

Aluminum Electrolytic Capacitor

MZ series

- 105°C 5000hours, long life.
- High temperature, high ripple current resistance and high reliability.
- RoHS Compliance
- 105°C 5000小時長壽命。
- 耐高溫、高紋波、高信賴性。

SPECIFICATIONS

Items 項 目	Characteristics 特 性									
Capacitance Tolerance 靜電容量誤差	± 20%(120Hz,20℃)									
Operating Temperature Range 適用溫度範圍	-40 ~ +105℃						-25 ~ +105℃			
Rated Voltage Range 額定電壓範圍	10 ~ 100VDC						160 ~ 450VDC			
Leakage Current 洩漏電流	I ≤ 3√CV (μA) (After 5 minutes application of DC rated voltage, at 20 °C)									
Dissipation Factor 散逸因素(tan δ)	Measurement Frequency: 120Hz. Temperature: 20℃									
	Rated Voltage(V)	10	16	25	35	50	63	80~100	160~400	420~450
	tan δ(Max)	0.60	0.45	0.30	0.25	0.20	0.15	0.15	0.15	0.20
	When nominal capacitance over 1000μF, tanδ shall be added 0.01 to the listed value with increase of every 1000μF.									
Low Temperature Stability 低溫特性 Impedance Ratio(Max) 阻抗比率(最大值)	Measurement Frequency: 120Hz.									
	Rated Voltage(V)	10	16	25	35	50	63	80~100	160~400	420~450
	Z(-25℃)/Z(20℃)	4	4	3	3	2	2	2	4	8
	Z(-40℃)/Z(20℃)	15	15	10	8	6	6	5	-	-
Load Life 負荷壽命	5000hours,with application of rated voltage at 105℃									
	Capacitance Change		Within ± 20% of Initial Value							
	tan δ		200% or less of Initial Specified Value							
	Leakage Current		Initial Specified Value or less							
Shelf Life 放置壽命	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1,000 hours 105℃ without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to them 4.1 of JIS C5101-4.									
	Capacitance Change		Within ± 15% of Initial Value							
	tan δ		200% or less of Initial Specified Value							
	Leakage Current		Initial Specified Value or less							
Standards 參照標準	JIS C 5101-4 (IEC 60384)									

Frequency Coefficient of Permissible Ripple Current

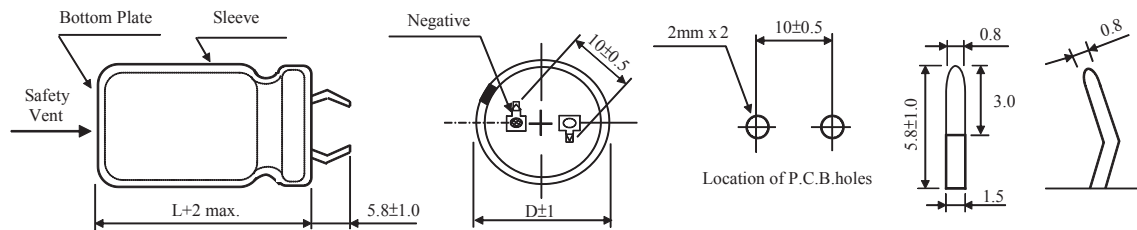
Rated Voltage (V)	Frequency (Hz)				
	50	120	1K	10K	50K
10 ~ 100	0.90	1.00	1.05	1.10	1.15
160 ~ 250	0.80	1.00	1.15	1.45	1.50
315 ~ 450	0.76	1.00	1.14	1.40	1.42

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5°C rise. When long life performance is required in actual use , the rms ripple current has to be reduced.

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DIMENSIONS(mm)



