

MZ series

- 105°C, 5000 hours, 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 ~ 600VDC				
Leakage Current 洩漏電流	I ≤ 3√CV (μA) (After 5 minutes application of DC rated voltage, at 20 ℃)									
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	420~600
	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	420~600
	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	The following specifications shall be satisfied when the capacitors are restored to 20℃ after subjected to DC voltage with the rated ripple current is applied for 5,000 hours 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	IEC 60384-4 (JIS C 5101-4-1)									

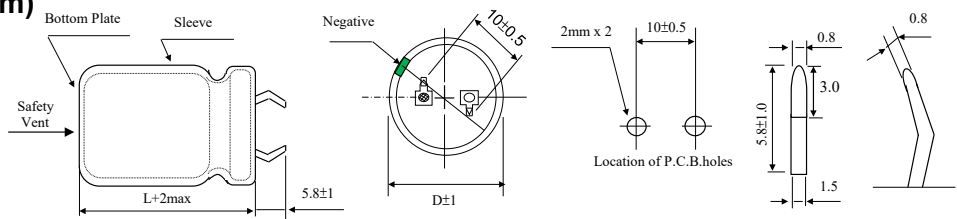
Frequency Coefficient of Permissible Ripple Current

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	1.32	1.45	1.50
315 ~ 450	0.76	1.00	1.30	1.41	1.43

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DIMENSIONS(mm)



STANDARD RATINGS

D×L(mm) ; R.C.(A rms) at 105°C 120Hz

Cap (μF)	V	10		16		25		35		50	
	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
										25.4x25	1.17
2200								22x25	1.11	22x35	1.32
2700										22x40	1.51
										25.4x30	1.48
										30x25	1.51
3300								22x30	1.42	25.4x35	1.71
								25.4x25	1.41	30x30	1.72
										35x25	1.74
3900						22x25	1.32	22x35	1.58	22x50	1.91
								25.4x30	1.59	25.4x40	1.89
4700						22x30	1.51	22x40	1.78	30x35	2.12
						25.4x25	1.52	30x25	1.78	35x30	2.16
5600				22x25	1.45	22x35	1.71	25.4x35	1.98	25.4x50	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
						25.4x30	1.88				
				25.4x25	1.66	30x25	1.90	25.4x40	2.25	35x40	2.79
8200				22x35	1.88	25.4x35	2.15	25.4x50	2.57		
						30x30	2.16	30x35	2.51		
						35x25	2.19	35x50	2.56		
10000		22x30	1.65	22x40	2.12	22x50	2.45	30x40	2.87	35x50	3.56
				25.4x30	2.08						
		25.4x25	1.63	30x25	2.12	25.4x40	2.44	35x35	2.88		
12000		22x35	1.84	25.4x35	2.38	25.4x50	2.78	30x50	3.32		
		25.4x30	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				
		25.4x35	2.15	25.4x40	2.72	35x35	3.16				
18000		22x50	2.45	25.4x50	3.12	30x50	3.63	35x50	4.28		
		25.4x40	2.42	30x35	3.03						
		30x30	2.38	35x30	3.09	35x40	3.62				
		35x25	2.41								
22000		30x35	2.72	30x40	3.47						
		35x30	2.78	35x35	3.49						
27000		25.4x50	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

