefficient Factor of Rated Ripple current

Frequency: F(Hz)	50Hz	120Hz	1kHz	10kHz \cong
Capacitance: C (μ F)				
Full Capacitance	0.60	0.70	0.85	1.00

DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT & IMPEDANCE

WV/V		6.3			10			16		
Cap/ μ F		0J			1A			1C		
10	100	--	--	--	--	--	--	4 \times 5.8	1.45	80
22	220	4 \times 5.8	1.45	80	4 \times 5.8	1.45	80	5 \times 5.8	0.80	150
33	330	4 \times 5.8 (5 \times 5.8)	1.45 (0.80)	80 (150)	5 \times 5.8	0.80	150	5 \times 5.8 (6.3 \times 5.8)	0.80 (0.44)	150 (230)
47	470	5 \times 5.8	0.80	150	6.3 \times 5.8	0.44	230	6.3 \times 5.8	0.44	230
68	680	--	--	--	--	--	--	6.3 \times 5.8	0.44	230
100	101	5 \times 5.8 (6.3 \times 5.8)	0.80 (0.44)	150 (230)	6.3 \times 5.8	0.44	230	6.3 \times 5.8 (8 \times 6.5)	0.44 (0.36)	230 (280)
150	151	6.3 \times 5.8	0.44	230	6.3 \times 5.8	0.44	230	6.3 \times 7.7 (8 \times 6.5)	0.36 (0.36)	280 (280)
220	221	6.3 \times 5.8 (6.3 \times 7.7)	0.44 (0.36)	230 (280)	6.3 \times 7.7 (8 \times 6.5)	0.36 (0.36)	280 (280)	6.3 \times 7.7	0.36	280
330	331	6.3 \times 7.7 (8 \times 6.5) (8 \times 10.5)	0.36 (0.36) (0.17)	280 (280) (450)	8 \times 10.5 (10 \times 7.7)	0.17 (0.17)	450 (450)	8 \times 10.5 (10 \times 7.7)	0.17 (0.17)	450 (450)
470	471	6.3 \times 7.7 (8 \times 10.5) (10 \times 7.7)	0.36 (0.17) (0.17)	280 (450) (450)	8 \times 10.5 (10 \times 7.7)	0.17 (0.17)	450 (450)	8 \times 10.5 (10 \times 10.5)	0.17 (0.09)	450 (670)
680	681	8 \times 10.5 (10 \times 7.7)	0.17 (0.17)	450 (450)	10 \times 10.5	0.09	670	10 \times 10.5	0.09	670
1000	102	8 \times 10.5	0.17	450	10 \times 10.5	0.09	670	10 \times 13.5 (12.5 \times 13.5)	0.08 (0.07)	720 (820)
1500	152	10 \times 10.5 (10 \times 13.5)	0.09 (0.08)	670 (720)	10 \times 13.5 (12.5 \times 13.5)	0.08 (0.07)	720 (820)	Case size: ϕ D \times L (mm)	Impedance (Ω) max at 100kHz, 20 $^{\circ}$ C	Rated ripple current mArms (100kHz, 105 $^{\circ}$ C)
2200	222	12.5 \times 13.5	0.07	820	12.5 \times 13.5	0.07	820			

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DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT & IMPEDANCE

WV/V		25			35			50		
Cap/μF		1E			1V			1H		
1	1R0	--	--	--	--	--	--	4×5.8	2.90	60
2.2	2R2	--	--	--	--	--	--	4×5.8	2.90	60
3.3	3R3	--	--	--	--	--	--	4×5.8	2.90	60
4.7	4R7	--	--	--	4×5.8	1.45	80	4×5.8 (5×5.8)	2.90 (1.52)	60 (85)
10	100	4×5.8	1.45	80	4×5.8 (5×5.8)	1.45 (0.80)	80 (150)	6.3×5.8	0.88	165
22	220	5×5.8	0.80	150	5×5.8 (6.3×5.8)	0.80 (0.44)	150 (230)	6.3×5.8	0.88	165
33	330	5×5.8 (6.3×5.8)	0.80 (0.44)	150 (230)	6.3×5.8	0.44	230	6.3×7.7	0.68	185
47	470	6.3×5.8	0.44	230	6.3×5.8	0.44	230	6.3×7.7 (8×6.5) (8×10.5)	0.68 (0.68) (0.34)	185 (185) (360)
68	680	6.3×5.8	0.44	230	6.3×7.7 (8×6.5)	0.36 (0.36)	280 (280)	8×10.5	0.34	360
100	101	6.3×7.7 (8×6.5)	0.36 (0.36)	280 (280)	6.3×7.7 (8×10.5)	0.36 (0.17)	280 (450)	8×10.5 (10×10.5)	0.34 (0.18)	360 (560)
150	151	8×10.5	0.17	450	8×10.5 (10×7.7)	0.17 (0.17)	450 (450)	10×10.5	0.18	560
220	221	8×10.5 (10×7.7)	0.17 (0.17)	450 (450)	8×10.5 (10×10.5)	0.17 (0.09)	450 (670)	10×10.5 (12.5×13.5)	0.18 (0.12)	560 (650)
330	331	8×10.5	0.17	450	10×10.5 (12.5×13.5)	0.09 (0.07)	850 (820)	12.5×13.5	0.12	650
470	471	10×10.5	0.09	670	10×10.5 (12.5×13.5)	0.08 (0.07)	720 (820)	--	--	--
680	681	10×13.5 (12.5×13.5)	0.08 (0.07)	720 (820)	--	--	--	Case size:φDxL (mm)	Impedan ce (Ω) max at 100kHz, 20°C	Rated ripple current mArms (100kHz, 105°C)
1000	102	12.5×13.5	0.07	820	--	--	--			

WV/V		63			80			100		
Cap/μF		1J			1K			2A		
3.3	3R3	--	--	--	5×5.8	5.00	25	--	--	--
4.7	4R7	5×5.8	2.90	60	6.3×5.8	3.00	40	--	--	--
10	100	6.3×5.8	1.50	80	6.3×7.7 (8×6.5)	2.40 (2.40)	60 (60)	--	--	--
22	220	6.3×7.7 (8×6.5)	1.20 (1.20)	120 (120)	8×10.5	1.30	130	8×10.5	1.30	130
33	330	8×10.5	0.65	250	8×10.5	1.30	130	10×10.5	0.70	200
47	470	8×10.5	0.65	250	10×10.5	0.70	200	10×10.5 (10×13.5) (12.5×13.5)	0.70 (0.40) (0.32)	200 (400) (500)
68	680	8×10.5	0.65	250	10×10.5 (12.5×13.5)	0.40 (0.32)	400 (500)	12.5×13.5	0.32	500
100	101	10×10.5 (12.5×13.5)	0.35 (0.16)	400 (800)	10×13.5 (12.5×13.5)	0.40 (0.32)	400 (500)	12.5×13.5	0.32	500
150	151	12.5×13.5	0.16	800	12.5×13.5	0.32	500	Case size:φDxL (mm)	Impedance (Ω) max at 100kHz, 20°C	Rated ripple current mArms (100kHz, 105°C)
220	221	12.5×13.5	0.16	800	--	--	--			

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