STANDARD RATINGS

D×L(mm) ; R.C.(A rms) at 105°C 120Hz

Cap (μF)	V (Code)	10 (1A)		16 (1C)		25 (1E)		35 (1V)		50 (1H)	
	Item	D x L	R.C.	D x L	R.C.	D x L	R.C.	D x L	R.C.	D x L	R.C.
1500										22x25	1.02
1800										22x30	1.18
										25x25	1.17
2200								22x25	1.11	22x35	1.32
2700										22x40	1.51
										25x30	1.48
										30x25	1.51
3300								22x30	1.42	25x35	1.71
								25x25	1.41	30x30	1.72
										35x25	1.74
3900						22x25	1.32	22x35	1.58	22x50	1.91
								25x30	1.59	25x40	1.89
4700						22x30	1.51	22x40	1.78	30x35	2.12
						25x25	1.52	30x25	1.78	35x30	2.16
5600				22x25	1.45	22x35	1.71	25x35	1.98	25x50	2.39
								30x30	1.99	30x40	2.39
								35x25	2.03	35x35	2.41
6800	22x25	1.31	22x30	1.67	22x40	1.92	22x50	2.26	30x50	2.79	
			25x25	1.66	25x30	1.88					
					30x25	1.90	25x40	2.25	35x40	2.79	
8200			22x35	1.88	25x35	2.15	25x50	2.57			
					30x30	2.16	30x35	2.51			
					35x25	2.19	35x30	2.56			
10000	22x30	1.65	22x40	2.12	22x50	2.45	30x40	2.87	35x50	3.56	
			25x30	2.08							
	25x25	1.63	30x25	2.12	25x40	2.44	35x35	2.88			
12000	22x35	1.84	25x35	2.38	25x50	2.78	30x50	3.32			
	25x30	1.85	30x30	2.37	30x35	2.71					
	30x25	1.88	35x25	2.41	35x30	2.76	35x40	3.31			
15000	22x40	2.11	22x50	2.74	30x40	3.14					
	25x35	2.15	25x40	2.72	35x35	3.16					
18000	22x50	2.45	25x50	3.12	30x50	3.63	35x50	4.28			
	25x40	2.42									
	30x30	2.38	30x35	3.03							
	35x25	2.41	35x30	3.09	35x40	3.62					
22000	30x35	2.72	30x40	3.47							
	35x30	2.78	35x35	3.49							
27000	25x50	3.12	30x50	4.07	35x50	4.72					
	30x40	3.14	35x40	4.05							
33000	35x35	3.48									
39000	30x50	3.98	35x50	5.15							
	35x40	3.95									
47000	35x50	4.62									

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STANDARD RATINGS DxI (mm) : R C (A rms) at 105°C, 120Hz

STANDARD RATINGS D×L(mm) ; R.C.(A rms) at 105°C 120Hz

Cap (μF)	V (Code)	63 (1J)		80 (1K)		100 (2A)		160 (2C)		180 (2P)		
	Item	D x L	R.C.	D x L	R.C.	D x L	R.C.	D x L	R.C.	D x L	R.C.	
330										22x25	1.22	
390						22x25	0.78	22x25	1.32			
470										22x30	1.53	
										25x25	1.52	
560						22x30	0.99	22x30	1.66	22x35	1.70	
						25x25	0.98	25x25	1.67	30x25	1.78	
680			22x25	0.97	22x35	1.12	22x35	1.87	1.87	22x40	1.91	
								25x30		1.89	25x30	1.89
								30x25		1.95		
820			22x30	1.12	22x40	1.26	22x40	2.09	22x45	1.99		
									25x30	1.24	25x35	2.16
									30x25	1.25	30x30	2.17
									35x25	2.31		
1000	22x25	1.00	22x35	1.26	25x35	1.41	22x45	2.41	22x50	2.25		
					30x30	1.42	25x35	2.38	25x45	2.47		
			25x25	1.24	35x25	1.44	30x30	2.39	30x35	2.46		
					35x30	2.53						
1200	22x30	1.16	22x40	1.42	22x50	1.60	25x45	2.71	25x50	2.76		
	25x25	1.15	25x30	1.40	25x40	1.59	30x40	2.76	30x40	2.77		
			30x25	1.41	30x35	1.61	35x30	2.85	35x35	2.85		
1500	22x35	1.32	25x35	1.62	25x50	1.86	25x50	3.09	30x45	3.17		
					30x40	1.87	30x45	3.16	30x50	3.20		
					35x30	1.85	35x40	3.21	35x35	3.22		
1800	22x40	1.49	22x50	1.84	35x35	2.06	30x50	3.53	35x45	3.73		
	25x30	1.46	25x40	1.83								
	30x30	1.79										
	30x25	1.48	35x25	1.82			35x45	3.64				
2200	25x35	1.67	25x50	2.10	30x50	2.40	35x50	4.14	35x50	4.23		
	30x30	1.68	30x35	2.06								
	35x25	1.70	35x25	2.09	35x40	2.39						
2700	22x50	1.92	30x40	2.35	35x50	2.81						
	25x40	1.91										
	30x35	1.93	35x35	2.36								
3300	25x50	2.20	30x50	2.75								
	35x30	2.18	35x40	2.73								
3900	30x40	2.41										
	35x35	2.43										
4700	30x50	2.79	35x50	3.46								
	35x40	2.78										
6800	35x50	3.55										