D×L(mm) ; R.C.(A rms) at 105°C 120Hz

Cap (μF)	V	63		80		100		160		180	
	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											
390						22x25	0.78	22x25	1.32	22x25	1.22
470								22x25	1.47	22x25	1.34
										22x30	1.53
560						22x30	0.99	22x30	1.66	25.4x25	1.52
						25.4x25	0.98	25.4x25	1.67	22x30	1.68
680				22x25	0.97	22x25	1.12	22x30	1.86	25.4x25	1.67
								25.4x25	1.84	22x35	1.90
								30x25	1.95	25.4x30	1.89
820				22x30	1.12	22x40	1.26	22x35	2.09		
						25.4x30	1.24	25.4x30	2.08	22x40	2.13
						30x25	1.25			25.4x30	2.08
										25.4x35	2.17
1000		22x25	1.00	22x35	1.26	25.4x35	1.41	22x40	2.35	30x25	2.26
				25.4x25	1.24	30x30	1.42	22x45	2.40	22x45	2.40
						35x25	1.44	25.4x35	2.40	22x50	2.45
								30x25	2.50	25.4x40	2.45
										30x30	2.52
1200		22x30	1.16	22x40	1.42	22x50	1.60	22x50	2.69	35x25	2.66
		25.4x25	1.15	25.4x30	1.40	25.4x40	1.59	25.4x40	2.68	25.4x45	2.73
				30x25	1.41	30x35	1.61	30x30	2.77	30x35	2.83
								35x25	2.91		
1500		22x35	1.32	25.4x35	1.62	25.4x50	1.86	25.4x45	3.05		
						30x40	1.87	30x35	3.17	25.4x50	3.10
						35x30	1.85			30x40	3.26
1800		22x40	1.49	22x50	1.84	35x35	2.06	25.4x50	3.40	35x30	3.31
		25.4x30	1.46	25.4x40	1.83			30x40	3.57	30x45	3.66
		30x25	1.48	30x30	1.79			35x30	3.62	35x35	3.68
				35x25	1.82						
2200		25.4x35	1.67	25.4x50	2.10	30x50	2.40	30x45	4.05		
		30x30	1.68	30x35	2.06	35x40	2.39	30x50	4.11	30x50	4.11
		35x25	1.70	35x25	2.09			35x35	4.07	35x40	4.22
2700		22x50	1.92	30x40	2.35	35x50	2.81	35x40	4.67	35x45	4.32
		25.4x40	1.91	35x35	2.36			35x45	4.78	35x50	4.88
		30x35	1.93								
3300		25.4x50	2.20	30x50	2.75			35x50	5.40		
		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	200		220		250		315		350	
	Item	D x L	R.C.	D x L	R.C.	D x L	R.C.	D x L	R.C.		
120										22x25	0.72
150								22x25	0.80	22x30	0.84
180								22x25	0.95	25.4x25	0.94
220		22x25	1.00			22x25	1.01	22x30	1.10	22x40	1.06
								25.4x25	1.10	25.4x30	1.07
										30x25	1.12
270		22x25	1.11	22x25	1.11	22x25	1.11	22x35	1.24	22x45	1.21
								25.4x30	1.25	25.4x35	1.24
										30x30	1.27
										35x25	1.34
330				22x30	1.18	22x30	1.29	22x40	1.40	22x50	1.37
								30x25	1.43	25.4x40	1.39
										30x35	1.42
390		22x25	1.34	22x35	1.39	22x35	1.44	22x45	1.56	25.4x45	1.55
				25.4x25	1.39	25.4x25	1.40	22x50	1.59	30x40	1.59
								25.4x35	1.57	35x30	1.65
470		22x30	1.54	22x35	1.55	22x40	1.61	25.4x40	1.76	25.4x50	1.73
				25.4x30	1.56	25.4x30	1.57	25.4x45	1.79	30x45	1.81
				30x25	1.62			30x30	1.73	35x35	1.82
								35x25	1.82		
560		22x35	1.72	22x45	1.73	22x 45	1.79	25.4x50	1.99	35x50	2.01
		25.4x25	1.67	25.4x35	1.81	25.4x35	1.79	30x35	1.93	35x40	2.06
				30x30	1.85	30x25	1.87	35x30	2.02		
680		22x40	1.94	22x50	1.98	22x50	2.02	30x40	2.19	35x45	2.34
		25.4x30	1.89	25.4x40	1.96	25.4x40	2.02	30x45	2.25		
		30x25	2.06	30x35	2.02	30x30	2.08	35x35	2.26		
				35x25	2.09	35x25	2.19				
820		22x45	2.17	25.4x45	2.24	25.4x45	2.26	30x50	2.51	35x50	2.62
		25.4x35	2.17	30x40	2.29	25.4x50	2.29	35x40	2.57		
				35x30	2.35	30x35	2.34				
						35x30	2.45				
1,000		22x50	2.45	25.4x50	2.52	30x40	2.66	35x45	2.91		
		25.4x40	2.45	30x45	2.58						
		30x30	2.52	35x35	2.63						
		35x25	2.66								
1,200		25.4x45	2.73	30x50	2.89	30x45	2.99	35x50	3.25		
		25.4x50	2.78	35x40	2.97	30x50	3.04				
		30x35	2.83			35x35	3.00				
		35x30	2.96			35x40	3.11				
1,500		30x40	3.26	35x45	3.41	35x45	3.56				
		30x45	3.34								
		35x35	3.36								
1,800		30x50	3.72	35x50	3.82	35x50	3.98				
		35x40	3.81								
2,200		35x45	4.32								
2,700		35x50	4.88								

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STANDARD RATINGS

D×L(mm) ; R.C.(A rms) at 105°C 120Hz.

Cap (μF)	V	400		420		450		500		550		600	
	Item	D x L	R.C.	D x L	R.C.	D x L	R.C.	D x L	R.C.				
82						22x25	0.64						
100		22x25	0.66	22x25	0.70	25.4x25	0.70	30x25	0.82				
120		22x25	0.77	22x30	0.81	22x30	0.81	30x30	0.91	30x30	0.91	30x40	0.96
				25.4x25	0.81	22x35	0.83	35x25	0.88			35x30	0.95
						25.4x25	0.81						
150		22x30	0.90	22x35	0.93	22x40	0.94	30x35	1.04	30x35	1.04	30x45	1.10
						25.4x30	0.93					35x35	1.07
180		22x35	1.02	22x40	1.04	22x45	1.06	30x40	1.17	30x40	1.17	30x50	1.22
		25.4x25	0.99	25.4x30	1.02	25.4x35	1.06	35x30	1.10	35x30	1.10	35x40	1.22
				30x25	1.06	30x25	1.06						
220		22x40	1.15	22x45	1.17	22x50	1.20	30x45	1.33	30x50	1.35	30x60	1.40
		25.4x30	1.13	22x50	1.20	25.4x40	1.20	35x35	1.23	35x40	1.28	35x45	1.38
		30x25	1.17	25.4x35	1.18	30x30	1.18						
						35x25	1.24						
270		22x45	1.29	25.4x40	1.33	25.4x45	1.36	30x50	1.50	35x45	1.45	35x50	1.56
		22x50	1.32	25.4x45	1.36	25.4x50	1.38	35x40	1.42				
		25.4x35	1.30	30x30	1.31	30x35	1.34						
				35x25	1.38	35x30	1.40						
330		25.4x40	1.47	25.4x50	1.52	30x40	1.52	35x45	1.60	35x50	1.64	35x60	1.79
		30x30	1.45	30x35	1.48								
		35x25	1.52	35x30	1.55								
390		25.4x45	1.63	30x40	1.66	30x45	1.70	35x50	1.78	35x60	1.85		
		25.4x50	1.66	30x45	1.70	30x50	1.73						
		30x35	1.61	35x35	1.71	35x35	1.71						
		35x30	1.68										
470		30x40	1.82	30x50	1.90	35x40	1.95	35x60	2.03				
		35x35	1.88	35x40	1.95	35x45	1.99						
560		30x45	2.04	35x45	2.17	35x50	2.22						
		30x50	2.07										
		35x40	2.13										
680		35x45	2.40	35x50	2.45								
820		35x50	2.69										