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STANDARD RATINGS

D×L(mm) ; R.C.(A rms) at 105°C 120Hz

Cap (μF)	V (Code)	200 (2D)		220 (2N)		250 (2E)		315 (2F)	
	Item	D x L	R.C.	D x L	R.C.	D x L	R.C.	D x L	R.C.
150								22x25	0.80
180								22x30	0.93
								25x25	0.94
220	22x25	1.00			22x25	1.01		22x35	1.04
								25x25	1.16
270	22x25	1.11	22x25	1.11	22x30	1.20		22x40	1.18
								25x30	1.19
330			22x30	1.18	25x30	1.32		22x45	1.33
								25x35	1.37
								30x30	1.40
								35x25	1.48
390	22x30	1.38	22x35	1.39	22x40	1.44		22x50	1.49
	25x25	1.39	25x25	1.39	25x30	1.43		25x40	1.52
					30x25	1.50			
470	22x35	1.55	22x35	1.55	22x45	1.62		25x45	1.70
			25x30	1.56	25x35	1.70		30x35	1.71
			30x25	1.62	30x30	1.74		35x30	1.81
560	22x40	1.73	22x45	1.73	22x50	1.84		25x50	1.88
	25x30	1.72	25x35	1.81	25x40	1.78		30x40	1.92
					30x35	1.83		30x45	1.97
	30x25	1.77	30x30	1.85	35x25	1.90		35x35	1.99
680	22x45	1.82	22x50	1.98	25x45	2.04		30x50	2.21
	25x35	1.86	25x40	1.96	30x40	2.06		35x40	2.28
	30x30	1.97	30x35	2.02			35x30		
	35x25	2.09	35x25	2.09					
820	25x50	2.17	25x45	2.24	25x50	2.28		35x45	2.57
	25x40	2.09	30x40	2.29	30x45	2.38			
	30x35	2.21	35x30	2.35	35x35	2.37			
	25x50	2.39	25x50	2.52	30x50	2.68			
1000	30x40	2.53	30x45	2.58	35x40	2.71	35x50	2.89	
	35x30	2.60	35x35	2.63					
	1200	30x45	2.85	30x50	2.89	35x45			3.05
35x40		2.88	35x40	2.97					
1500		35x45	3.34	35x45	3.41	35x50	3.49		
1800		35x50	3.82	35x50	3.82				

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STANDARD RATINGS

D×L(mm) ; R.C.(A rms) at 105°C 120Hz

Cap (μF)	V (Code)	350 (2V)		400 (2G)		420 (2M)		450 (2W)	
	Item	D x L	R.C.	D x L	R.C.	D x L	R.C.	D x L	R.C.
82								22x25	0.60
100				22x25	0.66	22x25	0.66	22x30	0.69
								25x25	0.70
120		22x25	0.72	22x30	0.75	22x30	0.76	22x35	0.76
						25x25	0.77		
150		22x30	0.84	22x35	0.85	22x35	0.86	22x45	0.90
				25x25	0.86			25x35	0.92
								30x25	0.93
180		25x25	0.94	22x40	0.96	22x45	0.98	22x50	1.01
				25x30	0.97	25x35	1.01	25x40	1.02
				30x25	1.03	30x25	1.02	30x30	1.03
								35x25	1.09
220		22x40	1.06	22x45	1.09	22x50	1.11	25x45	1.16
		25x30	1.07	25x35	1.12	25x40	1.13	30x35	1.17
		30x25	1.12	35x25	1.21	30x30	1.14		
						35x25	1.21	35x30	1.23
270		22x45	1.21	22x50	1.24	25x45	1.29	25x50	1.31
		25x35	1.24	25x45	1.29	30x35	1.30	30x40	1.33
		30x30	1.27	30x35	1.27	35x30	1.37	35x35	1.38
		35x25	1.34						
330		22x50	1.37	25x50	1.44	25x50	1.45	30x45	1.51
		25x40	1.39	30x35	1.43	30x40	1.48		
		30x35	1.42	35x30	1.51	35x35	1.54		
390		25x45	1.55	30x40	1.61	30x45	1.65	30x50	1.67
		30x40	1.59	35x35	1.66	35x40	1.73	35x45	1.76
		35x30	1.65						
470		25x50	1.73	30x50	1.85	30x50	1.85	35x50	1.98
		30x45	1.81	35x40	1.89	35x45	1.93		
		35x35	1.82						
560		30x50	2.01	35x45	2.13	35x50	2.17		
		35x40	2.06						
680		35x45	2.34	35x50	2.38				
820		35x50	2.62						